Electronics

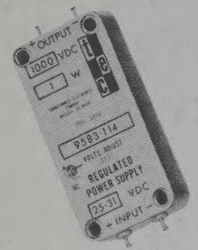
'70

Buyers' Guide

A McGraw-Hill Market Directed Publication

Miniature regulated DC-DC power supplies

1 watt DC-DC regulated power supplies 9583 series



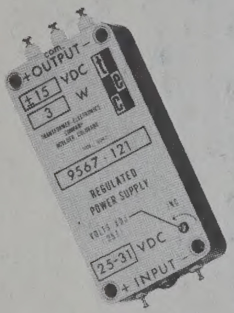
Output Power Capability: 1 watt
Operating Temperature: −55°C to 100°C (case)
Input Voltage: 25-31 VDC
Line Regulation: ±0.5%
Load Regulation (½ to Full Load): 3%
Output Ripple: 0.6% p-p
Efficiency: 41%
Min. Load Input Current = 27 ma
Voltage Adjustability: ±10%
Volume: 1.6 cu. in. (1.25 x 2.5 x 0.5)
Weight: 2.4 oz.

NOTE: Specifications indicate nominal values. For individual specifications contact factory.

Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9583101	3	330	$196.00
9583102	5	200	185.00
9583103	7.5	130	180.00
9583104	10	100	180.00
9583105	15	67	175.00
9583106	30	33	168.00
9583107	50	20	185.00
9583108	75	13	192.00
9583109	100	10	192.00
9583110	150	6.7	177.00

Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9583111	300	3.3	$177.00
9583112	500	2.0	201.00
9583113	750	1.3	202.00
9583114	1000	1.0	232.00
9583115	1500	0.67	248.00
9583116	2000	0.50	254.00
9583117	2500	0.40	258.00
9583118	3000	0.33	270.00
9583121	±15	±33	209.00

3 watt DC-DC regulated power supplies 9567 series

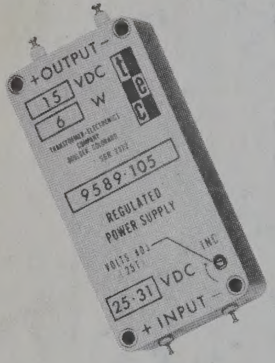


Output Power Capability: 3 watts
Operating Temperature: −55°C to 100°C (case)
Input Voltage: 25-31 VDC
Line Regulation: ±0.5%
Load Regulation (½ to Full Load): 3%
Output Ripple: 0.9% p-p
Efficiency: 50%
Min. Load Input Current = 38 ma
Voltage Adjustability: ±10%
Volume: 2.7 cu. in. (1.5 x 3 x 0.6)
Weight: 4 oz.

Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9567101	3	1000	$178.00
9567102	5	600	168.00
9567103	7.5	400	164.00
9567104	10	300	164.00
9567105	15	200	159.00
9567106	30	100	153.00
9567107	50	60	168.00
9567108	75	40	175.00
9567109	100	30	175.00
9567110	150	20	161.00
9567111	300	10	161.00
9567112	500	6	183.00

Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9567113	750	4	$184.00
9567114	1000	3	211.00
9567115	1500	2	226.00
9567116	2000	1.5	231.00
9567117	2500	1.2	235.00
9567118	3000	1.0	246.00
9567119	4000	0.75	256.00
9567120	5000	0.60	267.00
9567121	±15	±100	190.00
9567122	±25	±60	190.00
9567123	±50	±30	207.00
9567124	±100	±15	216.00

6 watt DC-DC regulated power supplies 9589 series

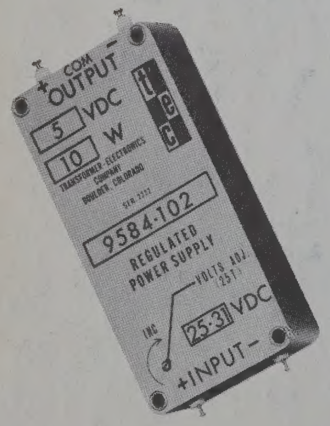


Output Power Capability: 6 watts
Operating Temperature: −55°C to 100°C (case)
Input Voltage: 25-31 VDC
Line Regulation: ±0.1%
Load Regulation (½ to Full Load): 3%
Output Ripple: 0.6% p-p
Efficiency: 55%
Min. Load Input Current = 100 ma
Voltage Adjustability: ± 10%
Volume: 4.3 cu. in. (1.75 x 3.5 x 0.7)
Weight: 7 oz.

Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9589102	5	1200	$177.00
9589103	7.5	800	172.00
9589104	10	600	172.00
9589105	15	400	167.00
9589106	30	200	161.00
9589107	50	120	176.00
9589108	75	80	184.00
9589109	100	60	184.00
9589110	150	40	169.00
9589111	300	20	169.00
9589112	500	12	192.00
9589113	750	8.0	193.00

Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9589114	1000	6.0	$222.00
9589115	1500	4.0	238.00
9589116	2000	3.0	243.00
9589117	2500	2.4	247.00
9589118	3000	2.0	259.00
9589119	4000	1.5	269.00
9589120	5000	1.2	281.00
9589121	±15	±200	198.00
9589122	±25	±120	198.00
9589123	±50	±60	218.00
9589124	±100	±30	227.00

10 watt DC-DC regulated power supplies 9584 series



Output Power Capability: 10 watts
Operating Temperature: −55°C to 100°C (case)
Input Voltage: 25-31 VDC
Line Regulation: ±0.15%
Load Regulation (½ to Full Load): 3%
Output Ripple: 0.3%
Efficiency: 52%
Min. Load Input Current = 120 ma
Voltage Adjustability: ±10%
Volume: 6.4 cu. in. (2 x 4 x 0.8)
Weight: 9.6 oz.

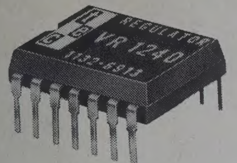
Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9584102	5	2000	$192.00
9584103	7.5	1300	187.00
9584104	10	1000	187.00
9584105	15	670	182.00
9584106	30	330	175.00
9584107	50	200	192.00
9584108	75	130	200.00
9584109	100	100	200.00
9584110	150	67	184.00
9584111	300	33	184.00
9584112	500	20	209.00
9584113	750	13	210.00

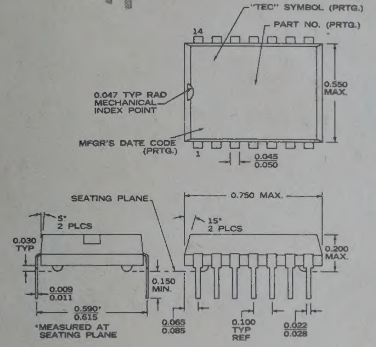
Part No.	Output Voltage (VDC)	Output Current (MA)	Price 1 ea.
9584114	1000	10	$241.00
9584115	1500	6.7	258.00
9584116	2000	5.0	264.00
9584117	2500	4.0	268.00
9584118	3000	3.3	280.00
9584119	4000	2.5	288.00
9584120	5000	2.0	299.00
9584121	±15	±335	217.00
9584122	±25	±200	217.00
9584123	±50	±100	238.00
9584124	±100	±50	243.00

TEC has been manufacturing highly reliable miniature DC to DC converters and associated solid state products since 1959 for industrial, commercial, aerospace and military applications. TEC's standard models utilize high quality components and materials. MTBF data has been calculated per MIL-HDBK-217, (90,000 hours, typical) for the 9583, 9567, 9589, 9584 Series.

TRANSFORMER-ELECTRONICS COMPANY P.O. BOX 910 • BOULDER, INDUSTRIAL PARK • BOULDER, COLORADO 80301 • (303) 442-3837 • TWX 910-940-3246

Micro-electronics . . . products and capabilities


REGULATOR
VR1240


"TEC" SYMBOL (PRTG.)
PART NO. (PRTG.)
14
0.047 TYP RAD MECHANICAL INDEX POINT
0.550 MAX.
MFGR'S DATE CODE (PRTG.)
1
0.045 / 0.050
SEATING PLANE
0.750 MAX.
5° 2 PLCS
15° 2 PLCS
0.030 TYP
0.200 MAX.
0.150 MIN.
0.009 / 0.011
0.590* / 0.615
*MEASURED AT SEATING PLANE
0.065 / 0.085
0.100 TYP REF
0.022 / 0.028

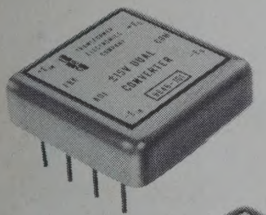
hybrid voltage regulators—VR series

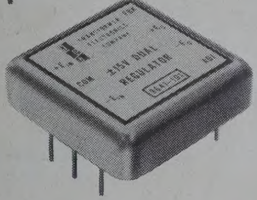
MODEL NO.	OUTPUT	PRICE 1 ea.
VR1050 to 1120	+ 5.0 to +12 Volts/250mA	$28.00
VR1150 to 1360	+15.0 to +36 Volts/250mA	28.00
VR2150 to 2360	−15.0 to −36 Volts/250mA	28.00

Ideal for "Point of Load" regulators for TTL, DTL, etc. (+5 volts), Opamps (±15 volts) and DC/DC converter preregulators (28 Vdc to +20 Vdc), etc.

Features:

- Input Voltage: (V_{out} + 3) to 40 Volts
- Load Regulation: 1 mVDC (½ to f.l.)
- Line Regulation: 0.1 mV/Volt (V_{out} + 4VDC) to 40VDC
- ±.02%/°C Output Temp. Coefficient
- 60 db ripple attenuation to 100 KHz
- Short circuit proof—Foldback Current Limiting
- External High Current
- Pass Transistor Provisions
- Output Adjustable Externally
- Internally Compensated
- Low Profile 2XDIP Package
- Fixed output voltages


±15V DUAL CONVERTER
9646-101


±15V DUAL REGULATOR
9641-101

TEC dual converter 9646-101

Price: 1 ea. $80.00

Features:

- For Op Amp use
- Input-Output Isolation > 500 megohms
- Output adj. ±14V to ±21V @ ±120mA
- Single External Resistor adjustment
- Input Reverse Polarity protected
- Low Temperature coefficient
- −25°C to +85°C operation
- Miniature-P.C. mounting
- Metal shielded package
- Input, +24V, to +32V
- Line regulation: 0.8%
- Size: 1.50" x 1.50" x .50"

TEC dual regulator 9641-101

Price: 1 ea. $80.00

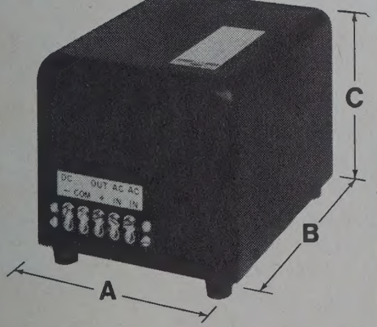
Features:

- For OP Amp use
- Single External Resistor adjustment
- Output Adj. ±14VDC to ±16VDC @ 100 ma
- −25°C to +85°C operation
- Fold Back Current limiting
- Voltage Ratio regulation
- Metal shielded package
- Low Output impedance
- Low Temp coefficient
- Short Circuit proof
- Size: 1.50" x 1.50" x .50"

30, 60, & 120 watt AC-DC prime power packs PP series

Features:

- Low Cost
- Ideal for "Point of Load" Regulators
- Convenient Threaded Plate Mounting
- −25 to +70°C Operation
- Attractive Modular Package


DC OUT AC AC
– COM + IN IN
C
B
A

ELECTRICAL SPECIFICATIONS

$T_A = 25°C$ V_{in} = 117 Vac Load = Full

V_{out} = Nominal (unless otherwise noted) Freq. = 60 Hz

MECHANICAL SPECIFICATIONS

MODEL	OUTPUT				REGULATION (Vdc)			DIMENSIONS (inches)			PRICE 1 ea.
	Power (W)	Voltage (Vdc) Nom.	Current (A) Max.	Ripple (Vp-p) Typ.	Line (V_{in} = 105 to 135 Vac) Typ.	Load (½ to full) Typ.	Temp. (−25 to +70°C) Typ.	A	B	C	
PP1280	30	+28	1.07	1.9	6.5	2.1	0.2	4⅞	6½	3½	$41.20
PP2200	30	±20	±0.75	1.4	3.9	1.4	0.1				48.60
PP3280	60	+28	2.15	1.9	6.9	2.4	0.1	4⅞	6½	4.0	46.40
PP4200	60	±20	±1.5	1.0	5.0	1.1	0.1				58.20
PP5280	120	+28	4.3	2.0	7.5	2.2	0.1	4⅞	6½	4½	55.80
PP6200	120	±20	±3.0	1.7	5.0	1.0	0.2				61.00

Prices and specifications in this catalog are effective 1 June 1969, and are subject to change without notice. Discounts up to 35% for 100 pieces. Contact factory for other quantity discounts.
Terms: Net 30 Days.

F.O.B. Boulder, Colorado, U.S.A.

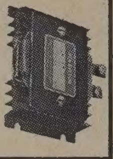
®

VICTORY ENGINEERING CORPORATION

VICTORY ROAD
SPRINGFIELD, NEW JERSEY 07081
(201) 379-5900 • TWX: 710-983-4430

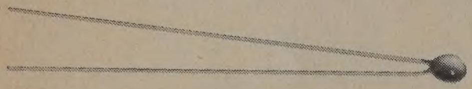
Thermistors and varistors for mil. and industrial applications

PLUSISTOR® POSITIVE TEMPERATURE COEFFICIENT THERMISTORS—Solid State silicon resistors for temperature control or compensation. Approximate + 0.7%/°C temperature coefficient from −60°C to +150°C... Available in ¼ and ½ watt dissipation rating at 25°C, decade multiples of standard 10% resistance values and a choice of bodies and sizes.

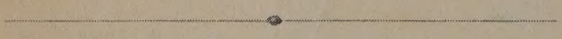


PULSISTOR®—A special thermistor designed into an electric heat sink for surge protection of high wattage loads. Protects or lengthens life of high inrush devices having steady-state dissipations up to 4,000 watts. Effectively applied in filamentary loads, capacitor charging circuits, power supplies, transmitters, modulators.

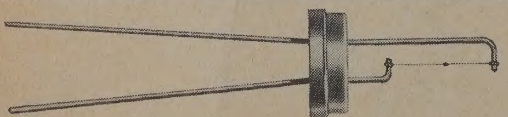
SYNCHRONOUS CONTROLLER—A solid state temperature controller with standard sensitivities of 0.01°F. Adjustable proportional band controllable from 0 to 2°F. Available with plug connector or barrier strip connection for applications including process control equipment, heating and alarm systems, kilns and drying equipment, constant or variable temperature baths, etc.



MILITARY GRADE DISK (MIL-T-23648)
Rugged, high reliability, general purpose thermistors . . . temperature range, —55°C to 125°C . . . well-suited for temperature measurement & control applications . . . particularly in transistor circuitry.

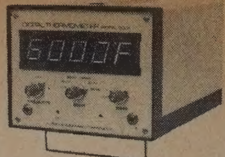


BEAD THERMISTORS
For applications involving temperature measurement and control . . . and liquid or gas flow . . . where space is minimal and medium cannot be disturbed by the sensor element . . . such as gas chromatography and thermal conductivity gas analysis. Available in diameters from .005" to .043" for different time constants. Available also with adjacent leads.

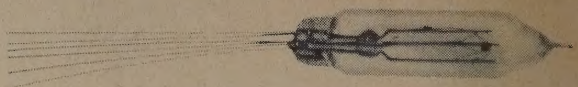


BUTT-MOUNTED THERMISTORS
For simplified application . . . where feedthrough terminals are required . . . bead thermistors are available ready-mounted . . . for gas chromatography and thermal conductivity gas analysis.

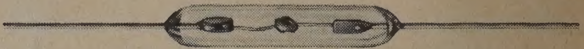
BEAD-IN-GLASS BULB—Bead-in-glass bulb thermistors . . . are most advantageous . . . in applications where power sensitivity is a primary concern. Also available in nitrogen atmospheres.



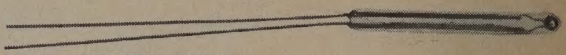
DIGITAL THERMOMETERS—0-600°F thermometer with 1" high brilliant digital characters. No parallax, 7 segment modernistic display. Six probe capacity, variable display rate, compact tilt case, all solid state and moderate cost.



INDIRECTLY HEATED BEAD THERMISTOR
Thermistor bead with separate heater . . . for changing or controlling thermistor temperature . . . where electrical circuit resistance needs adjustment without use of moving parts.

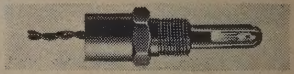


BEAD-IN-GLASS RODS
Bead thermistors . . . with sintered-in platinum alloy leads . . . embedded in solid glass structures . . . air or gas never come in contact with thermistor bead.

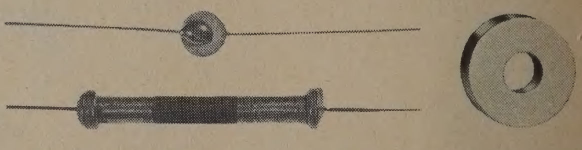


BEAD-IN-GLASS PROBES
Hermetically sealed in solid glass . . . with dumet leads . . . resist external mediums, harsh environments . . . impervious to conductive or corrosive mediums . . . unaffected by high density radiation. Available in various diameters and lengths, also moisture-proof seal.

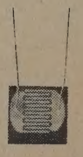
THERMISTOR SENSOR ASSEMBLIES
Complete . . . ready-to-mount . . . for a variety of applications and mounting methods. "SS" series for surface mounting . . . heat sealing or process controls, heat sink and mold temperature measurements, other applications . . . "SF" series for use in temperature measurement and control, liquid level and gas control.



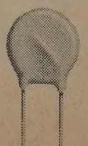
VECO LOX THERMISTORS
Thermistor beads & probes . . . developed specifically for measurement and control of fluid temperature . . . level and flow in the temperature ranges of liquid oxygen and liquid nitrogen.



THERMISTOR DISCS, RODS & WASHERS—Much higher power dissipation constants and longer time constants than bead or probe types. Used in applications where these characteristics, coupled with economy, render acceptable performance for temperature compensation, control, measurement, delay, etc.



THINISTOR® THIN FILM THERMISTORS
The latest advance in thermistor technology . . . two basic types . . . 5 micron thick films and 20 micron freestanding . . . both featuring relatively high dissipation constants, short thermal response times, extreme sensitivity . . . for application in microcircuitry, gas chromatography, infrared energy detection, medical instrumentation, many, many more.



VARISTORS
Voltage sensitive resistors . . . exhibit a symmetrical, non-linear change in electrical resistance with an applied voltage change . . . typically applied as noise suppressor in telephone circuits. Useful in volume limiting and metering protection.

T R W Capacitor Div Ogallala . . . . Neb
United Electronic Mfg Corp Union City . . . . N J
United Mineral & Chemical Corp New York . . . . N Y
U S Capacitor Corp Burbank . . . . Cal
Wesco Electrical Co Inc Greenfield . . . . Mass
West-Cap Arizona Div San Fernando Elec Mfg Co Tucson . Ariz
York Electronics Corp Brooklyn . . . . N Y

CAPACITORS, FIXED—MICA DISK

ELECTRO MOTIVE MFG CO INC WILLIMANTIC CONN . . . . ADV PG 90
TOBE DEUTSCHMANN LABS INC CANTON . . . . MASS
Aerovox Corp New Bedford Div New Bedford . . . . Mass
American Technical Ceramics Huntington Station . . . . N Y
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark . . . . N J
Electro Motive Mfg Co Inc Willimantic . . . . Conn
Erie Technological Products Inc Erie . . . . Pa
Film Components Div Reon Resister Corp Yonkers . . . . N Y
Fujitsu Ltd Tokyo . . . . Japan
General Instrument Europe SPA Milano . . . . Italy
International Electronics Corp Melville . . . . NY
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Model Rectifier Corp Brooklyn . . . . N Y
Nichicon Capacitor Ltd Nakagyo-ku, Kyoto . . . . Kyoto Japan
Plessey Co Ltd Ilford Essex . . . . England
Reon Resistor Corp Yonkers . . . . N Y
Sangamo Electric Co Springfield Ill
Sangamo Electric Co, Capacitor Div Pickens . . . . S C
Sanyo Electric Co Ltd Osaka . . . . Japan
Shigoto Industries Ltd New York . . . . N Y
Soshin Electric Co Ltd Tokyo . . . . Japan
Tobe Deutschmann Labs Inc Canton . . . . Mass
United Mineral & Chemical Corp New York . . . . N Y

CAPACITORS, FIXED—MICA GENERAL PURPOSE

ELECTRO MOTIVE MFG CO INC WILLIMANTIC CONN . . . . ADV PG 90
Aerovox Corp Distr Sales New Bedford . . . . Mass
Aerovox Corp New Bedford Div New Bedford . . . . Mass
Aikow Shoji Kaisha Ltd Osaka . . . . Japan
AMP Incorporated Harrisburg . . . . Pa
Arco Electronics Div. Loral Corp. Great Neck . . . . N Y
British Radio Electronics (BREL) Washington . . . . D C
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark . . . . N J
Custom Electronics Inc Oneonta . . . . N Y
Electra/Midland Corp Kansas City . . . . Kan
Electro Motive Mfg Co Inc Willimantic . . . . Conn
Fujitsu Ltd Tokyo . . . . Japan
General Instrument Corp, Capacitor Grp Tazewell . . . . Va
General Instrument Europe SPA Milano . . . . Italy
International Electronics Corp Melville . . . . NY
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Leeds & Northrup Co North Wales . . . . Pa
Materials for Electronics, Inc Jamaica . . . . N Y
Mial S P A I 20124 Milano . . . . Italy
Model Rectifier Corp Brooklyn . . . . N Y
Nichicon Capacitor Ltd Nakagyo-ku, Kyoto . . . . Kyoto Japan
Nitsuko Ltd Kanagawa-Pref . . . . Japan
NPC Electronics Canoga Park . . . . Cal
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Sangamo Electric Co Springfield Ill
Sangamo Electric Co, Capacitor Div Pickens . . . . S C
Shigoto Industries Ltd New York . . . . N Y
Soshin Electric Co Ltd Tokyo . . . . Japan
Sprague Electric Co North Adams . . . . Mass
Sprague of Wisconsin Inc Grafton . . . . Wis
Standard Telephones & Cables Ltd London WC 2 . . . . England
Transitron Electronic Corp Wakefield . . . . Mass
United Mineral & Chemical Corp New York . . . . N Y

CAPACITORS, FIXED—MYLAR

***See* Capacitors, Fixed—Polyester Film**

CAPACITORS, FIXED—MYLAR METALIZED

COMPONENT RESEARCH CO INC SANTA MONICA CAL . . . . ADV PG 88
DAIWA LTD TOKYO . . . . JAPAN
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
MATSUO ELECTRIC CO, LTD TOYONAKA-SHI, OSAKA . . . . JAPAN
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
PLASTIC CAPACITORS INC CHICAGO ILL
R F INTERONICS INC BAY SHORE . . . . N Y
SIEMENS AMERICA INC NEW YORK . . . . N Y
TOBE DEUTSCHMANN LABS INC CANTON . . . . MASS
Aerovox Corp Distr Sales New Bedford . . . . Mass
Aerovox Corp New Bedford Div New Bedford . . . . Mass
Aikow Shoji Kaisha Ltd Osaka . . . . Japan
Amperex Electronic Corp, Component Div Hauppauge . . . . N Y
Arco S P A Milano . . . . Italy
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Capco Inc Lubbock . . . . Tex
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Elpac Inc, Components Div Irvine . . . . Cal
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Film Capacitors Inc Passaic . . . . N J
Filtron Co Inc Sub Liquidonics Ind Inc Flushing . . . . N Y
Fujitsu Ltd Tokyo . . . . Japan
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Mallory & Co Inc, P R Indianapolis	Ind
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Matsushita Electric Industrial Co Ltd Osaka	Japan
Nichicon Capacitor Ltd Nakagyo-ku, Kyoto	Kyoto Japan
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Nitsuko Ltd Kanagawa-Pref	Japan
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Potter Co Inglewood	Cal
Presin Co Inc Shelton	Conn
Priester Corp, H E Hartsdale	N Y
R F Interonics Inc Bay Shore	N Y
S & EI Mfg Northridge	Cal
Shigoto Industries Ltd New York	N Y
Shinyei Electric Div Shinyei Kaisha Ltd Kobe	Japan
Shizuki Electrical Mfg Co Ltd Nishinomiya, Hyogo Pre	Japan
Siemens America Inc New York	N Y
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T R W Capacitor Div Ogallala	Neb
United Mineral & Chemical Corp New York	N Y
U S Capacitor Corp Burbank	Cal
Wesco Electrical Co Inc Greenfield	Mass
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GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
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R F INTERONICS INC BAY SHORE	**N Y**
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Aerovox Corp New Bedford Div New Bedford	Mass
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Cosmic Radio Corp New York	N Y
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Electro Motive Mfg Co Inc Willimantic	Conn
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Elmag Corp Newark	N J
Elpac Inc, Components Div Irvine	Cal
Film Capacitors Inc Passaic	N J
Filtron Co Inc Sub Liquidonics Ind Inc Flushing	N Y
Fujitsu Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
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San Fernando Electric Mfg Co San Fernando	Cal
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Shinyei Electric Div Shinyei Kaisha Ltd Kobe	Japan
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Stettner-Trush Inc Cazenovia	N Y
Stoddart Components Div Tamar Electronics Inc Gardena	Cal
Tobe Deutschmann Labs Inc Canton	Mass
T R W Capacitor Div Ogallala	Neb
U S Capacitor Corp Burbank	Cal
Wesco Electrical Co Inc Greenfield	Mass
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York Electronics Corp Brooklyn	N Y

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COMPONENT RESEARCH CO INC SANTA MONICA CAL	**ADV PG 88**
CONDENSER PRODUCTS CORP BROOKSVILLE	**FLA**
DAIWA LTD TOKYO	**JAPAN**
ELECTRO MOTIVE MFG CO INC WILLIMANTIC CONN	**ADV PG 90**
INTERELECTRONICS CORP CONGERS	**N Y**
MATSUO ELECTRIC CO, LTD TOYONAKA-SHI, OSAKA JAPAN	**ADV PG 92**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
PLASTIC CAPACITORS INC CHICAGO	**ILL**
R F INTERONICS INC BAY SHORE	**N Y**
SIEMENS AMERICA INC NEW YORK	**N Y**
TOBE DEUTSCHMANN LABS INC CANTON	**MASS**
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Arco Electronics Div. Loral Corp. Great Neck	N Y
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Chicago Condenser Corp Chicago	Ill
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Condensateurs F A C O N Paris 12e	France
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Corson Electric Mfg Corp East Hampton	Con
Cosmic Radio Corp New York	N Y
Daytron Inc Mountain View	Ca
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Dowa Trading Co Ltd Kobe	Japa
Electra/Midland Corp Kansas City	Ka
Electrical Utilities Co La Salle	Il
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Electro Motive Mfg Co Inc Willimantic	Con
Electronic Associates Inc West Long Branch	N
Elmag Corp Newark	N
Elpac Inc, Components Div Irvine	Ca
Erie Technological Products Inc Erie	Pa
Film Capacitors Inc Passaic	N
Filtron Co Inc Sub Liquidonics Ind Inc Flushing	N
Fujitsu Ltd Tokyo	Japa
General Laboratory Assoc Inc Norwich	N
General Products Corp Union Springs	N
Gudeman Div Gulton Industries, Inc Chicago	Il
Gulton Industries Inc Metuchen	N
High Energy Inc Malvern	P
Industrial Condenser Corp Chicago	Il
Insulating Shapes Inc Bronx	N
Interelectronics Corp Congers	N
International Components Corp Asbury Park	N
International Electronics Corp Melville	N
International Electronics Industries Div Callins Ind Inc Greenfield	Ten
Ionetics Corp Avenel	N
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Marshall Industries Capacitor Div Monrovia	Ca
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Nitsuko Ltd Kanagawa-Pref	Japa
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Phelon Co Inc, R E East Longmeadow	Mas
Philmore Mfg Co Inc Richmond Hill	N
Plastic Capacitors Inc Chicago	I
Plessey Co Ltd Ilford Essex	Englan
Plessey Electronics Corp Farmingdale	N
Potter Co Inglewood	C
Priester Corp, H E Hartsdale	N
Reliable Capacitors Co Van Nuys	C
R F Interonics Inc Bay Shore	N
San Fernando Electric Mfg Co San Fernando	C
Seacor Inc Norwood	N
S & EI Mfg Northridge	C
Shigoto Industries Ltd New York	N
Shinyei Electric Div Shinyei Kaisha Ltd Kobe	Japa
Shizuki Electrical Mfg Co Ltd Nishinomiya, Hyogo Pre	Japa
Siemens America Inc New York	N
Sprague Electric Co North Adams	Ma
Stettner-Trush Inc Cazenovia	N
Stoddart Components Div Tamar Electronics Inc Gardena	C
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japa
Telefunken Sales Corp Garden City	N
Texas Capacitor Co Inc Houston	T
Tobe Deutschmann Labs Inc Canton	Ma
Transitron Electronic Corp Wakefield	Ma
T R W Capacitor Div Ogallala	N
United Mineral & Chemical Corp New York	N
U S Capacitor Corp Burbank	C
Wesco Electrical Co Inc Greenfield	Ma
West-Cap Arizona Div San Fernando Elec Mfg Co Tucson	A
York Electronics Corp Brooklyn	N

CAPACITORS, FIXED—POLYSTYRENE

COMPONENT RESEARCH CO INC SANTA MONICA CAL	**ADV PG**
CONDENSER PRODUCTS CORP BROOKSVILLE	**F**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG**
INTERELECTRONICS CORP CONGERS	**N**
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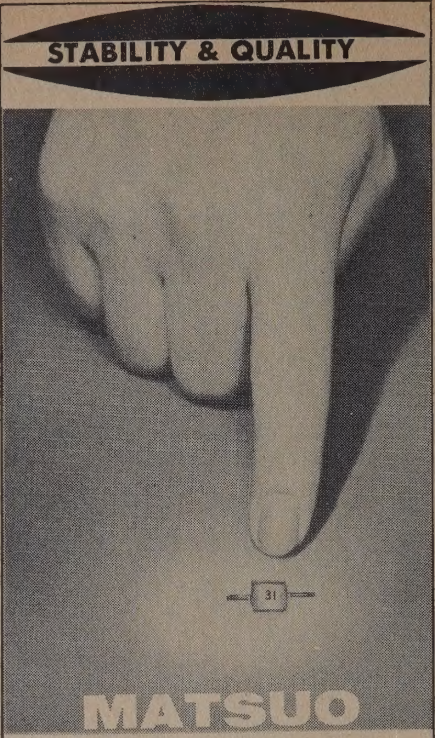

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Capacitance exceeding 10,000 picofarads obtained despite miniature size. "MICROCAP" features excellent heat resistance, solderability and mechanical strength comparable to conventional discrete components, for easy use in hybrid integrated circuits.

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Standard Capacitance Tolerance: ±20% (M)

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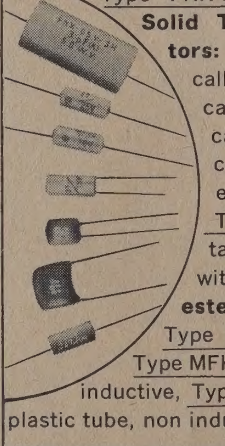

Metallized Polyester Film Capacitor: Type FNX-H mylar wrapped. **Solid Tantalum Capacitors:** Type TAX hermetically sealed in metallic case, Type TSX encased in metallic case and sealed with epoxy resin, Type TSL encased in metallic case and sealed with epoxy resin. **Polyester Film Capacitors:** Type MFL epoxy dipped, Type MFK epoxy dipped, non inductive, Type MXT encased in plastic tube, non inductive.

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International Components Corp Asbury Park	N J
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Okaya Electric Industries Co Ltd Tokyo	Japan
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Plessey Electronics Corp Farmingdale	N Y
Potter Co Inglewood	Cal
Presin Co Inc Shelton	Conn
Priester Corp, H E Hartsdale	N Y
Reliable Capacitors Co Van Nuys	Cal
San Fernando Electric Mfg Co San Fernando	Cal
Seacor Inc Norwood	NJ
S & EI Mfg Northridge	Cal
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Sprague Electric Co North Adams	Mass
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Tobe Deutschmann Labs Inc Canton	Mass
Toko Inc Ohta-ku Tokyo	Japan
Transitron Electronic Corp Wakefield	Mass
T R W Capacitor Div Ogallala	Neb
United Mineral & Chemical Corp New York	N Y
Wesco Electrical Co Inc Greenfield	Mass
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GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
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R F INTERONICS INC BAY SHORE	**N Y**
TOBE DEUTSCHMANN LABS INC CANTON MASS	**ADV PG 93**
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Aerovox Corp New Bedford Div New Bedford	Mass
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AMP Inc, Capitron Div Elizabethtown	Pa
xel Electronics, Inc Jamaica	N Y
omponent Research Co Inc Santa Monica	Cal
ondensateurs F A C O N Paris 12e	France
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ornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
orson Electric Mfg Corp East Hampton	Conn
aytron Inc Mountain View	Cal
lectron Div, Bestran Corp Monrovia	Cal
ectrical Utilities Co La Salle	Ill
ectronic Corp of America Los Angeles	Cal
eneral Electric Co, ECSO Schenectady	N Y
enisco Technology Corp Components, Genistron Divs Compton	Cal
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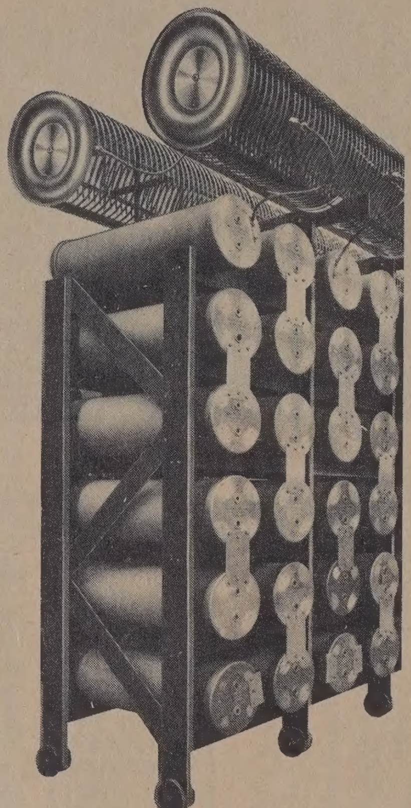
gh Energy Inc Malvern	Pa
International Electronics Corp Melville	NY
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
LAD Electro-Systems Inc Hicksville	N Y
Lake Engineering Co Ltd Scarborough	Ont
Leclanche SA Ch - 1401 Yverdon	Switz
Midwec Corp Scottsbluff	Neb
Nichicon Capacitor Ltd Nakagyo-ku, Kyoto	Kyoto Japan
Plastic Capacitors Inc Chicago	Ill
Plessey Co Ltd Ilford Essex	England
R F Interonics Inc Bay Shore	N Y
San Fernando Electric Mfg Co San Fernando	Cal
Shizuki Electrical Mfg Co Ltd Nishinomiya, Hyogo Pre	Japan
Sprague Electric Co North Adams	Mass
Syncrotech Edgerton	Ohio
Texas Capacitor Co Inc Houston	Tex
Tobe Deutschmann Labs Inc Canton	Mass
T R W Capacitor Div Ogallala	Neb
United Mineral & Chemical Corp New York	N Y
U S Capacitor Corp Burbank	Cal
Wesco Electrical Co Inc Greenfield	Mass



Pulse-Forming Networks

...airborne, shipboard and ground base radar modulators

Model PCE-1: Pulse-forming network installed at Griffis AFB. Peak charge voltage: 252kv; peak power: 180 megawatts; PRF: 180 pps; ripple: less than 1%.

TOBE DEUTSCHMANN pulse-forming networks range from miniature units to high-power installations like the one shown above. This unit, designed and built to a rigid performance specification, is more than 8 feet high, 5 feet wide, and 22 feet long.

For high voltage capacitors, discharge switches, PFN's and pulse capacitors write or call:

TOBE
—DEUTSCHMANN—
LABORATORIES

CANTON, MASS. 02021 / TEL: 617 828-3366

CAPACITORS, FIXED—TEFLON

AXEL ELECTRONICS, INC JAMAICA N Y	**ADV PG 87**
COMPONENT RESEARCH CO INC SANTA MONICA CAL	**ADV PG 88**
CONDENSER PRODUCTS CORP BROOKSVILLE	**FLA**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
INTERELECTRONICS CORP CONGERS	**N Y**
PLASTIC CAPACITORS INC CHICAGO	**ILL**
TOBE DEUTSCHMANN LABS INC CANTON	**MASS**
AMP Inc, Capitron Div Elizabethtown	Pa
Arco Electronics Div. Loral Corp. Great Neck	N Y
Axel Electronics, Inc Jamaica	N Y
Capco Inc Lubbock	Tex
Capcon Inc New York	N Y
Chicago Condenser Corp Chicago	Ill
Component Research Co Inc Santa Monica	Cal
Condensateurs F A C O N Paris 12e	France
Condenser Products Corp Brooksville	Fla
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Corson Electric Mfg Corp East Hampton	Conn
Daytron Inc Mountain View	Cal
Dearborn Electronics Inc Sub Sprague Elec Co Orlando	Fla
Del Electronics Corp Mt Vernon	N Y
Electrical Utilities Co La Salle	Ill
Electronic Corp of America Los Angeles	Cal
Elpac Inc, Components Div Irvine	Cal
Film Capacitors Inc Passaic	N J
General Electric Co, ECSO Schenectady	N Y
General Products Corp Union Springs	N Y
Genisco Technology Corp Components, Genistron Divs Compton	Cal
Gudeman Div Gulton Industries, Inc Chicago	Ill
High Energy Inc Malvern	Pa
Insulating Shapes Inc Bronx	N Y
Interelectronics Corp Congers	N Y
International Electronics Corp Melville	NY
Lake Engineering Co Ltd Scarborough	Ont
Nytronics Inc Capacitor Div Darlington	S C
Okaya Electric Industries Co Ltd Tokyo	Japan
Plastic Capacitors Inc Chicago	Ill
Potter Co Inglewood	Cal
Reaction Research Labs of America Groton	Conn
San Fernando Electric Mfg Co San Fernando	Cal
S & EI Mfg Northridge	Cal
Southern Electronics Corp Burbank	Cal
Texas Capacitor Co Inc Houston	Tex
Tobe Deutschmann Labs Inc Canton	Mass
U S Capacitor Corp Burbank	Cal
Wesco Electrical Co Inc Greenfield	Mass
West-Cap Arizona Div San Fernando Elec Mfg Co Tucson	Ariz

CAPACITORS, FIXED—VACUUM

DOLINKO & WILKENS INC UNION CITY	**N J**
Cardwell Condenser Corp Lindenhurst	N Y
Dolinko & Wilkens Inc Union City	N J
English Electric Valve Co, Ltd Essex	England
Fivre Dept Fabbrica Ital Mag Marelli Pavia	Italy
International Electronics Corp Melville	NY
ITT Europe Inc Components Gp Brussels 1	Belgium
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Telefunken Sales Corp Garden City	N Y
Thomson-CSF 78 Versailles	France

CAPACITORS, FIXED—VITREOUS ENAMEL

American Technical Ceramics Huntington Station	N Y
Electro Science Labs Inc Philadelphia	Pa
EMC Technology Inc Philadelphia	Pa
International Electronics Corp Melville	NY
Plessey Co Ltd Ilford Essex	England
Plessey Electronics Corp Farmingdale	N Y
Syncrotech Edgerton	Ohio
U S Capacitor Corp Burbank	Cal
Vitramon, Incorporated Bridgeport	Conn

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Your marketplace for products

FIXED and VARIABLE VACUUM CAPACITORS

DOLINKO & WILKENS, INC. UNION CITY, N.J.
VC-1000-30A
VC80-30-10

Completely symmetrical bulb for mounting ease; exhaust tabulation is out of sight and protected against accidental damage.

D & W BRAND

TYPE	CAPACITY MMFD	PEAK KILOVOLTS	RMS AMPS.	DIMENSIONS LENGTH	DIMENSIONS DIA.	CONTACT DIA.
VC6-32	6	32	45	6½	2⅞*	1 3/16
VC12-32	12	32	45	6½	2⅞	1 3/16
VC25-32	25	32	45	6½	2⅞	1 3/16
VC50-32	50	32	65	6½	2⅞	1 3/16
VC75-32	75	32	65	6½	2⅞	1 3/16
VC100-32	100	32	65	6½	2⅞	1 3/16
VC150-32	150	32	65	6½	2⅞	1 3/16
VC200-32	200	32	65	6½	2⅞	1 3/16
VC250-32	250	32	65	6½	2⅞	1 3/16
VC500-32	500	32	120	7½	3 9/16	2 1/32
VC750-32	750	32	120	8⅞	3 9/16	2 1/32
VC1000-30	1000	30	120	8⅞	4	2 1/32
VC1000-30A	1000	30	125	7½	4½	2 1/32
VC1000-30S	1000	30	125	8⅞	4½	2 1/32
VC250-A	250	32	100	6⅝	2⅞	1 23/32
VC100-A	100	32	100	6⅝	2⅞	1 23/32
VC6-20	6	20	30	4½	2⅝	1 3/16
VC12-20	12	20	30	4½	2⅝	1 3/16
VC25-20	25	20	30	4½	2⅝	1 3/16
VC50-20	50	20	60	4½	2⅝	1 3/16
VC75-20	75	20	60	4½	2⅝	1 3/16
VC100-20	100	20	60	4½	2⅝	1 3/16
VC250-20	250	20	65	6½	2⅞	1 3/16
VC500-20	500	20	120	7½	3 9/16	2 1/32
VC750-20	750	20	120	8⅞	3 9/16	2 1/32
VC1000-20	1000	20	120	8⅞	4	2 1/32
VC1000-20A	1000	20	125	7½	4½	2 1/32
VC1000-20S	1000	20	125	8⅞	4½	2 1/32
VC6-16	6	16	25	4⅝	1 15/16	9/16
VC12-16	12	16	25	4⅝	1 15/16	9/16
VC25-16	25	16	25	4⅝	1 15/16	9/16
VC50-16	50	16	45	4⅝	1 15/16	9/16
VC100-16	100	16	45	4⅝	2¼	9/16
VC100-7.5	100	7½	35	4⅝	1⅝	9/16
VC25-10**	25	10	20	2¾	1½	1 1/32
VC50-10	50	10	20	2¾	1½	1 1/32
VC50-10-A	50	10	40	3¾	2⅛	⅞
VC100-10-A	100	10	40	3¾	2⅛	⅞
VC150-10-A	150	10	40	3¾	2⅛	⅞
VC250-10	250	10	42	4	2⅝	⅞
VC500-10	500	10	42	4⅛	3¼	⅞
VC80-30-10	80	10	30	1 9/16	1⅜	8-32 TAP
VC120-30-10	120	10	30	1 11/16	1 11/16	8-32 TAP

VACAP BRAND

TYPE	CAPACITY MAX.	CAPACITY MIN.	RMS AMPERES	PEAK KILOVOLTS	DIMENSIONS Length	DIMENSIONS Dia.
VVC700-42-7.5	700	25	42	7.5	9 1/16 +0 −½	4"
VVC700-42-10	700	25	42	10	"	4"
VVC700-42-15	700	25	42	15	"	4"
VVC500-45-7.5	500	12	45	7.5	"	3⅝"
VVC500-45-10	500	12	45	10	"	3⅝"
VVC500-45-15	500	12	45	15	"	3⅝"
VVC500-42-5	500	15	42	5	"	3⅝"
VVC500-42-7.5	500	15	42	7.5	"	3⅝"
VVC500-42-10	500	15	42	10	"	3⅝"
VVC500-42-15	500	15	42	15	"	3⅝"
VVC400-42-5	400	12	42	5	"	3"
VVC400-42-7.5	400	12	42	7.5	"	3"
VVC400-42-10	400	12	42	10	"	3"
VVC400-42-15	400	12	42	15	"	3"
VVC300-42-5	300	10	42	5	"	2⅝"
VVC300-42-7.5	300	10	42	7.5	"	2⅝"
VVC300-42-10	300	10	42	10	"	2⅝"
VVC300-42-15	300	10	42	15	"	2⅝"
VVC200-42-5	200	10	42	5	"	2⅝"
VVC200-42-7.5	200	10	42	7.5	"	2⅝"
VVC200-42-10	200	10	42	10	"	2⅝"
VVC200-42-15	200	10	42	15	"	2⅝"
VVC200-42-30	200	10	42	20	"	4"
VVC200-42-20	200	10	42	30	"	4"
VVC150-42-30	150	10	42	30	"	3⅝"
VVC150-42-20	150	10	42	20	"	3⅝"
VVC100-42-30	100	7	42	30	"	3 1/16"
VVC100-42-20	100	7	42	20	"	3 1/16"
VVC75-42-30	75	5	42	30	"	2⅝"
VVC75-42-20	75	5	42	20	"	2⅝"
VVC50-42-30	50	5	42	30	"	2⅝"
VVC50-42-20	50	5	42	20	"	2⅝"

WRITE FOR FULL DETAILS

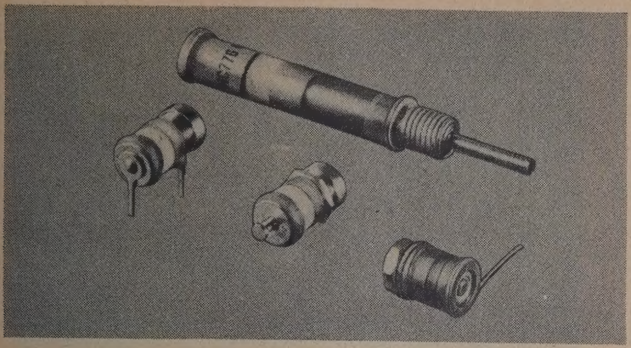
DOLINKO and WILKENS, INC.

MANUFACTURERS OF VARIABLE AND FIXED CAPACITORS SINCE 1947

1901-07 SUMMIT AVE., UNION CITY, N. J. 07087 201-867-6630

JFD

JFD ELECTRONICS CO./COMPONENTS DIVISION

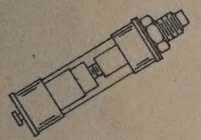
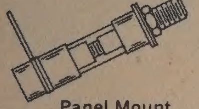
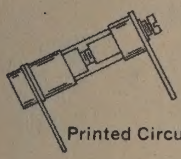
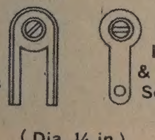


PISTON TRIMMER

JFD has available the largest selection of Precision Piston Trimmers in the industry—more than 2,500 standard and special designs that meet or exceed MIL-C-14409B.

JFD's unique capacitor-design-capability offers an unmatched number of exclusive features—Seven drive mechanisms incorporating advanced construction . . . Matched metalizing / homogeneous bond with dielectric . . . High level shock and vibration resistance . . . Clean room high reliability units available.

Write for complete catalog #C-67-A "Precision Piston Trimmer and Tuning Capacitors."

SERIES	PANEL MOUNT					PRINTED CIRCUIT				
	JFD No.	Mil. Spec.	Cap. (pf) Min.	Max.	Body Length	JFD No.	Mil. Spec.	Cap. (pf) Min.	Max.	Body Length
Max-C High Range Miniature Telescopic Sealed Capacitor Series	**GLASS**				±1/32 in.	**GLASS**				±1/32 in.
	NMC601	PC39J160	1.0	16.0	15/32	NMC621	PC43J160	1.0	16.0	.750
	NMC603	PC39J360	1.0	36.0	45/64	NMC623	PC43J360	1.0	36.0	.990
	NMC604	PC39J520	1.0	52.0	59/64	NMC624	PC43J520	1.0	52.0	1.205
	NMC606	PC39J750	1.0	75.0	1 11/64	NMC626	PC43J750	1.0	75.0	1.450
	NMC609	PC39J121	1.0	120.0	1 49/64	NMC629	PC43J121	1.0	120.0	2.050
	MC601Y	PC39J140	1.0	14.0	15/32	MC621Y	PC43J140	1.0	14.0	.750
	MC603Y	PC39J280	1.0	28.0	45/64	MC621	PC43J140	1.0	14.0	.700
	MC604Y	PC39J420	1.0	42.0	59/64	MC623Y	PC43J280	1.0	28.0	.990
	MC606Y	PC39J600	1.0	60.0	1 11/64	MC623	PC43J280	1.0	28.0	.940
	MC609Y	PC39J900	1.0	90.0	1 49/64	MC624Y	PC43J420	1.0	42.0	1.205
	MC601	PC39J140	1.0	14.0	15/32	MC624	PC43J420	1.0	42.0	1.155
(Dia. 5/16 in.)	MC603	PC39J280	1.0	28.0	45/64	MC626Y	PC43J600	1.0	60.0	1.450
	MC604	PC39J420	1.0	42.0	59/64	MC626	PC43J600	1.0	60.0	1.400
	MC606	PC39J600	1.0	60.0	1 11/64	MC629Y	PC43J900	1.0	90.0	2.050
	MC609	PC39J900	1.0	90.0	1 49/64	MC629	PC43J900	1.0	90.0	2.000
Miniature Telescopic Capacitor Series*	**GLASS**				+3/64—1/32	**GLASS**				±1/32 in.
	NVC20G	PC50J110	0.8	11.0	35/64	NVC9GW	PC51J110	0.8	11.0	9/16
	NVC21G	PC50J5R5	0.8	5.5	19/64	NVC10GW	PC51J5R5	0.8	5.5	5/16
	NVC22G	PC50H160	0.8	16.0	3/4	NVC31GW	PC51H160	0.8	16.0	49/64
	NVC23G	PC50H230	0.8	23.0	63/64	NVC32GW	PC51H230	0.8	23.0	1
	NVC24G	PC50H380	1.0	38.0	1 19/32	NVC43GW	PC51H380	1.0	38.0	1 39/64
 Panel Mount	VC20GY	PC40J8R5	0.8	8.5	35/64	VC9GWY	PC41J8R5	0.8	8.5	9/16
	VC21GY	PC40J4R5	0.8	4.5	19/64	VC10GWY	PC41J4R5	0.8	4.5	5/16
	VC22GY	PC40H120	0.8	12.0	3/4	VC31GWY	PC41H120	0.8	12.0	49/64
	VC23GY	PC40H180	0.8	18.0	63/64	VC32GWY	PC41H180	0.8	18.0	1
	VC24GY	PC40H300	1.0	30.0	1 19/32	VC43GWY	PC41H300	1.0	30.0	1 39/64
 Printed Circuit	VC20G	PC40J8R5	0.8	8.5	35/64	VC9GW	PC41J8R5	0.8	8.5	5/16
	VC21G	PC40J4R5	0.8	4.5	19/64	VC10GW	PC41J4R5	0.8	4.5	9/16
	VC22G	PC40H120	0.8	12.0	3/4	VC31GW	PC41H120	0.8	12.0	49/64
	VC23G	PC40H180	0.8	18.0	63/64	VC32GW	PC41H180	0.8	18.0	1
	VC24G	PC40H300	1.0	30.0	1 19/32	VC43GW	PC41H300	1.0	30.0	1 39/64
	QUARTZ				+3/64—1/32	**QUARTZ**				±1/32 in.
	NMQ101	PC40Q1R8	0.6	1.8	19/64	NMQ121	PC41Q1R8	0.6	1.8	5/16
	NMQ103	PC40Q5R5	0.6	5.5	35/64	NMQ123	PC41Q5R5	0.6	5.5	9/16
 Wire Series Lug & Lead Series	NMQ106	PC40Q9R5	0.6	9.5	63/64	NMQ126	PC41Q9R5	0.6	9.5	1
	NMQ109	PC40Q160	0.8	16.0	1 19/32	NMQ129	PC41Q160	0.8	16.0	1 19/32
	MQ101	PC40Q1R8	0.6	1.8	19/64	MQ121	PC41Q1R8	0.6	1.8	5/16
	MQ103	PC40Q5R5	0.6	5.5	35/64	MQ123	PC41Q5R5	0.6	5.5	9/16
(Dia. ¼ in.)	MQ106	PC40Q9R5	0.6	9.5	63/64	MQ126	PC41Q9R5	0.6	9.5	1
	MQ109	PC40Q160	0.8	16.0	1 19/32	MQ129	PC41Q160	0.8	16.0	1 39/64

TYPICAL SPECIFICATIONS	GLASS	QUARTZ
JFD No./Prefix 'N'	Green Glass dielectric & Hi-Life mechanism	Hi-Life mechanism only
JFD No./Suffix 'Y'	Hi-Life mechanism only	
WVDC	750	750
Dielectric Strength VDC	1,500	1,500
"Q" Minimum at 20 MC	500 min.	1,500 min.
Temperature Coefficient PPM/°C	±50 (−55 to +125°C)	+25 ±25 (−55 to +150°C)
Insulation Resistance megohms	10^6	10^6
Turning Torque inch ounces	1-10	1-10

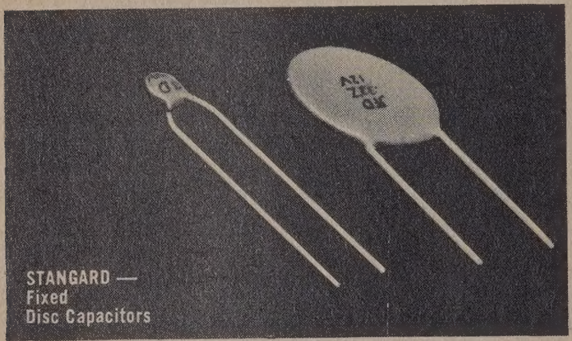
Body length indicated on Panel Mount only is exclusive of mounting bushing. 'N' and 'Y' Series mounting bushing dimension: 9/32 in. All other ¼ in. ¼ in.
***Miniature Telescopic Capacitor Series available sealed.**

JFD

JFD ELECTRONICS CO./COMPONENTS DIVISION

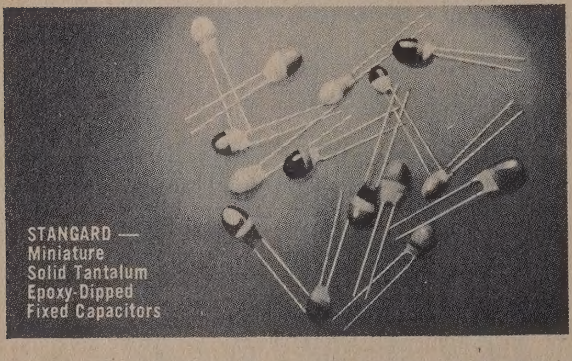
STANGARD —
Miniature
Variable Ceramic
Disc Capacitors

Low-cost for commercial and industrial applications. 9 △ Cs are available from 2.0 to 60.0 pf in 4 versatile configurations. DV11 Series meets or exceeds applicable MIL-C-81A. Write for catalogs STD-DV/67-A and DVJ-300/66.



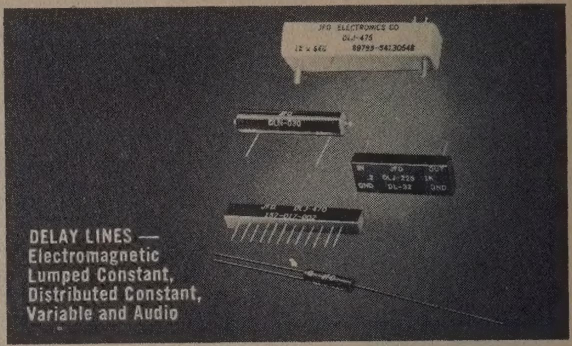
STANGARD —
Fixed
Disc Capacitors

Low-cost for transistor and general commercial circuitry. High K. Available in voltage ratings from 3 volts and higher. Write for catalog STD-FD/67-A.



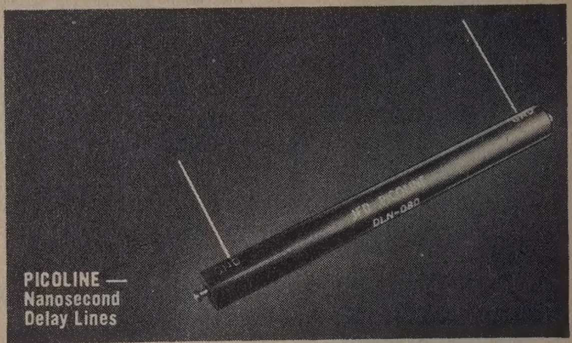
STANGARD —
Miniature
Solid Tantalum
Epoxy-Dipped
Fixed Capacitors

Low-cost for instrument, control, communication systems as well as general commercial circuitry. Capacitance range from 0.1 to 50.0 mfd. Write for catalog STD-TR/67.



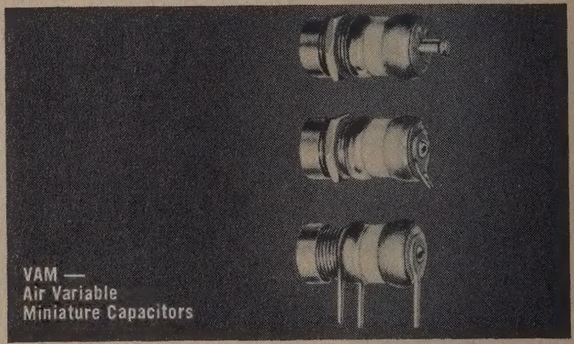
DELAY LINES —
Electromagnetic
Lumped Constant,
Distributed Constant,
Variable and Audio

Top quality, rugged, precision components of proven dependability. High delay to rise time ratios. Mounting methods for a wide variety of circuit applications. Write for catalog DL-68.



PICOLINE —
Nanosecond
Delay Lines

Ideal for nanosecond delay in high pulse circuitry. Rise time is less than one nanosecond. TC less than 20 PPM/°C. Operating temperature range —55°C to +125°C. Impedance 50 Ω. Write for catalog PL-67.



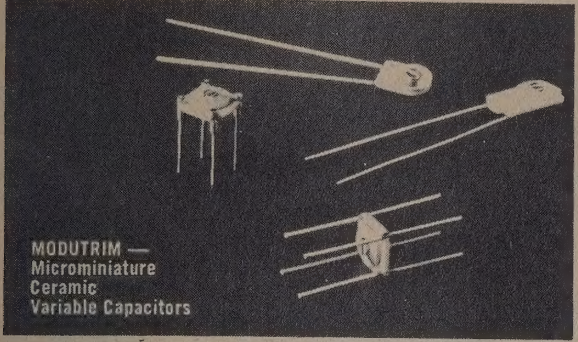
VAM —
Air Variable
Miniature Capacitors

Specially designed for high frequency applications that demand extreme stability, small size and high Q capacitance. Range measured at 1 MHz is 0.8 through 10.0 pf, Q measured at 10 pf and 100 MHz is greater than 2,000. Write for catalog VAM-67-B.

"TODAY'S COMPONENTS BUILT FOR TOMORROW'S CHALLENGES"

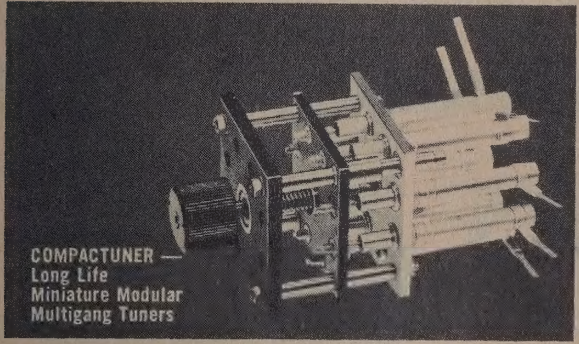
"TODAY'S COMPONENTS BUILT FOR TOMORROW'S CHALLENGES"

JFD



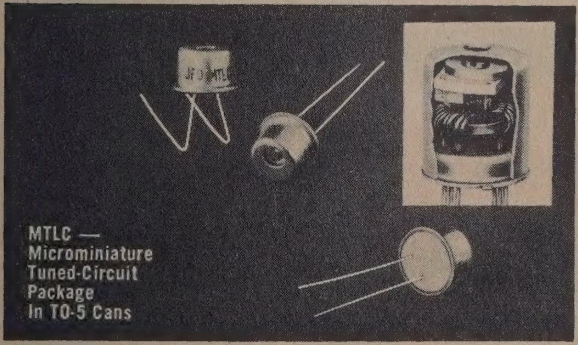
MODUTRIM —
Microminiature
Ceramic
Variable Capacitors

Offer micromodule and hybrid circuit designers a choice of wide △ Cs in extremely small and stable units. Capacitance ranges from 1.1 to 60.0 pf. Meet or exceed applicable MIL-C-81. Write for catalogs MT-67-A and MT-500-68.



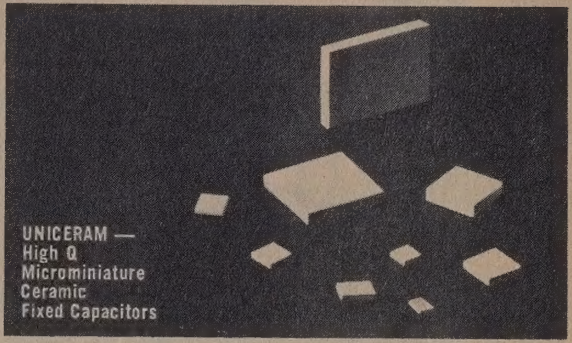
COMPACTUNER —
Long Life
Miniature Modular
Multigang Tuners

4 and 8 gang models for SLC and SLF tuning. Each provides stability and accuracy of tuning in a smaller sized package, unobtainable before Compactuner! Write for catalog LLCT-68.



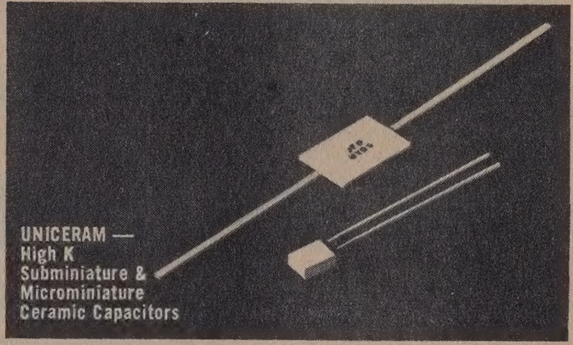
MTLC —
Microminiature
Tuned-Circuit
Package
In TO-5 Cans

Complete LC tuned circuits within TO-5 cans. Standard frequency ranges from 2 to 300 MHz. Various other complex networks such as discriminators, phase detectors are also available on special order. Write for catalog MTLC-67-A.



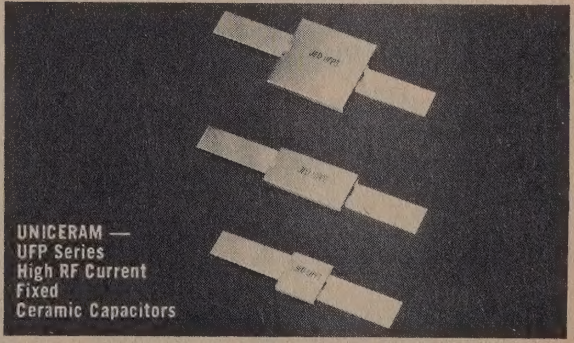
UNICERAM —
High Q
Microminiature
Ceramic
Fixed Capacitors

Offer a high ratio of capacitance per unit volume. They combine exceptional stability and a guaranteed minimum Q in a smaller size package than competitive units. Over 1,000 glass encapsulated models with capacitance values from 0.5 to 3,000 pf. Write for catalog UNM-H/Q-67-A.



UNICERAM —
High K
Subminiature &
Microminiature
Ceramic Capacitors

Multi-layer 'chips' and glass encapsulated leaded units are available in 5 square and 12 rectangular configurations. Ideal for hybrid integrated circuits. Capacitance range is 10 pf to 1.5 mfd. Meet or exceed applicable MIL-C-11015C. Write for catalog UNM-H/K-67.



UNICERAM —
UFP Series
High RF Current
Fixed
Ceramic Capacitors

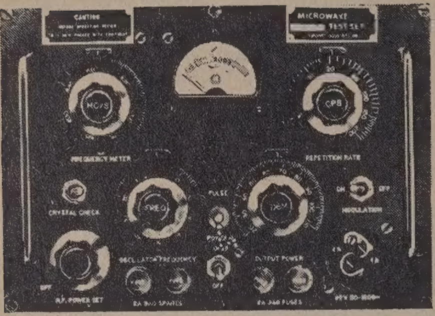
The smallest high RF power capacitors available! Typical UFP1 rating is 12 KVAR at +25°C. Recommended 'space-savers' for use in military communications, mobile, commercial broadcast and amateur radio transmitters. Write for catalog UNM-UFP-68.

JFD JFD ELECTRONICS CORP./COMPONENTS DIVISION
SUB. RIKER-MAXSON CORP.
1484 62nd Street • Brooklyn, New York 11219 / Phone 212-331-1000 • TWX 710-584-2426

SALES OFFICES — Arcadia, California / Sunnyvale, California / Chicago, Illinois / Ellicott City, Maryland / Saxonville, Massachusetts / Brooklyn, New York / New Hartford, New York / Cincinnati, Ohio / Philadelphia, Pennsylvania / Paris, France / Azor, Israel

LaPOINTE

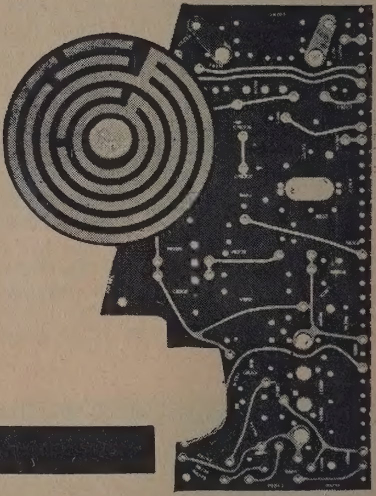
PROVEN DEPENDABILITY


MICROWAVE TEST SET
FREQUENCY METER
REPETITION RATE
CRYSTAL CHECK
MODULATION
PULSE
OSCILLATOR FREQUENCY
OUTPUT POWER

COMMUNICATIONS

- Drone Command Systems
- Airborne Radio Communications
- Rawin Ground Meteorological Devices
- Microwave Test Sets
- Tube Analyzers

PRINTED CIRCUITS



- Printed Circuits
- Electrical and Electronic Assemblies
- Flexible Printed Circuit Assemblies

LaPointe will simplify your wiring requirements, improve your circuit reliability and durability, miniaturize your electrical and electronic assemblies and lower your costs.

We have proven experience and dependability. Our facilities are complete. Our engineering staff has the "know-how." Our manufacturing is carefully executed. Our products are precision made. You can rely on LaPointe.

CAPACITORS

- Dual
- Single and Dual
- Single and Multiple
- Variable Air Precision

LaPointe INDUSTRIES, INC., ROCKVILLE, CONN.

When Reliability is the Rule...Specify

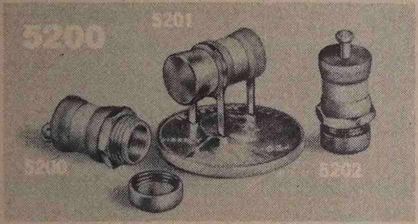
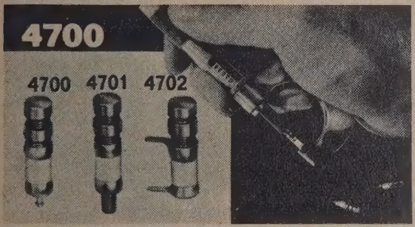
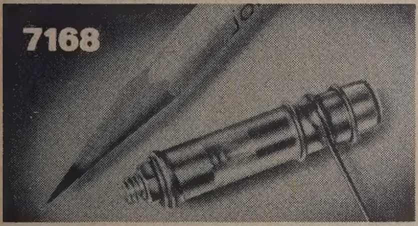
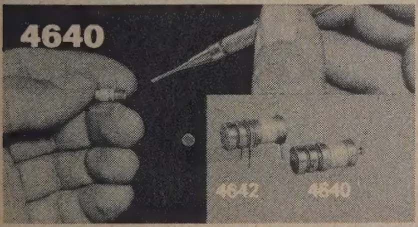
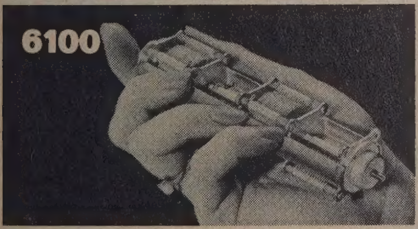
Johanson

A Complete Line of

HIGH Q VARIABLE CAPACITORS

AIR • GLASS • QUARTZ

All models feature 570°F Solder. Prevents distortion. Not affected by conventional soldering temperature. Higher temperature solder available on request.

SERIES	FEATURES	SPECIFICATIONS
5200 	Improved one piece rotor construction with built-in torque for longer and more reliable adjustment life. Reliability tested and certified by independent laboratory. (results available on request)	**CAPACITANCE RANGE:** 0.8 to 10.0 pF. **BREAKDOWN:** > 500 VDC **INSULATION RESISTANCE:** > 1,000,000 Megohms @ 500 VDC **Q @ 100 MC:** > 3000 **TEMPERATURE COEFFICIENT:** 0 ± 20 ppm/°C **TORQUE:** .5 —5 in. oz. **SHOCK:** > 275 g (6.0 millisec.) **ROTATIONAL LIFE:** > 1000 Revolutions rotor screw
4700 	10:1 capacitance ratio in micro miniature size — extra fine tuning < .35 pF per turn. High Q, (greater than 1500 at 500 mc)	**CAPACITANCE RANGE:** 0.35 pF to 3.5 pF **WORKING VOLTAGE:** 250 VDC (test voltage, 500 VDC) **Q @ 100 MC,** > 5000; @ 250 MC, > 2000 **INSULATION RESISTANCE:** >10⁶ Megohms **TEMPERATURE RANGE:** —55°C to 125°C **TEMPERATURE COEFFICIENT:** 50 ± 50 ppm/°C
7168 	High RF voltage (models available to 4500 volts RF peak at 30 MHz). Low minimum capacitance (.5 pF). High current (models available to 10 amp. RMS).	**CAPACITANCE RANGE:** 0.5 pF to 5.0 pF **WORKING VOLTAGE:** 2500 VDC & 2500 v peak RF @ 30 mc applied simultaneously and at 200°C **Q @ 1 MC:** > 2000 **DIELECTRIC STRENGTH:** > 7000 VDC **TEMPERATURE COEFFICIENT:** 0± 100 ppm/°C **OPERATING TEMPERATURE:** —40°C to +200°C
4640 	High capacity in a small package — exclusive round nut permits installation in tight places or miniaturized packaging. Ultra-rugged construction.	**CAPACITANCE RANGE:** .4 pF to 6 pF (> 8 Turns) **WORKING VOLTAGE:** 250 VDC (Test Voltage 500 VDC) **Q @ 100 MC:** > 5000 **INSULATION RESISTANCE:** > 10⁶ Megohms **TEMPERATURE COEFFICIENT:** 50 ± 50 ppm/°C **TEMPERATURE RANGE:** —65°C to +125°C
6100 	Modular design. Available in one to five section modules in a wide variety of capacitance ranges (SLC & SLF).	**CAPACITANCE RANGE:** Max. 145 pF, Min. 9.5 pF per section (180° Rotation) **CAPACITY VARIATION:** Straight Line Capacity **TEMPERATURE RANGE:** —55°C to +125°C **BREAKDOWN:** 1000 VDC **LOW TORQUE:** 3-5 oz. in.

OTHER LINES

2950 SERIES: CAP: 0.8 —10 pF • 250 VDC • Q > 2000 @ 100 MC • TC: 0 ± 20 ppm/°C
3901 SERIES: CAP: 1.0 —14 pF • 250 VDC • Q RANGE > 1500 to > 3000 max. to min. C @ 100 MC • TC: 0 ± 50 ppm/°C
3906 SERIES: CAP: 1.0 —20 pF • 250 VDC • Q RANGE > 1200 to > 3000 max. to min. C @ 100 MC • TC: 0 ± 50 ppm/°C
3908 SERIES: CAP: 1.0 —30 pF • 250 VDC • Q RANGE > 750 to > 3000 max. to min. C @ 100 MC • TC: 0 ± 50 ppm/°C
2902 SERIES: CAP: 1.0 —10 pF • 400 VDC • Q > 2000 @ 100 MC • TC: 0 ± 20 ppm/°C
7200 SERIES: .1 — 1 pF • 250 VDC • .075 dia. 5 dia.

All lines available with special high reliability processing. Includes 100% burn-in and screening and historical test data.

Johanson *MANUFACTURING CORPORATION*
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CAPACITORS, VARIABLE—AIR

JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y	**ADV PGS 95-97**
JOHANSON MFG CORP BOONTON N J	**ADV PG 99**
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN	**ADV PG 98**
All Star Products Inc Defiance	Ohio
Amperex Electronic Corp, Component Div Hauppauge	N Y
Ando Electric Co Ltd Ohta-ku, Tokyo	Japan
Bird & Sons Ltd, Sydney Poole Dorset	England
Cardwell Condenser Corp Lindenhurst	N Y
Components Specialties Inc Freeport	N Y
Del Electronics Corp Mt Vernon	N Y
Dowa Trading Co Ltd Kobe	Japan
Erie Technological Products Inc Erie	Pa
General Instrument Corp Automatic Mfg Div Newark	N J
General Radio Co West Concord	Mass
Hammarlund Mfg Co Inc, The Mars Hill	N C
Hammond Mfg Co Ltd Guelph	Ont
Impectron Inc New York	N Y
International Electronics Corp Melville	NY
ITT Europe Inc Components Gp Brussels 1	Belgium
Jackson Brothers (London) Ltd New York	N Y
JFD Electronics Corp, Components Div Brooklyn	N Y
Johanson Mfg Corp Boonton	N J
Johnson Co, E F Waseca	Minn
LaPointe Industries, Inc Rockville	Conn
La Radiotechnique Compelec Paris 11e	France
Leeds & Northrup Co North Wales	Pa
Matsushita Electric Industrial Co Ltd Osaka	Japan
Millen Mfg Co Inc, James Malden	Mass
Muirhead Instruments Inc Mountainside	N J
Nichols Co Ltd, R H Downsview	Ont
Philmore Mfg Co Inc Richmond Hill	N Y
Sanyo Electric Co Ltd Osaka	Japan
Squires-Sanders Inc Liberty Corner	N J
Stettner-Trush Inc Cazenovia	N Y
Taffet Electronics Inc Woodside	N Y
Telefunken Sales Corp Garden City	N Y
Toko Inc Ohta-ku Tokyo	Japan
TRW Electronic Components Div TRW Inc Camden	N J
United Mineral & Chemical Corp New York	N Y
Voltronics Corp Hanover	N J

CAPACITORS, VARIABLE—CERAMIC

AMERICAN LAVA CORP CHATTANOOGA	**TENN**
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y	**ADV PGS 95-97**
JOHANSON MFG CORP BOONTON N J	**ADV PG 99**
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO	**JAPAN**
American Lava Corp Chattanooga	Tenn
Amperex Electronic Corp, Component Div Hauppauge	N Y
Automation Components, Inc Peckville	Pa
Cambridge Thermionic Corp Cambridge	Mass
Cardwell Condenser Corp Lindenhurst	N Y
Centralab, Div Globe-Union Inc Milwaukee	Wis
Del Electronics Corp Mt Vernon	N Y
Energy Labs Inc Woodside	N Y
Erie Technological Products Inc Erie	Pa
Impectron Inc New York	N Y
International Electronics Corp Melville	NY
ITT Europe Inc Components Gp Brussels 1	Belgium
JFD Electronics Corp, Components Div Brooklyn	N Y
Johanson Mfg Corp Boonton	N J
KCK Co Ltd Tokyo	Japan
La Radiotechnique Compelec Paris 11e	France
Maida Development Co Hampton	Va
Matsushita Electric Industrial Co Ltd Osaka	Japan
Metal Ceram Inc Mount Vernon	N Y
Murata Mfg Co, Ltd Kyoto	Japan
Rosenthal-Isolatoren GMBH 8672 Selb	W Germany
Shigoto Industries Ltd New York	N Y
Solar Mfg Corp Los Angeles	Cal
Spectrum Control Inc Fairview	Pa
Stettner-Trush Inc Cazenovia	N Y
Subminiature Instruments Corp Riverside	Cal
Taiyo Yuden Co Ltd Chiyoda-ku, Tokyo	Japan
TDK Electronics Co Ltd Chiyoda-ku, Tokyo	Japan
Transitron Electronic Corp Wakefield	Mass

CAPACITORS, VARIABLE—MICA

ELECTRO MOTIVE MFG CO INC WILLIMANTIC CONN	**ADV PG 90**
Arco Electronics Div. Loral Corp. Great Neck	N Y
Cardwell Condenser Corp Lindenhurst	N Y
Electro Motive Mfg Co Inc Willimantic	Conn
International Electronics Corp Melville	NY
ITT Europe Inc Components Gp Brussels 1	Belgium
Jackson Brothers (London) Ltd New York	N Y
La Radiotechnique Compelec Paris 11e	France
Leeds & Northrup Co North Wales	Pa

CAPACITORS, VARIABLE—NEUTRALIZING

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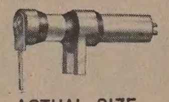
Cardwell Condenser Corp Lindenhurst	N Y
Hammarlund Mfg Co Inc, The Mars Hill	N C
Hammond Mfg Co Ltd Guelph	Ont
International Electronics Corp Melville	NY
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Jackson Brothers (London) Ltd New York	N Y
Millen Mfg Co Inc, James Malden	Mass
Voltronics Corp Hanover	N J

TRIMMER CAPACITOR

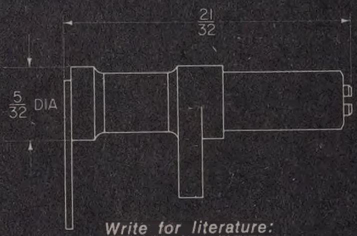
Breakthrough

PUFTRIM tm

- HIGHEST Q
  ...5,000 at 20 MHz
- HIGHEST VOLTAGE
  ...500 vdc
- IN SMALLEST SIZE
  ...5/32″ dia.


ACTUAL SIZE
0.3 to 6.0 pf

This new coaxial precision Trimmer Capacitor offers 0.3 to 6.0 pufs in the tiniest, reliable package using thin film dielectric techniques and non-rotating electrodes. Excellent thermal stability. Ideal for PC Board and Panel-Mounted Applications. Designed to exceed military specifications. Pat. #3,239,730.



Write for literature:

PMC

Premier Microwave Corporation

33 New Broad Street / Port Chester, N.Y. 10573
(914) 939-8900 TWX: (914) 937-5080

CAPACITORS, VARIABLE—TRIMMER, AIR

JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y	**ADV PGS 95-97**
JOHANSON MFG CORP BOONTON N J	**ADV PG 99**
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN	**ADV PG 98**
PREMIER MICROWAVE CORP PORT CHESTER NY	**ADV PG 100**
All Star Products Inc Defiance	Ohio
Amperex Electronic Corp, Component Div Hauppauge	N Y
Bird & Sons Ltd, Sydney Poole Dorset	England
Cardwell Condenser Corp Lindenhurst	N Y
Del Electronics Corp Mt Vernon	N Y
Erie Technological Products Inc Erie	Pa
Impectron Inc New York	N Y
International Electronics Corp Melville	NY
ITT Europe Inc Components Gp Brussels 1	Belgium
Jackson Brothers (London) Ltd New York	N Y
JFD Electronics Corp, Components Div Brooklyn	N Y
Johanson Mfg Corp Boonton	N J
Johnson Co, E F Waseca	Minn
LaPointe Industries, Inc Rockville	Conn
La Radiotechnique Compelec Paris 11e	France
Matsushita Electric Industrial Co Ltd Osaka	Japan
Millen Mfg Co Inc, James Malden	Mass
Mullard Ltd London, WC 1	Eng
Philmore Mfg Co Inc Richmond Hill	N Y
Premier Microwave Corp Port Chester	NY
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington	Ind
Shigoto Industries Ltd New York	N Y
Subminiature Instruments Corp Riverside	Cal
Tekelec-Airtronic SA Sevres 92	France
Toko Inc Ohta-ku Tokyo	Japan
TRW Electronic Components Div TRW Inc Camden	N J
United Mineral & Chemical Corp New York	N Y
Voltronics Corp Hanover	N J

CAPACITORS, VARIABLE—TRIMMER, CERAMIC

AMERICAN LAVA CORP CHATTANOOGA	**TENN**
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y	**ADV PGS 95-97**
JOHANSON MFG CORP BOONTON N J	**ADV PG 99**
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO	**JAPAN**
American Lava Corp Chattanooga	Tenn
American Technical Ceramics Huntington Station	N Y
Amperex Electronic Corp, Component Div Hauppauge	N Y
Arco Electronics Div. Loral Corp. Great Neck	N Y
Automation Components, Inc Peckville	Pa
Bird & Sons Ltd, Sydney Poole Dorset	England
Cambridge Thermionic Corp Cambridge	Mass
Cardwell Condenser Corp Lindenhurst	N Y
Centralab, Div Globe-Union Inc Milwaukee	Wis
Del Electronics Corp Mt Vernon	N Y
Erie Technological Products Inc Erie	Pa
Hopt KG, R E Rottweil a Neckar	Germany
Impectron Inc New York	N Y
International Electronics Corp Melville	NY
ITT Europe Inc Components Gp Brussels 1	Belgium
Jackson Brothers (London) Ltd New York	N Y
JFD Electronics Corp, Components Div Brooklyn	N Y
Johanson Mfg Corp Boonton	N J
Johnson Co, E F Waseca	Minn
La Radiotechnique Compelec Paris 11e	France
Maida Development Co Hampton	Va
Matsushita Electric Industrial Co Ltd Osaka	Japan
Metal Ceram Inc Mount Vernon	N Y
Murata Mfg Co, Ltd Kyoto	Japan
Plessey Co Ltd Ilford Essex	England
Rosenthal-Isolatoren GMBH 8672 Selb	W Germany
Sanyo Electric Co Ltd Osaka	Japan
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington	Ind
Spectrum Control Inc Fairview	Pa
Stettner-Trush Inc Cazenovia	N Y
Subminiature Instruments Corp Riverside	Cal
TDK Electronics Co Ltd Chiyoda-ku, Tokyo	Japan
Telefunken Sales Corp Garden City	N Y
Voltronics Corp Hanover	N J

CAPACITORS, VARIABLE—TRIMMER, GLASS OR QUARTZ

JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y	**ADV PGS 95-97**
JOHANSON MFG CORP BOONTON N J	**ADV PG 99**
American Technical Ceramics Huntington Station	N Y
Cambridge Thermionic Corp Cambridge	Mass
Cardwell Condenser Corp Lindenhurst	N Y
Electrosil Ltd Sunderland Durham	England
Erie Technological Products Inc Erie	Pa
International Electronics Corp Melville	NY
JFD Electronics Corp, Components Div Brooklyn	N Y
Johanson Mfg Corp Boonton	N J
Lake Engineering Co Ltd Scarborough	Ont
LRC Electronics Inc Horseheads	N Y
Murata Mfg Co, Ltd Kyoto	Japa
Portchester Instrument Corp Port Chester	N Y
Stettner-Trush Inc Cazenovia	N Y
Syncor Products Co, Inc Malden	Mas
Tekelec-Airtronic SA Sevres 92	Franc
Voltronics Corp Hanover	N

CAPACITORS, VARIABLE—TRIMMER, MICA

ELECTRO MOTIVE MFG CO INC WILLIMANTIC CONN	**ADV PG 9**
NIPPON ELECTRIC CO LTD TOKYO	**JAPA**

Arco Electronics Div. Loral Corp. Great Neck ... N Y
Cardwell Condenser Corp Lindenhurst ... N Y
Electro Motive Mfg Co Inc Willimantic ... Conn
International Electronics Corp Melville ... NY
Intratec Div. British Aircraft Corp. USA Inc. Arlington ... Va
Jackson Brothers (London) Ltd New York ... N Y
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Nippon Electric Co Ltd Tokyo ... Japan
Sanyo Electric Co Ltd Osaka ... Japan
United Mineral & Chemical Corp New York ... N Y

CAPACITORS, VARIABLE—TUNING

JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y ... ADV PGS 95-97
JOHANSON MFG CORP BOONTON N J ... ADV PG 99
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN ... ADV PG 98
MITSUMI ELECTRIC CO LTD TOKYO JAPAN ... ADV PG 692
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
All Star Products Inc Defiance ... Ohio
Amperex Electronic Corp, Component Div Hauppauge ... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville ... R I
British Radio Electronics (BREL) Washington ... D C
Cardwell Condenser Corp Lindenhurst ... N Y
Components Specialties Inc Freeport ... N Y
Computer Diode Corp Fairlawn ... NJ
Del Electronics Corp Mt Vernon ... N Y
Dowa Trading Co Ltd Kobe ... Japan
Eastron Corp Haverhill ... Mass
Energy Labs Inc Woodside ... N Y
General Instrument Corp Automatic Mfg Div Newark ... N J
Hammarlund Mfg Co Inc, The Mars Hill ... N C
Hammond Mfg Co Ltd Guelph ... Ont
Impectron Inc New York ... N Y
International Electronics Corp Melville ... NY
ITT Jennings Div, Intl Tel & Tel Corp San Jose ... Cal
Jackson Brothers (London) Ltd New York ... N Y
JFD Electronics Corp, Components Div Brooklyn ... N Y
Johanson Mfg Corp Boonton ... N J
Johnson Co, E F Waseca ... Minn
KEV Electronics Corp Wilmington ... Mass
LaPointe Industries, Inc Rockville ... Conn
Lieco Inc West Babylon ... N Y
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Millen Mfg Co Inc, James Malden ... Mass
Mitsumi Electric Co Ltd Tokyo ... Japan
Motorola Semiconductor Products Inc Phoenix ... Ariz
Nippon Electric Co Ltd Tokyo ... Japan
Parametric Industries Inc Winchester ... Mass
Philco-Ford Corp Washington ... D C
Philmore Mfg Co Inc Richmond Hill ... N Y
Plessey Co Ltd Ilford Essex ... England
Rosenthal-Isolatoren GMBH 8672 Selb ... W Germany
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Squires-Sanders Inc Liberty Corner ... N J
Taffet Electronics Inc Woodside ... N Y
Telefunken Sales Corp Garden City ... N Y
TRW Electronic Components Div TRW Inc Camden ... N J
United Mineral & Chemical Corp New York ... N Y
Voltronics Corp Hanover ... N J

CAPACITORS, VARIABLE—VACUUM OR GAS-FILLED

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LAPP INSULATOR DIV INTERPACE CORP LE ROY N Y ... ADV PGS 316,317
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
VACAP CORP UNION CITY N J ... ADV PG 94
Cardwell Condenser Corp Lindenhurst ... N Y
Dolinko & Wilkens Inc Union City ... N J
Dranetz Engineering Labs Inc Plainfield ... N J
Energy Labs Inc Woodside ... N Y
English Electric Valve Co, Ltd Essex ... England
International Electronics Corp Melville ... NY
ITT Jennings Div, Intl Tel & Tel Corp San Jose ... Cal
Lapp Insulator Div Interpace Corp Le Roy ... N Y
Machlett Labs Inc, The Stamford ... Conn
Nippon Electric Co Ltd Tokyo ... Japan
Torr Labs Inc Los Angeles ... Cal
Vacap Corp Union City ... N J

CAPACITOR TESTERS

***See* Testers—Capacitor**

CAPS—CONNECTOR

AMPHENOL BROADVIEW ... ILL
AMPHENOL CHICAGO ... ILL
VOLKERT STAMPINGS INC SUB STANLEY WORKS QUEENS VILLAGE ... N Y
Allmetal Screw Products Co Inc Garden City ... N Y
Amphenol Broadview ... Ill
Amphenol Chicago ... Ill
Bendix Corp Electrical Components Div Sidney ... N Y
Carol Cable Co Pawtucket ... R I
Clover Industries Div GTI Corp Tonawanda ... N Y
Electronized Chemicals Corp Burlington ... Mass
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Hobson Brothers Inc Chicago ... Ill
Jettron Products Inc Hanover ... N J
Jones Inc, Norman South Merrimack ... N H
Kings Electronics Co Inc Tuckahoe ... N Y
Leviton Mfg Co Inc Brooklyn ... N Y
Metal Ceram Inc Mount Vernon ... N Y
Microwave Development Labs Inc Needham Heights ... Mass
Millen Mfg Co Inc, James Malden ... Mass
Miller Electric Co Woonsocket ... R I
Numar Corp New York ... N Y
Plastiglide Mfg Corp Santa Monica ... Cal
Richards Metal Products Inc Wolcott ... Conn
Semi-Alloys Inc Mt Vernon ... N Y
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Volkert Stampings Inc Sub Stanley Works Queens Village ... N Y

CARBON

***See* Graphite**

CARBON BRUSHES

***See* Brushes**

CARBON RESISTORS

***See* Resistors—Fixed**

CARBON SEALS

***See* Seals—Mechanical**

CARCINOTRONS

***See* Tubes—Microwave**

CARDIAC EQUIPMENT

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HONEYWELL TEST INSTRUMENTS DIV DENVER COLO ... ADV PG 8
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VICTORY ENGINEERING CORP SPRINGFIELD ... N J
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Astro-Space Labs Inc Huntsville ... Ala
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva ... Switzerland
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Biocom, Inc Culver City ... Cal
Bio-Medical Electronics Inc Rockville ... Md
Bionic Instruments Inc Bala Cynwyd ... Pa
Birtcher Corp Medical Div Los Angeles ... Cal
Computer Instruments Corp Hempstead ... N Y
Datascope Corp Saddle Brook ... NJ
Dynamic Controls Corp South Windsor ... Conn
Electrodyne Div Becton, Dickinson Co Sharon ... Mass
Electronic Homes Co New York ... N Y
E & L Instruments Inc Derby ... Conn
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Hewlett-Packard Palo Alto ... Cal
Honeywell Test Instruments Div Denver ... Colo
Hycon Monrovia ... Cal
Instrumentation Lab Inc Lexington ... Mass
International Rectifier Semiconductor Div El Segundo ... Cal
Massey Dickinson Co Inc Saxonville ... Mass
Measurement Technology Corp Canoga Park ... Cal
Medtronic Inc Minneapolis ... Minn
Mennen-Greatbatch Electronics Inc Clarence ... N Y
Nihon Kohden Kogyo Co Ltd Tokyo ... 161 Japan
Optical Electronics Inc Tuscon ... Ariz
Picker Nuclear White Plains ... N Y
Princo Instruments Inc Southampton ... Pa
Sanders Associates, Inc Nashua ... N H
Sanders Assoc Inc, Electro Sciences Div Buffalo ... N Y
Stoelting Co, C H Chicago ... Ill
Tektronix Inc Beaverton ... Ore
Thermionic Products Electronics Ltd Southampton ... England
Victory Engineering Corp Springfield ... N J

CARD READERS

***See* Readers—Punched-Card**

CARRIER SYSTEMS

***See* Communication Systems**

CARTONS—SHIPPING

***See* Boxes; Packaging Materials**

CARTRIDGES—MAGNETIC TAPE

Ampex Corp Redwood City ... Cal
Audio Devices Inc Sub Capitol Indus Glenbrook ... Conn
Audio Magnetics Corp Gardena ... Cal
Casco Music Systems Inc Hyde Park ... Mass
Dowa Trading Co Ltd Kobe ... Japan
Duotone Co Inc Miami ... Fla
Fairchild Industrial Products Plainview ... N Y
Gates Radio Co Quincy ... Ill
Lear Jet Industries Inc Detroit ... Mich

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1. Listing of more than 4,000 products.
2. 6,500 manufacturers with local outlets, addresses and phone numbers.
3. Complete and up-to-date Trade Name Directory
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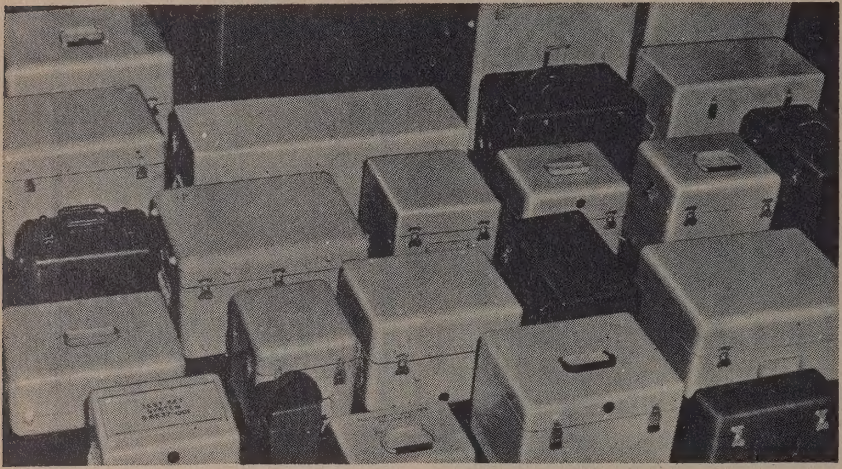
Electronics Buyers' Guide

mm MILITARY CASES

mm
MULTI-MEASURE METAL ENCLOSURES

mm COMBINATION, TRANSIT, INSTRUMENT CASES

to MIL-T-945A, T-4734, T-21200, STD-108, C-4150



Over 1,000,000 variations in sizes, shapes and materials for lightweight military cases. MM manufacturing methods provide high production savings on runs as low as 25 units.

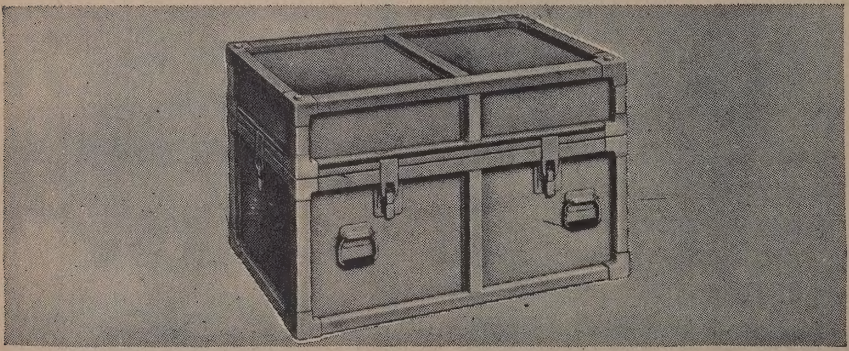
NO DIE CHARGE

USED FOR:

- Ground Support Equipment
- Field Test Equipment
- Control Systems
- Communication Systems
- Instrumentation
- Storage and Transport

mm MODULAR METAL CONTAINERS

to MIL-C-22443 (WEP)



A re-usable shipping and storage container system providing maximum component protection and dimensional variability with minimum weight and cubage.

USED FOR:

- Weapons and Components
- Ground Support Equipment
- Communication Systems
- Field Test Equipment
- Radar Equipment
- Storage and Transport

Custom Details

MOUNTING:
Holes, brackets, flanges, anchor nuts, etc.

FOOTING:
Rubber and aluminum feet, dimples, etc.

SHOCK PROOFING:
Rubber pads, molded urethane cushions, vibration isolators, shock mounts, etc.

VENTILATING:
Manual and automatic relief valves, louvres, perforations, vents, etc.

HINGING:
Separable hinges, piano hinges, integral hinges

WATERPROOFING:
Closure gaskets, panel gaskets, humidity indicators, etc.

LOCKING:
Latches, fasteners, locks, etc.

CARRYING:
Handles, recessed handles, hand grips, etc.

IDENTIFYING:
Stencilling, engraving, silk screens, nameplates, etc.

FINISHING:
Painting, iriditing, anodizing, plating, etc.

SEND FOR FREE CATALOG AND DIMENSION SPECIFICATION SHEETS

Reproducible vellums are included for customer convenience in detailing their special dimensions in cases and containers. Use of these vellums speeds up quotes.

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Marathon Products Corp West Boylston	Mass
Mincom Div 3M Co Camarillo	Cal
Sparta Electronic Corp Sacramento	Cal
Superscope Inc Sun Valley	Cal
Telex Communications Div Minneapolis	Minn

CARTRIDGES

***See* Pickups—Phonograph**

CASES, PORTABLE—ELECTRONIC EQUIPMENT

GAGNE ASSOCIATES INC BINGHAMTON	**N Y**
HEWLETT-PACKARD PALO ALTO	**CAL**
KINETRON CORP ASBURY PARK	**NJ**
MM ELECTRONIC ENCLOSURES INC HICKSVILLE N Y	**ADV PG 102**
PORTA-TRACE DIV, GAGNE ASSOCIATES INC BINGHAMTON	**N Y**
SCIENTIFIC-ATLANTA INC ATLANTA	**GA**
American Aluminium Co Mountainside	N J
Argos Products Co, Inc Genoa	Ill
A V Eiectronics, Inc Fresno	Cal
Avella Custom Case Co Jersey City	N J
Bal Corp, William Elizabeth	N J
Baltic Metal Products Co Brooklyn	N Y
Beechwood Mfg Corp Indianapolis	Ind
Bogen Communications Div Lear Siegler Inc Paramus	N J
Boston Precision Parts Co Inc Hyde Park	Mass
Brooks & Perkins Inc Detroit	Mich
Buckeye Stamping Co Columbus	Ohio
California Chassis Co Lynwood	Cal
Champion Co Springfield	Ohio
Churchill Corp Melrose	Mass
C & N Electrical Ltd Gosport	Hampshire Eng
Compagnie Generale de Metrologie Haute Savoie	France
Components Specialties Inc Freeport	N Y
Control Logic Inc Natick	Mass
Craig Systems Corp Lawrence	Mass
Daedalus Sales Co Los Angeles	Cal
Daniels Inc, C R Daniels	Md
Davies Molding Co, Harry Chicago	Ill
Duplicon Co Inc Westboro	Mass
Electro Mechanical Corp Sayre	Pa
Electronic Enclosures Div Wyle Labs Pennsauken	N J
Electrorack Products Co Anaheim	Cal
Elzee Metal Products Co Inc Brooklyn	N Y
Enclosure Corp Pennsauken	N J
Eugene Engineering Co Inc Rockland	Mass
Falstrom Co Passaic	N J
Fibre Products Div Ikelheimer-Ernst Inc New York	N Y
Gagne Associates Inc Binghamton	N Y
Golding Mfg Co North Arlington	N J
Goldsman Inc Philadelphia	Pa
Goodyear Aerospace Corp Akron	Ohio
Hammond Mfg Co Ltd Guelph	Ont
Hewlett-Packard Palo Alto	Cal
Insulating Fabricators Inc East Rutherford	N J
Jones Inc, Norman South Merrimack	N H
Keystone Electronics Corp New York	N Y
Kinetron Corp Asbury Park	NJ
Metal Works Inc Hermann	Mo
Mid-West Metal Products Inc Kansas City	Kans
Miller Co, W A Oquossoc	Maine
MM Electronic Enclosures Inc Hicksville	N Y
Mobil Electronics Inc Anderson	Ind
Muckle Mfg Co Owatonna	Minn
Porta-Trace Div, Gagne Associates Inc Binghamton	N Y
Premier Metal Products Co Bronx	N Y
Ray Products Inc Alhambra	Cal
REF Dynamics Div UOP Mineola	N Y
Riester & Thesmacher Co Cleveland	Ohio
Robertson Instrument Co Azusa	Cal
Rosemount Plug-In Inc Nashville	Tenn
Rotary Co, Inc Buffalo	N Y
Scientific-Atlanta Inc Atlanta	Ga
Skydyne Inc Port Jervis	N Y
Skyline Products Inc Deer Park	N Y
Slocum Industries Reseda	Cal
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Spring City Electrical Mfg Co Spring City	Pa
Stafford Mfg Co Inc Brooklyn	N Y
Superior Continental Corp Hickory	N C
Taffet Electronics Inc Woodside	N Y
TA Mfg Corp Los Angeles	Cal
Technical Materiel Corp Mamaroneck	N Y
Utility Communication Systems Inc West Chester	Pa
Vector Electronic Co Inc Sylmar	Cal
Vero Electronics Ltd Southampton	England
VP Co Pasadena	Cal
Waber Electronics Inc Philadelphia	Pa
Waldom Electronics Inc Chicago	Ill
Watson Mfg Co Inc Jamestown	N Y
Western Reserve Electronics, Inc Cleveland	Ohio
Whitman Saddle Mfg Co Cincinnati	Ohio
Zero Mfg Co Burbank	Cal

CASTINGS—METAL & ALLOY

NATIONAL LEAD CO NEW YORK	**N Y**
Aluminum Co of America Pittsburgh	Pa
Arwood Corp Rockleigh	NJ
Bean & Co, Morris Yellow Springs	Ohio
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights	NY
Cerro Corp New York	NY
Chase Electronics Motor Div Inc Elmhurst	N Y
Coiltronics Inc Buena Park	Cal
Colbert Die Cast Co Inc South Gate	Cal
Control Engineering Div J B Webb Co Detroit	Mich
DCMT Machinery Div Avnet Inc Plainview	N Y
Division Lead Co Summit	Ill
Electronic Resources Inc Tasker Indus Los Angeles	Cal
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Fansteel Inc North Chicago	Ill
Ferranti, Ltd Lancashire	England
Gries Reproducer Co Div Coats & Clark Inc New Rochelle	N Y
Howmet Corp Austenal Microcast Div Dover	N J
Howmet Corp Misco Div Muskegon	Mich
Investment Casting Co Springfield	N J
Janney Cylinder Co Sub Edgewater Corp Philadelphia	Pa
Metal Ceram Inc Mount Vernon	N Y
Microwave Associates Inc Burlington	Mass
National Lead Co New York	N Y
Nuclear Fuel Services, Inc Wheaton	Md
Nuclear Materials & Equipment Corp Apollo	Pa
Peco Inc Portland	Ore
Pomona Electronics Co Inc Pomona	Cal
Rex Chainbelt Inc Milwaukee	Wis
Sanders Assoc Inc, Microwave Div Nashua	N H
Semi-Alloys Inc Mt Vernon	N Y
Sims Casting Corp Syracuse	N Y
Spring City Electrical Mfg Co Spring City	Pa
Steel Heddle Mfg Co Philadelphia	Pa
Union Carbide Corp, Materials Systems Div Kokomo	Ind
Westinghouse Elec. Corp., Specialty Metals Div Blairsville	Pa
Wilkinson Co Westlake Village	Cal

CATHODE-RAY TUBES

***See* Tubes—Cathode-Ray**

CATHODE-RAY TUBE SHIELDS

***See* Shields—Tube**

CATHODE-RAY TUBE TESTERS

***See* Testers—Tube**

CATHODES

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Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Engelmann Microwave Co Montville	NJ
Forway Industries Inc Woodbury	N J
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General Electric Co, ECSO Schenectady	N Y
General Microwave Corp Farmingdale	N Y
Gombos Microwave Inc Clifton	N J
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Gyrotronics Inc Asbury Park	N J
Harris-Intertype Corp Cleveland	Ohio
Herley Industries, Inc Syosset	N Y
Ikor, Inc Burlington	Mass
ITT Europe Inc Components Gp Brussels 1	Belgium
LDV Electro Science Industries Syracuse	N Y
Lieco Inc West Babylon	N Y
Litton Industries, Electron Tube Div San Carlos	Cal
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
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Microlab/F X R Livingston	N J
Micronetics Div Teledyne Systems Co San Diego	Cal
Microwave Associates Inc Burlington	Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Development Labs Inc Needham Heights	Mass
Microwave Filter Co Inc East Syracuse	NY
Microwave Labs of America Brooklyn	N Y
Monsanto Co Microwave Products St Louis	Mo
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
N-H Microwave Inc Red Bank	N J
Nippon Electric Co Ltd Tokyo	Japan
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Portchester Instrument Corp Port Chester	N Y
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Radio Corp of America, Electronic Components Harrison	N J
Radio Engineering Labs, Div DCA Long Island City	N Y
Ramcor Inc Huntington	NY
Resdel Engineering Corp Pasadena	Cal
RFD Inc Tampa	Fla
RLC Electronics Inc Port Chester	N Y
Sanders Assoc Inc, Microwave Div Nashua	N H
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Teledata Inc Queens Village	N Y
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach	Cal
Terra Corp Albuquerque	N M
TRW Electronic Components Div TRW Inc Camden	N J
Varian Palo Alto	Cal
Victor Microwave Inc Wakefield	Mass
Waveline Inc West Caldwell	N J
Weinschel Engineering Co Inc Gaithersburg	Md
Wilcox Electric Co Kansas City	Mo

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MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL	**ADV PGS 104,105**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
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WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD	**ADV PG 49**
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Amerac, Inc Beverly	Mass
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Applied Microwave Lab, Inc Andover	Mass
Automatic Metal Products Corp Brooklyn	N Y
Bendix Corp, Microwave Devices Div Franklin	Ind
Bomac Div Varian Associates Beverly	Mass
Cardwell Condenser Corp Lindenhurst	N Y
Control Science Corp Alexandria	Va
Cosmos Industries Inc Brooklyn	N Y
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Electro-Mechanics Co Austin	Tex
EMI Electronics Ltd Hayes	Middlesex Eng
Frequency Engineering Labs Farmingdale	N J
General Electric Co, ECSO Schenectady	N Y
General Microwave Corp Farmingdale	N Y
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Harris-Intertype Corp Cleveland	Ohio
Herley Industries, Inc Syosset	N Y
Honig Laboratories Inc Westbury	N Y
Industrial Components Inc Div Welsh Corp Beaverton	Ore
ITT Europe Inc Components Gp Brussels 1	Belgium
LDV Electro Science Industries Syracuse	N Y
Lieco Inc West Babylon	N Y
Litton Industries, Electron Tube Div San Carlos	Cal
Livingston Electronic Div Jettron Prods Inc Hanover	N J
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Metcom Inc Salem	Mass
Microlab/F X R Livingston	N J
Micronetics Div Teledyne Systems Co San Diego	Cal
Microwave Associates Inc Burlington	Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Development Labs Inc Needham Heights	Mass
Microwave Filter Co Inc East Syracuse	NY
Microwave Labs of America Brooklyn	N Y
Monsanto Co Microwave Products St Louis	Mo
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
N-H Microwave Inc Red Bank	N J
Nippon Electric Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Portchester Instrument Corp Port Chester	N Y
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Radio Corp of America, Electronic Components Harrison	N J
Radio Engineering Labs, Div DCA Long Island City	N Y
Ramcor Inc Huntington	NY
Resdel Engineering Corp Pasadena	Cal
RFD Inc Tampa	Fla
RLC Electronics Inc Port Chester	N Y
Sanders Assoc Inc, Microwave Div Nashua	N H
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Teledata Inc Queens Village	N Y
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach	Cal
Terra Corp Albuquerque	N M
TRW Electronic Components Div TRW Inc Camden	N J
Varian Palo Alto	Cal
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Victor Microwave Inc Wakefield	Mass
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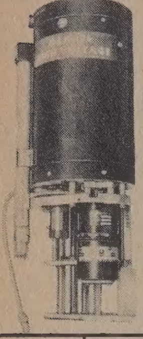
Wilcox Electric Co Kansas City	Mo

MICROWAVE

"Dynamic Disciplines" Products that

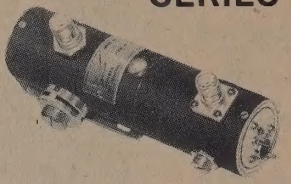


HIGH POWER, RF TETRODE PULSE, CW CAVITIES

Up to 250 KW Output (Pulse Service)

- Tunable from 40-1350 MHz over entire range on most units.
- Input VSWR, 2:1 or better.
- Gang tuning available.
- Input and output coupling matched
- No neutralizing.
- Servo tuned models available.*
- Temperature stable.
- Optimum cooling.
- MIL Spec design.

MODEL	FREQ. RANGE MHz	OPERATION	POWER OUTPUT	SERVICE
11023	40-200	Class B	1.0 KW	CW Amp.
11022	230	Class C	15 KW Peak	Pulse Amp.
11024	40-200	Class B	0.1 KW	CW Amp.
11050	150	Class C	30 KW	Pulse Osc.
11051	150	Class C	125 KW	Pulse Amp.
11014	200-400	Class B lin.	1.0 KW	CW Amp.
11006	225-400	Class B lin.	.12 KW	CW Amp.
11009*	225-400	Class C	1.2 KW Peak	Pulse Amp.
11010*	225-400	Class B lin.	.12 KW	CW Amp.
11018	280-315	Class B	1.0 KW	CW Amp.
11029	360-480	Class B	.15 KW	CW Amp.
11030	360-480	Class B	1.5 KW	CW Amp.
11056	375	Class B	0.1 KW	CW Amp.
11057	375	Class B	1.4 KW	CW Amp.
11001	400-450	Class B lin.	2.5 KW	CW Amp.
11031	400-800	Class C	15 KW	Pulse Amp.
11019	400-800	Class B lin.	1.0 KW	CW Amp.
11004	410-460	Class C	14 KW	Pulse Amp.
11005	410-460	Class C	2.5 KW	Pulse Osc.
11205	420	Class C	35 KW	Pulse Osc.
11046	800-1000	Class B	1.0 KW	CW Amp.
11011	1250-1350	Class C	10 KW Peak	Pulse Amp.



SERIES "N" STANDARD TRIODE CAVITIES

Minimum Range: 10%

Amplifiers and oscillators, designed for narrow band operation.

STANDARD OPERATING CONDITIONS

	Application	Series No.	High Frequency Limit MHz	P in mw	GAIN DB 1 GHz	2 GHz	3 GHz	
CW AMPLIFIERS	Lo Noise	1000	3400	1	17	16	11	
	Med. Power	2000		100	13	11	8	
	Med. Power	2002	2240	2000	13	8		
					POWER OUT WATTS 1 GHz	2 GHz	3 GHz	4 GHz
CW OSCILLATORS	Lo-Power	6000 7000*	5250		0.4	0.3	1	.05
	Med. Power	6002 7001*	4500		1.4	0.8	0.7	0.5
	Med. Power	6003 7003*	2520		28	18		
				DUTY CYCLE	All Pulse Widths: 1.0 usec.			
PULSED OSCILLATORS	Lo-Power	8000 9000*	5250	.001	18	12	8	6
	Hi-Power	8002 9002*	4500	.001	1950	1850	1800	1750
	Hi-Power	8003* 9003*	2520	.003	1700	1500		

*Re-entrant

"MINI-CAV" OSCILLATOR, AMPLIFIER, TRIPLER CAVITIES

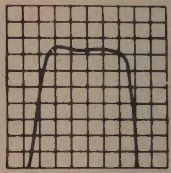
Meet rigid demands for reliability, small size and light weight in airborne and similar equipment.

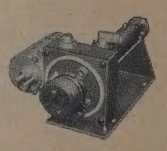
MODEL	FREQ. GHz	POWER OUTPUT	SIZE DIA.	LENGTH	WEIGHT (APPROX.)
9010*	.988-1.012	3.5 KW min.	1½"	4½"	1 lb.
9012*	2.84-3.18	10 W peak min.	1"	6 3/16"	12 oz.
9013*	4.82-5.22	5.0W peak	1"	6 3/16"	14 oz.
9017*	.960-1.06	2.5 KW peak min.	1½"	5 1/16"	2 lbs.
9019*	2.84-3.00	10 W peak	1"	6 3/16"	12 oz.
9022B*	5.40	15 W	⅝"	2 3/32"	3 oz.
9023*	9.0	3.0 W min.	11/16"	2 3/16"	4 oz.
8207†	.940-.980	6KW peak	1½"	5 9/16"	20 oz.
9009A†	4.30	1.0 KW min.	1⅜"	3 9/16"	12 oz.
9018†	4.30	.25 KW peak	1"	2 9/32"	5 oz.
7009**	1.23-1.37	1.0 W min.	1½"	10½"	1½ lbs.
9015**	4.30	2.0 MW	⅝"	2⅝"	3 oz.
1004††	1.80-2.00	25 MW min.	1¼"	3"	12 oz.
1005††	1.075-1.10	1.0W	1 9/32"	2"	12 oz.
5015***	2.12-2.35 output .7083-.7833 input	150 MW min.	1½"	7"	2 lbs.

*Grid Pulsed Oscillators
†Plate Pulsed Oscillators
**CW Oscillators
††CW Amplifiers
***CW Tripler

BROAD BAND AMPLIFIER CAVITIES

Give maximum utilization of the gain-bandwidth product, VHF through S-Band. Bandwidths more than double those of ordinary cavities. Flat-top response for easy cascading, with minimum reduction in overall system bandwidth. Eliminate mechanical tuning in many uses. Excellent phase stability, linearity. Compact.





Model	Freq. MHz	Gain db	Bandwidth-db pts	Power Output
3029*	216	10	4.0 MHz @ 3.0 db	300 watts
3031*	216	10	4.0 MHz @ 3.0 db	3.0 kilowatts
3021*	420	10	20 MHz @ 3.0 db	5.0 kilowatts
3022*	420	23	20 MHz @ 3.0 db	200 watts
2041†	425	9.0, nom.	47 MHz @ 3.0 db	60 watts
3012*	425	8.0	50 MHz @ 1.0 db	2.5 kilowatts
3014*	425	26	50 MHz @ 1.0 db	400 watts
11026*	425	6.0	50 MHz @ 1.0 db	10 kilowatts
11033*	430.5	7.0	33 MHz @ 1.0 db	8.0 kilowatts
3045*	470	19	100 MHz @ 3.0 db	20 watts
3017*	476	12	8.0 MHz @ 3.0 db	15 watts
3023*	476	12	8.0 MHz @ 3.0 db	250 watts
3044B*	512	20	75 MHz @ 1.0 db	2.5 kilowatts
3042*	1025-1150	7.0	120 MHz @ 3.0 db	1.5 kilowatts
3046*	1545	23	20 MHz @ 3.0 db	100 watts
3047*	1545	13	20 MHz @ 3.0 db	2.0 kilowatts
3015†	1800	10	30 MHz @ 1.0 db	22 watts
3028†	2000	10	30 MHz @ 3.0 db	20 watts
1009†	2101.8	16	12 MHz @ 3.0 db	400 milliwatts
3020†	2101.8	11, min.	15 MHz @ 3.0 db	15 watts
3006B†	2106	7.0	10 MHz @ 3.0 db	10 watts
3040†	2250	9.0, min.	4.0 MHz @ 3.0 db	22 watts
1010†	2282.5	10	15 MHz @ 3.0 db	50 milliwatts
3005*	2846-2866	9.0	26 MHz @ 3.0 db	500 watts

*Pulse Operation †CW Operation

MICROWAVE CAVITY LABORATORIES

Division of KMS Industries, Inc.

10 North Beach Avenue
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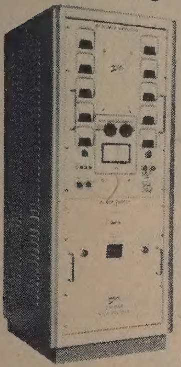
Area Code 312 354-4350

MARKETPLACE

Carry the MCL MICROWAVE Seal of Quality

HIGH POWER, RF ADD-ON AMPLIFIER SYSTEMS

- ***40-18,000 MHz Coverage***
- ***100 WATTS to 2.5 KW***
- ***CW or Pulse Operation***



An exclusive MCL advancement which affords quick, economical modernization of older installations. Replaces multi-unit lashups with neat, standard 19" rack-mounted, high power amplifier systems. Complete with power supply, cooling source, sequential circuitry, fusing and protective interlock.

CW TETRODE AMPLIFIER SYSTEMS

Model	Freq. Range MHz	Power Output	Gain db.	Bandwidth at 3.0 db.
10270-11043	40-200	1.0 KW	13	1.0 MHz
10270-11044	200-400	1.0 KW	13	5.0 MHz
10270-11045	400-800	1.0 KW	13	6.0 MHz
10270-11046	800-1000	1.0 KW	12	4.0 MHz
10017	400-450	2.5 KW	13	6.0 MHz
10161-11071	40-200	100 watts	13	1.0 MHz
10161-11070	200-400	100 watts	13	3.0 MHz
10161-11072	400-800	100 watts	13	5.0 MHz
10161-11073	800-1000	100 watts	12	5.0 MHz

KLYSTRON AMPLIFIER SYSTEMS

High Gain, High Efficiency
Or Broad Band Tuning Modes

Model	Tube Type	Freq. MHz	Power Output	Max. Gain Tuned		Max. B.W. Tuned	
				Gain db.	BW MHz	Gain db.	BW MHz
10282	4K3SJ	1700-2400	1.0 KW	47-45	4.0-6.0	—	—
10283	4K3SL	1700-2400	1.0 KW	41-38	9.0-12	38.3	13-14
10284	4K3SK	2400-2700	1.0 KW	43-42	10-15	—	—
10285	4K3SN	2850-3050	1.0 KW	45	7.0	—	—
10276	VA888	4400-5000	1.0 KW	51	6.0-8.0	41	13-19
10233	VA834B	4400-5000	1.0 KW	51	5.5-7.5	41	11-17
10277	VA834D	5500-5850	1.0 KW	51	5.5-7.5	41	11-17
10278	VA861	5900-6400	1.0 KW	58	7.0-8.0	48	11
10286	VA866	7100-8500	1.0 KW	59	12	50	20
10287	VA930	15000-18000	0.5 KW	50	12	40	20

MCL CUSTOM CAPABILITIES

Any of the components or systems advertised on these pages can be modified for your individual requirements.

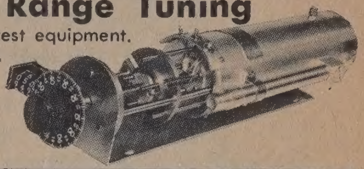
Write for complete catalog covering more than 500 standard and custom engineered product varieties including solid state components and accessories such as preselectors, diplexers, low, high and bandpass filters, switches, mixers, power dividers, power samplers, detectors, attenuators and loads.

MICROWAVE
MARKETPLACE
Catalog

SERIES "E" RF TRIODE OSCILLATORS, AMPLIFIERS

150-4000 MHz Coverage With Extended Range Tuning

Use as system components or test equipment.
Modified to your requirements.



PULSED OSCILLATORS

Available from stock

Model Number	Frequency MHz	Min Power Output KW	Model Number	Frequency MHz	Min. Power Output KW
8038	150-300	1.5	8019	600-1200	1.0
8021	200-400	1.5	8028	1000-1500	1.0
8026	250-500	1.5	8029	1450-2000	1.0
8018	300-600	1.5	8027	2000-3000	1.0
8022	400-800	1.5	8030	3000-4000	1.0
8024	500-1000	1.5			

CW OSCILLATORS

Model Number	Frequency MHz	Power Output	Model Number	Frequency MHz	Power Output
6020	200-550	80 W	7015	550-1000	100 Mw
6021	550-1215	50 W	7016	1000-2500	100 Mw
6022	1215-2500	25 W	7017	2500-3500	100 Mw

CW AMPLIFIERS

Model Number	Frequency MHz	Power Output
2026	200-550	80 W
2027	550-1215	50 W
2028	1215-2500	40 W

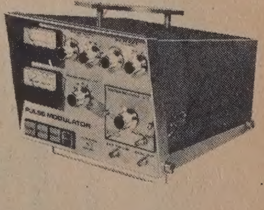
MODEL 10330, SERIES "E" PULSE MODULATED SIGNAL GENERATORS

Complete With Power Supply

Powerful and versatile test instruments built around Series "E" triode oscillators. Available as complete, rack-mounted signal source, with integral pulse modulator (same circuitry as Model 10299B below). Coverage from 150 to 4000 MHz is facilitated by interchangeable RF plug-in heads. Head Nos. 8046 through 8051 cover 150 to 1000 MHz in six individual ranges at 1.5 KW output. Head Nos. 8052 through 8056 cover 600 to 4000 MHz in five individual ranges at 1.0 KW output.

SERIES 10299B HIGH POWER PULSE MODULATOR

Designed as companion modulators to Series "E" pulsed oscillators.



- **Available in three standard, adjustable output voltage ranges:** 0-1.5 KV @ 6.0 amperes, peak; 0-3.0 KV @ 3.0 amperes, peak; and 0-6.0 KV @ 1.5 amperes, peak. Peak voltage readout accurate to 2.0% of full scale, from 100 pulses per second up. (Other voltages and currents at average power levels to 100 watts, available on special order.)
- **Pulse characteristics:** repetition rate: 100 Hz to 10 kHz. Width, variable, 0.5 to 10 microseconds. Rise and fall time: as low as 200 nanoseconds into resistive load.
- **Duty cycle:** .001 to .01 with 2.0% readout accuracy. Overload cut-off, adjustable over same range.

MICROWAVE CAVITY LABORATORIES
Division of KMS Industries, Inc.

10 North Beach Avenue
LaGrange, Illinois 60525
Area Code 312 354-4350

VACTEC

Short-Form Catalog S-70

PHOTOCONDUCTIVE CELLS

Light dependent resistors in 5 materials and 5 styles. All ± 33⅓% tolerance for a 2 Ft.-C resistance.

HOW TO ORDER (example)

VT-102
series / material / resistance

MATERIAL	PEAK SPECTRAL RESPONSE
Type 0 CdS (Broad Spectrum)	5650 A
Type 1 CdSe (High Speed)	7350 A
Type 2 CdS (High Stability)	5150 A
Type 3 CdS (High Speed)	5500 A
Type 4 CdSe (Low Resistance)	6750 A

VT-100 Series (Plastic)

200 MW @ 25°C

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT-10L	1.6	200
VT-101	3	200
VT-101H	6	200
VT-102L	9	300
VT-102	16	300
VT-103L	32	300
VT-103	66	300
VT-104	136	300
VT-111	2.3	200
VT-111H	4.6	200
VT-112L	9.2	300
VT-112	22	300
VT-113L	44	300
VT-113	60	300
VT-121	3	200
VT-121H	6	200
VT-122L	9	300
VT-122	16	300
VT-123L	32	300
VT-123	66	300
VT-124	136	300
VT-132	10	200
VT-133L	14	200
VT-133	28	200
VT-14L	.6	200
VT-141	1.2	200
VT-141H	2.4	200
VT-142L	4.8	300
VT-142	7	300
VT-143L	14	300
VT-143	28	300

VT-100 (.065" Thickness) (Diam. .368") Plastic

VT-200 Series (TO-18)

50 MW @ 25°C

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT-201	4.3	100
VT-202	8	100
VT-202H	15	100
VT-203	22	300
VT-203H	44	300
VT-204L	88	300
VT-204	110	300
VT-205	1000	300
VT-211	2.3	100
VT-211H	3.5	100
VT-212L	6	100
VT-212	7.8	100
VT-213L	16	100
VT-213	22	300
VT-213H	32	300
VT-214L	64	300
VT-214	140	300
VT-221	6.8	100
VT-222	10	100
VT-222H	20	100
VT-223	40	300
VT-223H	65	300
VT-224L	80	300
VT-224	500	300
VT-225	1000	
VT-232	100	
VT-233L	150	
VT-233	350	
VT-234	700	
VT-235	1400	
VT-241	2	
VT-241H	4	
VT-242L	8	
VT-242	15	
VT-242H	30	

VT-200 TO-18 (Diam. .183)

VT-300 Series (TO-5)

125 MW @ 25°C

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT-30L	1.8	200
VT-301	3	200
VT-301H	6	200
VT-302L	10	300
VT-302	16	300
VT-303L	32	300
VT-303	70	300
VT-304	144	300
VT-305	1000	300
VT-311L	2.1	200
VT-311	4.2	200
VT-312L	8.4	300
VT-312	22	300
VT-312H	30	300
VT-313L	60	300
VT-314	140	300
VT-32L	1.95	200
VT-321	3.9	200
VT-321H	7.8	200
VT-322L	15.6	300
VT-322	31.2	300
VT-325	1000	300
VT-333L	14	200
VT-333	28	200
VT-34L	.6	200
VT-341	1.2	200
VT-341H	2.4	300
VT-342L	4.8	300
VT-342	7	300
VT-343L	14	300
VT-343	28	300

VT-300 TO-5 (Diam. .325)

VT-500 Series (TO-8)

500 MW @ 25°C

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT-50L	1.3	200
VT-501	2.6	200
VT-501H	4	300
VT-502L	8	300
VT-502	16	300
VT-503L	32	300
VT-503	66	300
VT-51L	.7	200
VT-511L	1.4	200
VT-511	2.3	300
VT-511H	4.6	300
VT-512L	9.2	300
VT-521	2.6	200
VT-521H	5	300
VT-522L	9	300
VT-522	18	300
VT-523L	36	300
VT-533L	12.5	200
VT-533	25	200
VT-54L	.25	200
VT-541	.5	200
VT-541H	1	200
VT-542L	1.5	300
VT-542	2	300

VT-500 TO-8 (Low Profile) (Diam. .490)

VT-700 Series (plastic)

250 MW @ 25°C ⅜" diam

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT721	2.55	300
VT721H	4.8	300
VT732	10	300

VT-700E (Epoxy) Encaps.

250 MW @ 25°C ½" diam.

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT701E	3.3	100
VT702E	17.6	300
VT712E	24.2	300
VT721HE	5.5	300
VT732E	11	300
VT741E	1.32	100

VT-800 Series (Plastic)

175 MW @ 25°C ¼" diam.

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT82L	1.9	100
VT833	33	300

DUAL ELEMENT CELLS

VT-300 Series .325" diam.

Part No.	2 Ft.-C Resis. KΩ	Max. Volt.
VT-302/2	16	200 (ea. ½)
VT-303L	32	200 (ea. ½)
VT-312/2	5	200 (ea. ½)
VT-313L/2	10	200 (ea. ½)
VT-34L/2	1.5	200 (ea. ½)
VT-341/2	3	200 (ea. ½)

VACTROLS

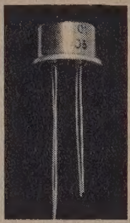
PHOTOCELL-LAMP MODULES

Photon isolators for every requirement.

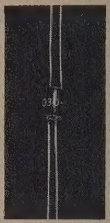
VACTEC
VACTROL
VT 6005

Case 6 & 8
⁹⁄₁₆ Diam.
Epoxy Seal

Case 1
Hermetic
TO-5



Case 3
Hermetic
TO-8



Case 5
Epoxy
TO-18

VACTEC
VACTROL
VTL7A1

Case 7
⁹⁄₁₆ Diam.
7 pin. miniature

Part No.	Max. Lamp V.	Lamp I (ma.)	Max. on OHMS	Case
VT1.5040	1.5	49	400	6
VT6005	6	40	50	6
VT10030	10	22.5	300	6
VT10150	10	22.5	1500	6
VTL1A1	1.5	50	400	1
VTL1A2	6	40	200	1
VTL1A3	10	14	800	1
VTL1A4	12	25	250	1
VTL1B5	150 Neon	1.2	1000	1
VTL1B6	90 Neon	.3	5000	1
VT120020N	150 Neon	1.2	200	8
VT120100N	150 Neon	1.2	1000	8
VT030-18A	1.1 LED	30*	1000	5
VT005-8	1.1 LED	5*	1000	3
VTL7A1**	10	14	2000	7

*LED's can operate to 100 ma. Max.
**Two Cells-One Lamp, Cell match 20% @ 3 & 6 V.
Any Case style available in Special Cell/Lamp combination.

PHOTOVOLTAIC CELLS

Photovoltaic cells start with a layer of selenium onto which a junction of CdSe is formed. A subsequent layer of CdO or Au acts as a current collector. The two types are specified as A for the Au layer and B for the CdO type. B is high output for low light and best for use with amplifier. Specify A or B after part number, e.g. S100 EB.

STANDARD SIZES (Partial List)

UNMOUNTED SIZES

Part Number	Size (Inches)	Minimum Microamp Output
RX5	.250 diameter	12
RX10	.375 diameter	20
RX15	.500 diameter	30
RX80	1.000 diameter	130
R1	1.130 diameter	220
R5	1.375 diameter	305
R10	1.500 diameter	360
R75	1.770 diameter	400
R100	2.000 diameter	750
SX10	.250 x .484	14
S1	.440 x .730	80
S2	.654 x .765	110
S3	.622 x 1.118	150
S8	.875 x .875	220
S13	1.500 x 1.500	650
S17	.281 x .875	75
S100	.886 x 1.689	360
S150	.250 x 6.000	360

MOUNTED SIZES

Part Number	Dimensions (Inches) Thickness	Diameter
R100M	¾	2¼
R10M1	13/32	1¾
R75E	7/16	2
*RX80H	¼	1⅛
R100K	19/32	25/16
Metal — epoxy case octal plug		
S100M	T(¼) x W(13/32) x L(129/32)	
Plastic case — acrylic window		
S100E	same as S100M	
Epoxy encapsulated		

*Hermetic cases

NOTE: Unmounted Cells less than .045" thick

NOTE: Microampere output based upon cell temperature of 75°F., color temperature 2850°K, 100 foot candles, 150 ohm load. Bulletin SPV4B shows complete line.

PAM-1 PHOTOCELL AMPLIFIER MODULE

The Vactec Photocell amplifier module (PAM) consists of a matched selenium photocell and a high gain operational amplifier. All solid state unit replacement for phototube and associated amplifier or multiplier.

Specifications

Input	± 15 VDC; + 15 ma max.
Output	0-10 VDC; 2 K min. load resistance (1)
Response Time	100 u sec.
Photometric Response (min. with 2850° K Source)	6u V/fc/ohm

(1) Load resistance is the parallel combination of feedback and external load.

PHOTO VOLTAGE MULTIPLIER PVM-1

Converts the selenium photocell to a stiff current source; load current independent of load resis.

Input	3-15 VDC @ 200 uA Load Current
Output	Input minus 2 V.
Response	As fast as 10 u sec. with small cells.

VACTEC
PVM-1

CELLS, PHOTOELECTRIC— PHOTOCONDUCTIVE (INCL. SELENIUM)

CLAIREX ELECTRONICS INC NEW YORK N Y . . . ADV PG 108
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
HAMAMATSU TV CO LTD SHIZUOKA PRE . . . . JAPAN
HEWLETT-PACKARD PALO ALTO . . . . CAL
MITSUMI ELECTRIC CO LTD TOKYO JAPAN . . . ADV PG 692
QUANTROL ELECTRONICS INC EL PASO TEX . . . ADV PG 107
VACTEC INC MARYLAND HEIGHTS MO . . . . . . ADV PG 106
American Instrument Co, Inc Silver Spring . . . . Md
Amperex Electronic Corp, Component Div Hauppauge . . . . N Y
Cetron Electronic Corp Geneva Ill
Clairex Electronics Inc New York . . . . N Y
Data Sensors Inc Addison Ill
Eagle Electric Mfg Co Inc Long Island City . . . . N Y
Electronic Space Products Inc Los Angeles . . . . Cal
EMI Electronics Ltd Hayes . . . . Middlesex Eng
Farmer Electric Products Co Inc Natick . . . . Mass
Frost Electronics Corp Rockaway . . . . N J
General Electric Co, ECSO Schenectady . . . . N Y
Hamamatsu TV Co Ltd Shizuoka Pre . . . . Japan
HEI Inc Chaska . . . . Minn
Heimann GMBH 62 Wiesbaden-Dotzheim . . . . Germany
Heliotek Div Textron Inc Sylmar . . . . Cal
Hewlett-Packard Palo Alto . . . . Cal
Impectron Inc New York . . . . N Y
Infrared Industries Inc Santa Barbara . . . . Cal
International Electronics Corp Melville . . . . NY
International Rectifier Semiconductor Div El Segundo . . . . Cal
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MacKay Research Labs Wickenburg . . . . Ariz
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Milton Roy Co St Petersburg . . . . Fla
Mitsumi Electric Co Ltd Tokyo . . . . Japan
Mori Physics & Chemistry Lab Co Ltd Yokohama . . . . . . Japan
Mullard Ltd London, WC 1 . . . . Eng
Networks Electronic Corp Chatsworth . . . . Cal
Philco-Ford Corp Washington . . . . D C
Pioneer Electric & Research Corp Forest Park Ill
Plessey Co Ltd Ilford Essex . . . . England
Quantrol Electronics Inc El Paso . . . . Tex
Radio Corp of America, Electronic Components Harrison . . N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Schjeldahl Co, G T Northfield . . . . Minn
Semi-Elements Inc Saxonburg . . . . Pa
Sensor Precision Industries Inc Medfield . . . . Mass
Shigoto Industries Ltd New York . . . . N Y
Sigma Instruments Inc Braintree . . . . Mass
Sigmatron Inc Goleta . . . . Cal
Solar Systems Div Tyco Skokie Ill Ill
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia . . . . Pa
Telefunken Sales Corp Garden City . . . . N Y
Texas Instruments Incorporated Dallas . . . . Tex
Tokyo Electric Co Ltd Tokyo . . . . Japan
United Detector Technology Inc Santa Monica . . . . Cal
Vactec Inc Maryland Heights . . . . Mo
Warner Electric Brake & Clutch Co Beloit . . . . Wisc
Westinghouse Electric Corp, Tube Div Elmira . . . . NY

CELLS, PHOTOELECTRIC— PHOTOVOLTAIC (INCL. SELENIUM)

POWER INC, ELECTRONICS DIV BURNSVILLE MINN . . . . ADV PG 54
VACTEC INC MARYLAND HEIGHTS MO . . . . . . ADV PG 106
Avco Electronics Div Cincinnati . . . . Ohio
Block Engineering Inc Cambridge . . . . Mass
Centralab Semiconductor Div Globe-Union Inc El Monte . . . Cal
Data Sensors Inc Addison Ill
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electronic Space Products Inc Los Angeles . . . . Cal
Electro-Nuclear Lab Inc Menlo Park . . . . Cal
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View . . . . Cal
Ferranti, Ltd Lancashire . . . . England
HEI Inc Chaska . . . . Minn
Heliotek Div Textron Inc Sylmar . . . . Cal
Infrared Industries Inc Santa Barbara . . . . Cal
International Electronics Corp Melville . . . . NY
International Rectifier Semiconductor Div El Segundo . . . . Cal
Ion Physics Corp Burlington . . . . Mass
LaPine Scientific Co Chicago Ill
La Radiotechnique Compelec Paris 11e . . . . France
Lektra Labs Inc Div Kriser Corp College Point . . . . N Y
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
MacKay Research Labs Wickenburg . . . . Ariz
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Mori Physics & Chemistry Lab Co Ltd Yokohama . . . . . . Japan
Mullard Ltd London, WC 1 . . . . Eng
Networks Electronic Corp Chatsworth . . . . Cal
Philco-Ford Corp Washington . . . . D C
Plessey Co Ltd Ilford Essex . . . . England
Power Inc, Electronics Div Burnsville . . . . Minn
Sigma Instruments Inc Braintree . . . . Mass
Solar Systems Div Tyco Skokie Ill Ill
Texas Instruments Incorporated Dallas . . . . Tex
Tinsley H & Co c/o Southfield Electronics Southfield . . . . Mich
TRW Systems Group Redondo Beach . . . . Cal

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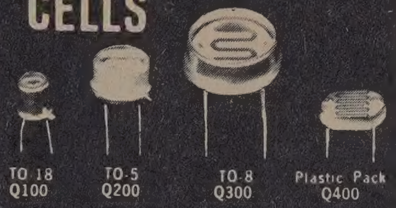
Your marketplace for products

PHOTOCONDUCTIVE CELLS



This listing represents only a small part of our great line.

TYPE A MATERIAL
(Cadmium Sulfo - Selenide)

This material has been specifically tailored for low dark history, excellent temperature stability, spectral sensitivity like the human eye, and moderate response time. Excellent for photographic, photometric, and colorimetric applications. This material is also used in applications such as street light control where minimum red response is desirable. Spectral Peak at 570 nm.

Part No.	Power Dissipation	Resistance at 2 ft-c in K-Ohms*	Min. Dark Resistance (Ohms)**	Maximum Voltage
110A	50mw at 25° C	150	100 meg	100V
120A	50mw at 25° C	80	10 meg	200V
130A	50 mw at 25° C	15	10 meg	100V
210A	125mw at 25° C	150	540 meg	300V
220A	125mw at 25° C	40	180 meg	250V
230A	125mw at 25° C	12	37 meg	200V
240A	125mw at 25° C	3.0	4 meg	75V
310A	Maximum 2 watt w/heat sink	60.0	55 meg	500V
320A	Maximum 2 watt w/heat sink	9.0	28 meg	500V
330A	Maximum 2 watt w/heat sink	2.5	10 meg	200V
410A	400mw at 25° C	50	47 meg	300V
420A	400mw at 25° C	40	33 meg	200V
430A	400mw at 25° C	12	28 meg	100V

TYPE B MATERIAL
(Cadmium Selenide)

This material has been developed for use in applications requiring high sensitivity or fast response times. Excellent for high speed choppers, tape readers, counters and any place where high speed and/or high sensitivity are essential. Spectral Peak at 690 nm.

Part No.	Power Dissipation	Resistance at 2 ft-c in K-Ohms*	Min. Dark Resistance (Ohms)**	Maximum Voltage
110B	50mw at 25 C	75	10 meg	100V
110B3	50mw at 25 C	15	10 meg	50V
120B	50mw at 25 C	30	10 meg	200V
130B	50mw at 25 C	5	1 meg	100V
210B	125mw at 25° C	100	667 meg.	300V
220B	125mw at 25° C	30	140 meg	250V
230B	125mw at 25° C	3.0	20 meg.	200V
240B	125mw at 25° C	1.5	5 meg	75V
310B	Maximum 2 watt w/heat sink	18.0	27 meg	500V
320B	Maximum 2 watt w/heat sink	10.0	23 meg	500V
330B	Maximum 2 watt w/heat sink	1.5	10 meg	200V
410B	400mw at 25° C	15	23 meg	300V
420B	400mw at 25° C	30	42 meg	200V
430B	400mw at 25° C	2.5	12 meg	100V

*** All measurements at 25 C after minimum of 16 hrs exposure to 30 ft-c.**

All measurements at 2850 K tungsten illumination

**** Measurement — 5 sec in dark after exposure to 2 ft-c.**

Engineer and designers kit: 4 photoconductors, 1 differential amplifier — $10.00

WRITE TODAY
FOR COMPLETE SPECIFICATIONS

QEI

QUANTROL
ELECTRONICS INC.

1822 MILLS AVE., EL PASO, TEXAS 79901
Another D.H. Baldwin Company

20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Vactec Inc Maryland Heights . . . . Mo
Wer Industrial Corp Grand Island . . . . N Y
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Weston Instruments Div Weston Instr Inc Newark . . . . N J

CELLS—STANDARD VOLTAGE

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Canadian Research Institute Don Mills . . . . Ont
Dowa Trading Co Ltd Kobe . . . . Japan
Electro Scientific Industries Inc Portland . . . . Ore
Eppley Lab Inc Newport . . . . R I
Guildline Instruments Ltd Smiths Falls . . . . Ont
Hallmark Standards Inc Mount Vernon . . . . N Y
Julie Research Labs, Inc New York . . . . N Y
Leeds & Northrup Co North Wales . . . . Pa
Muirhead Instruments Inc Mountainside . . . . N J
Nelson Electronic Labs Inc Plano . . . . Tex
Nichols Co Ltd, R H Downsview . . . . Ont
Tinsley H & Co c/o Southfield Electronics Southfield . . . . Mich
Weston Instruments Div Weston Instr Inc Newark . . . . N J
Winslow Tele-Tronics Inc Eatontown . . . . N J

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Milton Roy Co St Petersburg . . . . Fla
Ovitron Corp Industrial Syst Div Cheshire . . . . Conn
Varian Aerograph Walnut Creek . . . . Cal
Victory Engineering Corp Springfield . . . . N J

CELLULOSE ACETATE

***See* Plastics**

CELLULOSE NITRATE

***See* Plastics**

CEMENTS—CONDUCTIVE

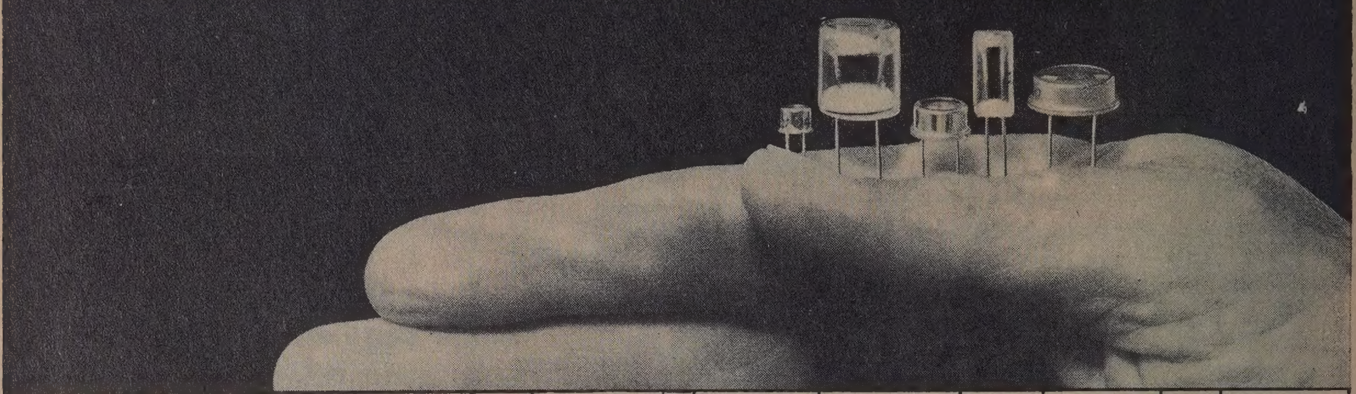
Ablestik Adhesive Co Gardena . . . . Cal
Acheson Colloids Co Port Huron . . . . Mich
Acme Chemicals & Insulation New Haven . . . . Conn
Allaco Products Braintree . . . . Mass
Anchor Alloys Inc Brooklyn . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Aremco Products Inc Briarcliff Manor . . . . N Y
Bacon Industries, Inc Watertown . . . . Mass
Biggs Co Santa Monica . . . . Cal
Chemtronics Inc Brooklyn . . . . NY
Chomerics, Inc Arlington . . . . Mass
Conap Inc Allegany . . . . N Y
Du Pont De Nemours & Co Inc E I Wilmington . . . . Del
Dynaloy, Inc Hanover . . . . N J
Electrofilm, Inc North Hollywood . . . . Cal
Electro Science Labs Inc Philadelphia . . . . Pa
Emerson & Cuming Inc Canton . . . . Mass
Furane Plastics Inc Los Angeles . . . . Cal
G C Electronics Div, Hydrometals Inc Rockford Ill
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . . Cal
Goodrich Industrial Prods Co, B F Akron . . . . Ohio
Hysol Div, The Dexter Corp Olean . . . . N Y
Isochem Resins Co Lincoln . . . . RI
Mann Co, Henry Cornwell Heights . . . . Pa
Mereco Prods Inc, Div Metachem Resins Corp Cranston . . . . RI
Metal Ceram Inc Mount Vernon . . . . N Y
Micro-Circuits Co New Buffalo . . . . Mich
Roberts & Associates Inc, E V Culver City . . . . Cal
Roosevelt Metal Co Inc Brooklyn . . . . N Y
Semi-Alloys Inc Mt Vernon . . . . N Y
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo . . . . Japan
Technical Wire Products Inc Cranford . . . . N J
Topper Mfg Co Inc Great Neck . . . . NY
Tra-Con, Inc Medford . . . . Mass
Transene Co Inc Rowley . . . . Mass
United American Metals Div Brooklyn . . . . N Y
Wakefield Engineering Inc Wakefield . . . . Mass

CEMENTS—HIGH TEMPERATURE

Ablestik Adhesive Co Gardena . . . . Cal
Acheson Colloids Co Port Huron . . . . Mich
Allaco Products Braintree . . . . Mass
Aremco Products Inc Briarcliff Manor . . . . N Y
Armite Laboratories Los Angeles . . . . Cal
Babcock & Wilcox Co Refractories Div Augusta . . . . Ga
Bacon Industries, Inc Watertown . . . . Mass
Bean Inc, William T Detroit . . . . Mich
Biggs Co Santa Monica . . . . Cal
Castall Research Lab Inc Brockton . . . . Mass
Chemtronics Inc Brooklyn . . . . NY
Corning Glass Works Corning . . . . N Y
Dolph Co, John C Monmouth Junction . . . . N J
Dow Corning Corp Midland . . . . Mich
Du Pont De Nemours & Co Inc E I Wilmington . . . . Del
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park . . . . N J
Dynaloy, Inc Hanover . . . . N J
Electro Science Labs Inc Philadelphia . . . . Pa
Emerson & Cuming Inc Canton . . . . Mass
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark . . . . N J

Photoconductive Cells

This listing represents less than half of the Clairex standard and special photocells available. A 16-page design manual is available on request.



Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)
CL5M2	.55 X .18	55K	1:100	250	2000-500[1]
CL602	.25 X .5	1 meg.		300	75
CL702	.36 X .18	1 meg.		300	125
CL902	.21 X .15	1 meg.		250	50

Type 2 CdS (photosensitive material designated by last number in ordering abbreviation, i.e. CL5M2). Peak spectral response 5150 angstroms, bluest response photosensitive material, high stability, lowest temperature error.

CL503	.5 X .5	7.2K	1:10,000	250	500-250[1]
CL5M3	.55 X .18	7.2K		250	2000-500[1]
CL603	.25 X .5	133K		300	75
CL603A	.25 X .5	75K		300	75
CL603AL	.25 X .5	3.5K		170	75
CL703	.36 X .18	133K		300	125
CL703A	.36 X .18	67K		300	125
CL703L	.36 X .18	2.7K		100	125
CL903	.21 X .15	133K		250	50
CL903A	.21 X .15	67K		250	50
CL903L	.21 X .15	6.0K		100	50

Type 3 CdSe, peak spectral response 7350 angstroms, fast response, and very high light-to-dark resistance ratio. Can be used for high speed switching or counting. Sensitive to near infra red. For use with incandescent or neon lamps.

CL504	.5 X .5	1.5K	1:1000	250	500-250[1]
CL5M4	.55 X .18	1.5K		250	2000-500[1]
CL504L	.5 X .5	0.25K		170	500-250[1]
CL5M4L	.55 X .18	0.25K		170	2000-500[1]
CL604	.25 X .5	30K		300	75
CL604L	.25 X .5	1.5K		170	75
CL704	.36 X .18	30K		300	125
CL704L	.36 X .18	0.6K		100	125
CL904	.21 X .15	30K		250	50
CL904L	.21 X .15	2K		100	50

Type 4 CdSe, peak spectral response 6900 angstroms, lowest resistance photocells available. Can be used for "on-off" applications when low resistance is desired. For use with incandescent or neon lamps.

CL505	.5 X .5	9K	1:100	250	500-250[1]
CL5M5	.55 X .18	9K		250	2000-500[1]
CL505L	.5 X .5	1.5K		170	500-250[1]
CL5M5L	.55 X .18	1.5K		170	2000-500[1]
CL605	.25 X .5	166K		300	75
CL605L	.25 X .5	7.5K		170	75
CL705	.36 X .18	166K		300	125
CL705L	.36 X .18	3.3K		100	125
CL905	.21 X .15	166K		250	50
CL905L	.21 X .15	10K		100	50

Type 5 CdS, peak spectral response 5500 angstroms (closely matches the human eye), most stable, lowest memory photocell available. Can be used in light measuring applications and precision low speed switching. For use with incandescent, fluorescent or neon lamps.

CL705HL	.36 X .18	28K	1:1000	100	125
CL905HL	.21 X .15	100K		100	50
CL905HN	.21 X .15	700K		100	50

Type 5H CdS, peak spectral response 5500 angstroms (closely matches the human eye). Combines high speed, stability, linearity, and uniform color temperature response.

Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)
CL507	.5 X .5	7.2K	1:1000	250	500-250[1]
CL5M7	.55 X .18	7.2K		250	2000-500[1]
CL607	.25 X .5	133K		300	75
CL707	.36 X .18	133K		300	125
CL707L	.36 X .18	2.7K		100	125
CL907	.21 X .15	133K		250	50
CL907N	.21 X .15	66K		100	50

Type 7 CdS, peak spectral response 6150 angstroms, moderate speed and ratio. Can be used in general beam breaking applications. For use with incandescent, neon or fluorescent lamps.

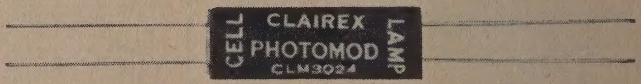
CL707H	.36 X .18	500K	1:1000	300	125
CL707HM	.36 X .18	100K		250	125
CL707HL	.36 X .18	10K		100	125
CL907H	.21 X .15	600K		250	50
CL907HN	.21 X .15	300K		100	50
CL907HL	.21 X .15	24K		100	50

Type 7H CdS Peak Spectral response 6200 angstroms. Very fast decay time coupled with low resistance and high linearity. Ideal for beam breaking applications.

Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistanco ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)	Type
CL703/2	.36 X .18	50K	1:10,000	300	125	3 CdSe
CL703L/2	.36 X .18	6.5K	1:10,000	100	125	3 CdSe
CL704/2	.36 X .18	17K	1:1000	300	125	4 CdSe
CL704L/2	.36 X .18	1.5K	1:1000	100	125	4 CdSe
CL705/2	.36 X .18	166K	1:100	300	125	5 CdSe
CL705L/2	.36 X .18	7.5K	1:100	100	125	5 CdS

DUAL ELEMENT

Photocells contain two separate elements with two separate leads and one common lead.



PHOTOMOD®

PHOTOCELL-LAMP ASSEMBLIES

Part No.	Rated Lamp Voltage	Resistance (Max. Ohms) @ Rated Lamp Voltage	Max. Allowable Cell Voltage @ Peak AC
CLM3006A	6	160	120V
CLM4006A	6	55	120V
CLM4012A	12	30	120V
CLM3012A	12	160	120V
CLM5H10A	10	3000	120V
CLM7H16A	16	550	170V
CLM3120A	120	1150	120V
CLM4120A	120	160	120V

FOOTNOTE: [1] With and without heat sink.

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General Electric Co Silicone Prods Dept Waterford .... N Y
Genisco Technology Instrument Div Compton .... Cal
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Omega Engineering Inc Stamford .... Conn
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Rector Engineering & Plastics Co Washington .... D C
Roberts & Associates Inc, E V Culver City .... Cal
Semi-Alloys Inc Mt Vernon .... N Y
Semicon Associates Inc Lexington .... Ky
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Varian Palo Alto .... Cal

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Ablestik Adhesive Co Gardena .... Cal
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Allaco Products Braintree .... Mass
Aremco Products Inc Briarcliff Manor .... N Y
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Bacon Industries, Inc Watertown .... Mass
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Transene Co Inc Rowley .... Mass
Universal Shellac & Supply Co Inc Brooklyn .... N Y
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Beckman Instruments Intl SA 1207 Geneva .... Switzerland
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EMR-Hatboro Div Weston Insts Inc Hatboro .... Pa
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Genisco Technology Corp Compton .... Cal
Genisco Technology Instrument Div Compton .... Cal
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Inland Controls Inc Sub Kollmorgen Corp Pittsburgh .... Pa
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  Needham Heights .... Mass
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LaPine Scientific Co Chicago Ill
London Co Westlake .... Ohio
Precision Scientific Co Sub GCA Corp Chicago Ill
Schaevitz Engineering Pennsauken .... N J
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Carborundum Co Electrical & Elctns Br Niagara Falls .... NY
Centralab, Div Globe-Union Inc Milwaukee .... Wis
Ceram Corp La Mesa .... Cal
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Coors Porcelain Co Golden .... Colo
Corning Glass Works Corning .... N Y
Diamonite Products Mfg Co Shreve .... Ohio
Du-Co Ceramics Co Saxonburg .... Pa
Duramic Products Inc, Sub Kawecki Chemical Co
  Palisades Park .... N J
Eimac Div, Varian Associates San Carlos .... Cal
Electrical Industries, Div Philips Elctns & Pharm Ind Corp
  Murray Hill .... N J
Electrical Refractories Co East Palestine .... Ohio
Electronic Space Products Inc Los Angeles .... Cal
Erie Technological Products Inc Erie .... Pa
Ferro Corp Electro Ref Div East Liverpool .... Ohio
Frenchtown/CFI Inc Frenchtown .... N J
General Electric Co, Lamp Glass Dept Willoughby .... Ohio
General Laboratory Assoc Inc Norwich .... N Y
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead .... Cal
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
Insaco Inc Quakertown .... Pa
Ipsen Industries Div Alco Standard Corp Cherry Valley Ill
Jones Optical Works Inc A D Burlington .... Mass
Keith Co Inc, W P Pico Rivera .... Cal
Kidco Inc Medford .... N J
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto .... Japan
Lake Engineering Co Ltd Scarborough .... Ont
Mackay Inc, A D New York .... N Y
Materials for Electronics, Inc Jamaica .... N Y
McDanel Refractory Porcelain Co Beaver Falls .... Pa
Meller Co, Adolf Providence .... R I
Metal Ceram Inc Mount Vernon .... N Y
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3M Company St Paul .... Minn
Mitronics Inc Murray Hill .... N J
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  92 Neuilly Iseine .... France
Quartzite Processing, Inc Malden .... Mass
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Rosenthal-Isolatoren GMBH 8672 Selb .... W Germany
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Saxonburg Ceramics Inc Pittsburgh .... Pa
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Stettner-Trush Inc Cazenovia .... N Y
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Tek-Wave Inc Princeton .... N J
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United Mineral & Chemical Corp New York .... N Y
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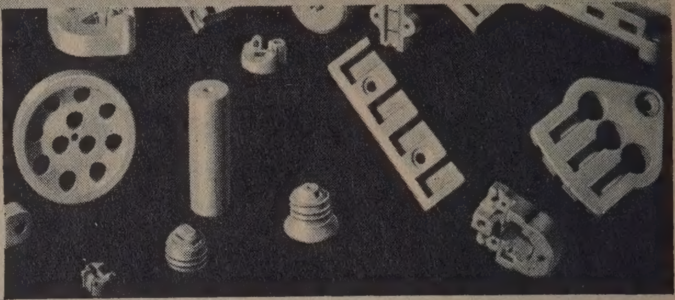

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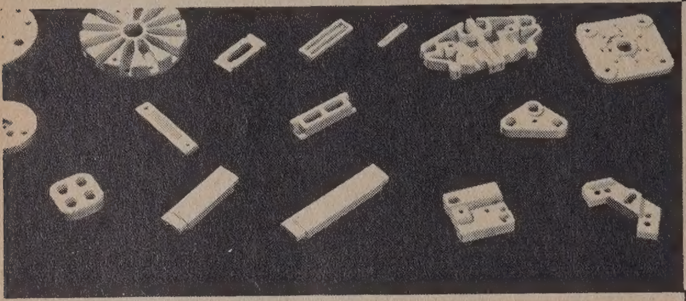

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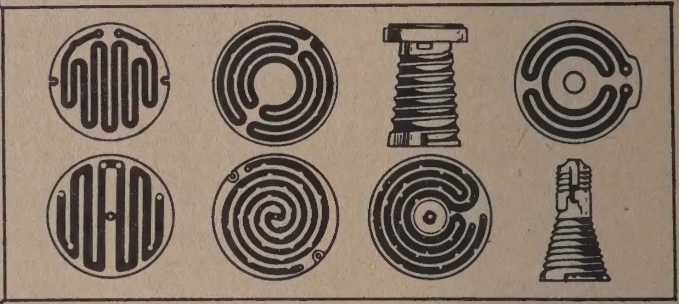

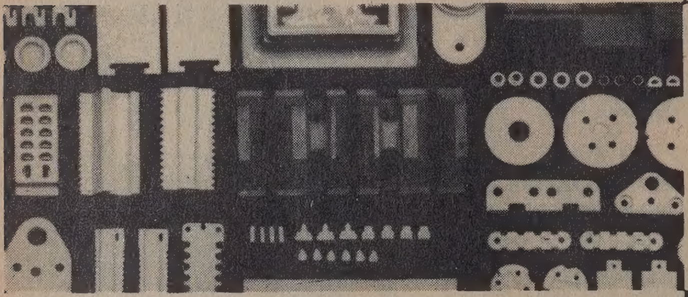

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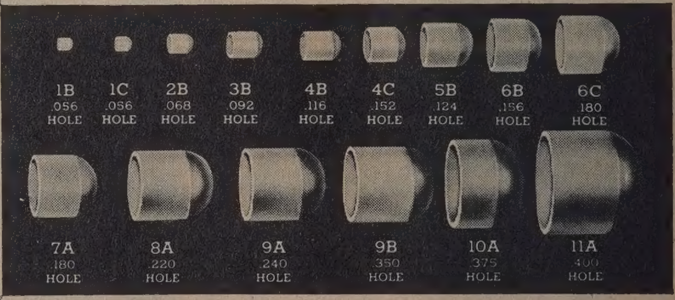
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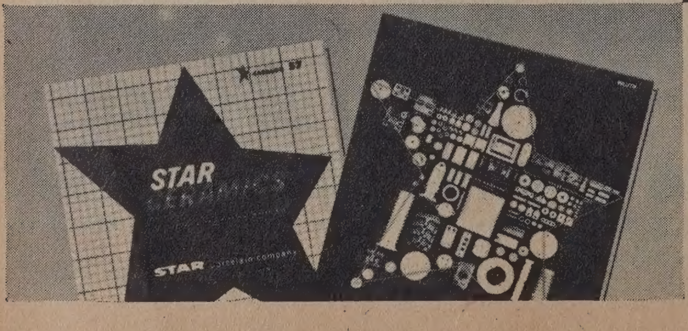
1C .056 HOLE
2B .068 HOLE
3B .092 HOLE
4B .116 HOLE
4C .152 HOLE
5B .124 HOLE
6B .156 HOLE
6C .180 HOLE
7A .180 HOLE
8A .220 HOLE
9A .240 HOLE
9B .350 HOLE
10A .375 HOLE
11A .400 HOLE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Aremco Products Inc Briarcliff Manor	N Y
Astro Seal Inc S El Monte	Cal
Atlantic Optical Moulding Co Dudley	Mass
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Birnbach Co Inc Freeport	N Y
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Centralab, Div Globe-Union Inc Milwaukee	Wis
Cerac Inc Butler	Wis
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Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center	N Y
Consolidated Ceramics & Metalizing Corp Flemington	N J
Coors Co Inc, H F Inglewood	Cal
Coors Porcelain Co Golden	Colo
Daburn Electronics & Cable Corp Bronx	N Y
Device Seals Inc Sun Valley	Cal
Diamonite Products Mfg Co Shreve	Ohio
Du-Co Ceramics Co Saxonburg	Pa
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park	N J
Eimac Div, Varian Associates San Carlos	Cal
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill	N J
Electrical Refractories Co East Palestine	Ohio
Fansteel Inc North Chicago	Ill
Ferro Corp Electro Ref Div East Liverpool	Ohio
Frenchtown/CFI Inc Frenchtown	N J
General Electric Co, Lamp Glass Dept Willoughby	Ohio
Genisco Technology Corp Compton	Cal
Goodyear Aerospace Corp Akron	Ohio
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead	Cal
Impectron Inc New York	N Y
Insaco Inc Quakertown	Pa
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Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Isolantite Mfg Corp Stirling	N J
Jones Optical Works Inc A D Burlington	Mass
Kawecki Berylco Industries Inc New York	N Y
Kidco Inc Medford	N J
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto	Japan
Lake Engineering Co Ltd Scarborough	Ont
Lapp Insulator Div Interpace Corp Le Roy	N Y
Maryland Lava Co Inc Bel Air	Md
Mason-Renshaw Industries Carpinteria	Cal
Materials for Electronics, Inc Jamaica	N Y
Metal Ceram Inc Mount Vernon	N Y
Metalized Ceramics Corp Providence	R I
Millen Mfg Co Inc, James Malden	Mass
Mindrum Precision Products Cucamonga	Cal
Mitronics Inc Murray Hill	N J
Molecular Dielectrics Inc Clifton	N J
Murata Mfg Co, Ltd Kyoto	Japan
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton	N J
Mykroy Inc Wheeling	Ill
National Beryllia Corp Haskell	N J
National Ceramic Co Trenton	N J
NGK Spark Plug Co Ltd Mizuho-ku Nagoya	Japan
Norton Co Chemical Process Prods Div Orrville	Ohio
Omega Engineering Inc Stamford	Conn
Palmer Electronics Inc Garfield	N J
Plessey Co Ltd Ilford Essex	England
Porcelain Products Co Div Clarken Co Carey	Ohio
Precision Metal Products Co of Malden Inc Stoneham	Mass
Pyco Inc Penndel	Pa
Quartzite Processing, Inc Malden	Mass
Raytheon Co, Microwave & Power Tube Div Waltham	Mass
Rosenthal-Isolatoren GMBH 8672 Selb	W Germany
Rostone Corp Lafayette	Ind
Royal Worcester Industrial Ceramics Inc Charlotte	N C
Saxonburg Ceramics Inc Pittsburgh	Pa
Semi-Alloys Inc Mt Vernon	N Y
Semiconductor Specialties Corp Fair Lawn	NJ
Smith Inc, Herman H Brooklyn	N Y
Spectra-Mat Inc Watsonville	Cal
Star Porcelain Co Trenton	N J
Statham Instruments Inc Oxnard	Cal
Stettner-Trush Inc Cazenovia	N Y
Steward Mfg Co, D M Chattanooga	Tenn
Superior Steatite & Ceramic Corp Englewood	N J
Syncor Products Co, Inc Malden	Mass
Thermal American Fused Quartz Co Montville	N J
Thermalloy Co Dallas	Tex
Trylon Inc Elverson	Pa
Union Carbide Corp, Carbon Products Div New York	N Y
United Mineral & Chemical Corp New York	N Y
Veritron West Inc Chatsworth	Cal
Western Gold & Platinum Co Belmont	Cal
Y S Porcelain Tubes Mfg Co, Ltd Aichi Pref	Japan

CERAMICS—FOAM

AMERICAN LAVA CORP CHATTANOOGA TENN	**ADV PG 112**
American Lava Corp Chattanooga	Tenn
Coax Devices Chelsea	Mass
Emerson & Cuming Inc Canton	Mass
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Metal Ceram Inc Mount Vernon	N Y
National Beryllia Corp Haskell	N J
Palmer Electronics Inc Garfield	N J
Spectra-Mat Inc Watsonville	Cal

Y.S. Porcelain Tubes, Rods & Substrates for Electrical Resistors

CREATE and MAINTAIN QUALITY behind the VISION and SOUND!

We offer a wide choice of custom-made special ceramics for all kinds of resistors. Our products are manufactured under a system of rigid quality control and modern production management. We are currently supplying approximately 70% of the demand in Japan.

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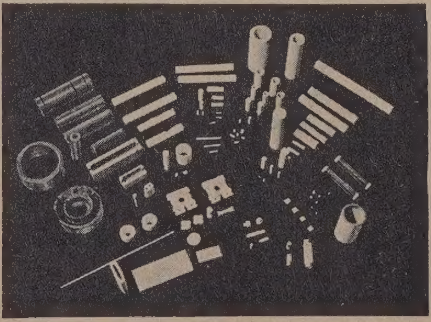

● *For further information, please write to*

Y.S. PORCELAIN TUBES MFG. CO., LTD.

No. 58 Izumi-cho, Seto City, Aichi Pref., Japan
Phone: Seto(0561)-82-2620
Cable: YSPORCELAINTUBE NAGOYA

CERAMICS—GRANULAR OR POWDERED

CGS UNITS INC ROCHESTER	**N Y**
STAR PORCELAIN CO TRENTON N J	**ADV PG 110**
Aremco Products Inc Briarcliff Manor	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Avco Bay State Abrasives Div Indus Prods Sub Div Westboro	Mass
Brush Beryllium Co Cleveland	Ohio
Carborundum Co Electrical & Elctns Br Niagara Falls	NY
Cerac Inc Butler	Wis
CGS Units Inc Rochester	N Y
Corning Glass Works Corning	N Y
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park	N J
Kaman Nuclear Div Kaman Sciences Corp Colorado Springs	Colo
Linden Labs Inc State College	Pa
Mackay Inc, A D New York	N Y
Maryland Lava Co Inc Bel Air	Md
Metal Ceram Inc Mount Vernon	N Y
Mykroy Inc Wheeling	Ill
National Beryllia Corp Haskell	N J
Norton Co Worcester	Mass
Saxonburg Ceramics Inc Pittsburgh	Pa
Star Porcelain Co Trenton	N J
Thermal American Fused Quartz Co Montville	N J
Topper Mfg Co Inc Great Neck	NY
Union Carbide Corp, Carbon Products Div New York	N Y

CERAMICS—METALIZED PARTS

AMERICAN LAVA CORP CHATTANOOGA TENN	**ADV PG 112**
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS & PHARM IND CORP MURRAY HILL	**N J**
Y S PORCELAIN TUBES MFG CO, LTD AICHI PREF	**JAPAN**
Alberox Corp New Bedford	Mass
Alcatel Paris 8eme	France
American Feldmuehle Corp Glenbrook	Conn
American Lava Corp Chattanooga	Tenn
Automation Components, Inc Peckville	Pa
Avco Bay State Abrasives Div Indus Prods Sub Div Westboro	Mass
Basic Ceramics Inc Sub Basic Inc Hawthorne	NJ
Centralab, Div Globe-Union Inc Milwaukee	Wis
Ceram Corp La Mesa	Cal
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center	N Y
Ceramics International Corp Mahwah	NJ
Consolidated Ceramics & Metalizing Corp Flemington	N J
Coors Porcelain Co Golden	Colo
Culbertson Products Inc Bernardsville	N J
Device Seals Inc Sun Valley	Cal
Eimac Div, Varian Associates San Carlos	Cal
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill	N J
Electro Materials Corp of America Mamaroneck	N Y
Electro Science Labs Inc Philadelphia	Pa
EMI Electronics Ltd Hayes	Middlesex Eng
Film Microelectronics, Inc Burlington	Mass
Frenchtown/CFI Inc Frenchtown	N J
General Laboratory Assoc Inc Norwich	N Y
Glass Beads Co Latrobe	Pa
GTI Corp Meadville	Pa
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead	Cal
Hi-Shear Corp Torrance	Cal
Impectron Inc New York	N Y
International Electronic Research Corp Burbank	Cal
Kaman Nuclear Div Kaman Sciences Corp Colorado Springs	Colo
Keith Co Inc, W P Pico Rivera	Cal
Kidco Inc Medford	N J
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto	Japan
Latronics Corp Latrobe	Pa
Linden Labs Inc State College	Pa
Materials for Electronics, Inc Jamaica	N Y
Metal Ceram Inc Mount Vernon	N Y
Metalized Ceramics Corp Providence	R I
3M Company St Paul	Minn
Mitronics Inc Murray Hill	N J
Motson Co, J Frank Flourtown	Pa
Murata Mfg Co, Ltd Kyoto	Japan
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton	N J
Mykroy Inc Wheeling	Ill
National Beryllia Corp Haskell	N J
National Ceramic Co Trenton	N J
NGK Spark Plug Co Ltd Mizuho-ku Nagoya	Japan
Norton Co Chemical Process Prods Div Orrville	Ohio
Palmer Electronics Inc Garfield	N J
Paul & Stein Bros Inc, F H New York	N Y
Plessey Co Ltd Ilford Essex	England
Priester Corp, H E Hartsdale	N Y
Quantum-Joclin Wallingford	Conn
Radio Corp of America, Electronic Components Harrison	N J
Rosenthal-Isolatoren GMBH 8672 Selb	W Germany
Royal Worcester Industrial Ceramics Inc Charlotte	N C
Semi-Alloys Inc Mt Vernon	N Y
Spectra-Mat Inc Watsonville	Cal
Stettner-Trush Inc Cazenovia	N Y
Steward Mfg Co, D M Chattanooga	Tenn
Syncor Products Co, Inc Malden	Mass
Tek-Wave Inc Princeton	N J

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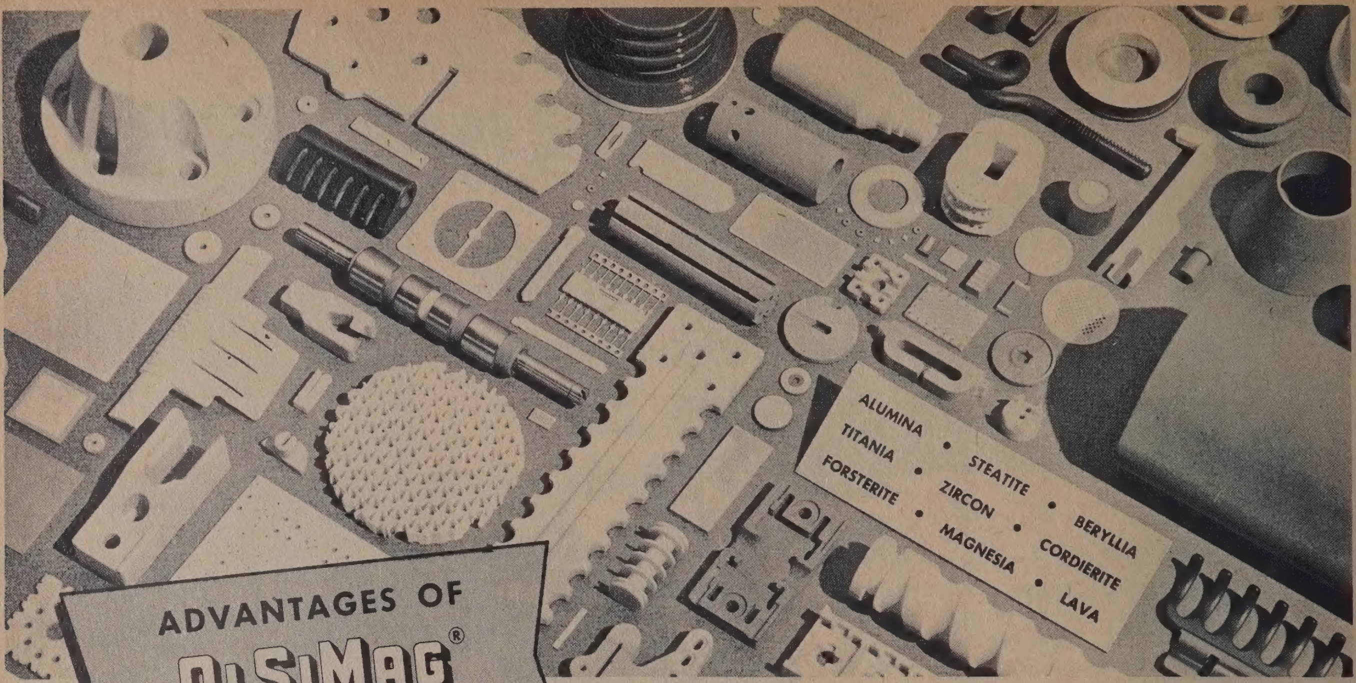
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FORSTERITE • MAGNESIA • LAVA

ADVANTAGES OF ALSIMAG® TECHNICAL CERAMICS

MORE MATERIALS

For many decades American Lava has worked with leading firms to develop special ceramics for their advanced designs. The result is the greatest number of special ceramic compositions available from any source. This wealth of ceramic materials can help in two ways. First, it may give you the exact performance you require. Second, it enables you to select the most economical material that meets your design requirements.

MORE PROCESSES

American Lava offers the broadest processing capabilities in the industry. These include forming ceramics by all modern methods including pressing, extrusion, injection molding, isostatic pressing, plus metallization, plating, chemical milling, machining, grinding, lapping, and hermetic bonding.

Many of these processes were pioneered by American Lava. Examples are (1) the ability to produce certain as-fired ceramics to precision tolerances and (2) the proprietary AlSiBase process for producing thin flat ceramics.

MORE SPECIALIZED ENGINEERING TALENT

American Lava, built on engineering ability, has demonstrated that it is the best source for any problem involving technical ceramics.

GREATER PRECISION

Technical ceramics play an increasingly important part in American industry because they can meet especially demanding requirements. American Lava has the experience, know-how and facilities to produce ceramics to the closest tolerances, and to measure and inspect them by agreed means.

MORE MODERN DESIGNS

Technical leadership at American Lava Corporation is based on working with its customers to give them what they want. This currently involves work on composite substrates, composite packages, buried metal patterns, super-smooth and flat substrates, special temperature compensating dielectrics, ceramic capacitors and new ceramic coatings for metal and low expansion glass.

VOLUME PRODUCTION

American Lava has the resources, know-how and the desire to make commitments required to meet volume requirements of its customers. A long parade of firsts in new manufacturing capabilities have allowed American Lava to keep pace with the ever changing need for technical ceramics in volume.

EXPEDITED PROTOTYPES

Special procedures speed the production of prototypes for your evaluation. A chart giving the characteristics of our most frequently used AlSiMag ceramic compositions will be sent on request. Suggestions are available from our specialized engineering staff.

CODE IDENT. NO. 70371

American Lava Corporation

PHONE 615 265-3411 • CHATTANOOGA, TENNESSEE 37405, U.S.A.

A SUBSIDIARY OF 3M COMPANY

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OF
CERAMIC
LEADERSHIP

For service, contact American Lava representatives in Offices of Minnesota Mining and Manufacturing Company in these cities (see your local telephone directory): Boston: Needham Heights, Mass. • Chagrin Falls, Ohio • Chicago: Elmhurst, Ill. • Dallas, Tex. Indianapolis, Ind. • Laurens, S. C. • Los Angeles, Calif. • Metropolitan New York: Ridgefield, N. J. • Up-State New York and Canada: Phoenix, New York • Orange, Conn. • Philadelphia, Penna. • Roanoke, Virginia • St. Louis: Lee's Summit, Mo. South San Francisco, Calif. • International: c/o American Lava Corporation, Chattanooga, Tenn. 37405, U.S.A., TELEX 558432.

United Mineral & Chemical Corp New York .... N Y
Varian Palo Alto .... Cal
Veritron West Inc Chatsworth .... Cal
Vitta Corp Wilton .... Conn
Western Gold & Platinum Co Belmont .... Cal
Y S Porcelain Tubes Mfg Co, Ltd Aichi Pref .... Japan

CERAMICS—RODS

AMERICAN LAVA CORP CHATTANOOGA TENN . ADV PG 112
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE .... WIS
ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS & PHARM IND CORP MURRAY HILL .... N J
STAR PORCELAIN CO TRENTON N J .... ADV PG 110
SUPERIOR STEATITE & CERAMIC CORP ENGLEWOOD ... N J
Y S PORCELAIN TUBES MFG CO, LTD AICHI PREF .. JAPAN
Alcatel Paris 8eme .... France
American Feldmuehle Corp Glenbrook .... Conn
American Lava Corp Chattanooga .... Tenn
Aremco Products Inc Briarcliff Manor .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Brush Beryllium Co Cleveland .... Ohio
Carborundum Co Electrical & Elctns Br Niagara Falls .... NY
Centralab, Div Globe-Union Inc Milwaukee .... Wis
Cerac Inc Butler .... Wis
Ceram Corp La Mesa .... Cal
Coax Devices Chelsea .... Mass
Consolidated Ceramics & Metalizing Corp Flemington .... N J
Coors Porcelain Co Golden .... Colo
Corning Glass Works Corning .... N Y
Diamonite Products Mfg Co Shreve .... Ohio
Du-Co Ceramics Co Saxonburg .... Pa
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park .... N J
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill .... N J
Electrical Refractories Co East Palestine .... Ohio
Ferricore Div Natl Moldite Co Inc Newark .... N J
Ferro Corp Electro Ref Div East Liverpool .... Ohio
Frenchtown/CFI Inc Frenchtown .... N J
General Electric Co, Lamp Glass Dept Willoughby .... Ohio
Impectron Inc New York .... N Y
Insaco Inc Quakertown .... Pa
Ipsen Industries Div Alco Standard Corp Cherry Valley Ill
Isolantite Mfg Corp Stirling .... N J
Kawecki Berylco Industries Inc New York .... N Y
Keith Co Inc, W P Pico Rivera .... Cal
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto .... Japan
Mackay Inc, A D New York .... N Y
Maryland Lava Co Inc Bel Air .... Md
Materials for Electronics, Inc Jamaica .... N Y
McDanel Refractory Porcelain Co Beaver Falls .... Pa
Metal Ceram Inc Mount Vernon .... N Y
3M Company St Paul .... Minn
Molecular Dielectrics Inc Clifton .... N J
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton . N J
Mykroy Inc Wheeling Ill
National Beryllia Corp Haskell .... N J
National Ceramic Co Trenton .... N J
NGK Spark Plug Co Ltd Mizuho-ku Nagoya .... Japan
Norton Co Worcester .... Mass
Norton Co Chemical Process Prods Div Orrville .... Ohio
Paul & Stein Bros Inc, F H New York .... N Y
Plessey Co Ltd Ilford Essex .... England
Quartzite Processing, Inc Malden .... Mass
Rosenthal-Isolatoren GMBH 8672 Selb .... W Germany
Royal Worcester Industrial Ceramics Inc Charlotte .... N C
Saxonburg Ceramics Inc Pittsburgh .... Pa
Semi-Alloys Inc Mt Vernon .... N Y
Star Porcelain Co Trenton .... N J
Stettner-Trush Inc Cazenovia .... N Y
Steward Mfg Co, D M Chattanooga .... Tenn
Superior Steatite & Ceramic Corp Englewood .... N J
Thermal American Fused Quartz Co Montville .... N J
Union Carbide Corp, Carbon Products Div New York .... N Y
United Mineral & Chemical Corp New York .... N Y
Western Gold & Platinum Co Belmont .... Cal
Y S Porcelain Tubes Mfg Co, Ltd Aichi Pref .... Japan

CERAMICS—SHEETS

AMERICAN LAVA CORP CHATTANOOGA TENN . ADV PG 112
Y S PORCELAIN TUBES MFG CO, LTD AICHI PREF .. JAPAN
American Lava Corp Chattanooga .... Tenn
Aremco Products Inc Briarcliff Manor .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Carborundum Co Electrical & Elctns Br Niagara Falls .... NY
Ceram Corp La Mesa .... Cal
Coax Devices Chelsea .... Mass
Corning Glass Works Corning .... N Y
Diamonite Products Mfg Co Shreve .... Ohio
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park .... N J
Emerson & Cuming Inc Canton .... Mass
General Electric Co, Lamp Glass Dept Willoughby .... Ohio
Impectron Inc New York .... N Y
Kawecki Berylco Industries Inc New York .... N Y
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto .... Japan
Linden Labs Inc State College .... Pa
Maryland Lava Co Inc Bel Air .... Md
Metal Ceram Inc Mount Vernon .... N Y
Metalized Ceramics Corp Providence .... R I
3M Company St Paul .... Minn
Mitronics Inc Murray Hill .... N J
Molecular Dielectrics Inc Clifton .... N J
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton . N J
Mykroy Inc Wheeling Ill
National Beryllia Corp Haskell .... N J
NGK Spark Plug Co Ltd Mizuho-ku Nagoya .... Japan
Norton Co Chemical Process Prods Div Orrville .... Ohio
Republic Electronics Corp Paterson .... N J
Rosenthal-Isolatoren GMBH 8672 Selb .... W Germany
Royal Worcester Industrial Ceramics Inc Charlotte .... N C
Saxonburg Ceramics Inc Pittsburgh .... Pa
Semi-Alloys Inc Mt Vernon .... N Y
Union Carbide Corp, Carbon Products Div New York .... N Y
United Mineral & Chemical Corp New York .... N Y
Veritron West Inc Chatsworth .... Cal
Vitta Corp Wilton .... Conn
Western Gold & Platinum Co Belmont .... Cal
Y S Porcelain Tubes Mfg Co, Ltd Aichi Pref .... Japan

CERAMICS—STAMPINGS & PUNCHINGS

AMERICAN LAVA CORP CHATTANOOGA TENN . ADV PG 112
STAR PORCELAIN CO TRENTON N J .... ADV PG 110
SUPERIOR STEATITE & CERAMIC CORP ENGLEWOOD ... N J
American Feldmuehle Corp Glenbrook .... Conn
American Lava Corp Chattanooga .... Tenn
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Carborundum Co Electrical & Elctns Br Niagara Falls .... NY
Consolidated Ceramics & Metalizing Corp Flemington .... N J
Diamonite Products Mfg Co Shreve .... Ohio
Du-Co Ceramics Co Saxonburg .... Pa
Electrical Refractories Co East Palestine .... Ohio
Ferro Corp Electro Ref Div East Liverpool .... Ohio
Frenchtown/CFI Inc Frenchtown .... N J
Impectron Inc New York .... N Y
Ipsen Industries Div Alco Standard Corp Cherry Valley Ill
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto .... Japan
Materials for Electronics, Inc Jamaica .... N Y
Metal Ceram Inc Mount Vernon .... N Y
Metalized Ceramics Corp Providence .... R I
Mitronics Inc Murray Hill .... N J
Mykroy Inc Wheeling Ill
National Beryllia Corp Haskell .... N J
National Ceramic Co Trenton .... N J
Norton Co Chemical Process Prods Div Orrville .... Ohio
Paul & Stein Bros Inc, F H New York .... N Y
Porcelain Products Co Div Clarken Co Carey .... Ohio
Roosevelt Metal Co Inc Brooklyn .... N Y
Royal Worcester Industrial Ceramics Inc Charlotte .... N C
Saxonburg Ceramics Inc Pittsburgh .... Pa
Semi-Alloys Inc Mt Vernon .... N Y
Star Porcelain Co Trenton .... N J
Steward Mfg Co, D M Chattanooga .... Tenn
Superior Steatite & Ceramic Corp Englewood .... N J
United American Metals Div Brooklyn .... N Y
Veritron West Inc Chatsworth .... Cal
Western Gold & Platinum Co Belmont .... Cal

CERAMICS-SUBSTRATES (INTEGRATED CIRCUITS)

AMERICAN LAVA CORP CHATTANOOGA TENN . ADV PG 112
ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS & PHARM IND CORP MURRAY HILL .... N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
American Lava Corp Chattanooga .... Tenn
American Technical Ceramics Huntington Station .... N Y
Atlantic Optical Moulding Co Dudley .... Mass
Consolidated Ceramics & Metalizing Corp Flemington .... N J
Coors Porcelain Co Golden .... Colo
Diamonite Products Mfg Co Shreve .... Ohio
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill .... N J
Erie Technological Products Inc Erie .... Pa
General Electric Co, ECSO Schenectady .... N Y
GTI Corp Meadville .... Pa
HEI Inc Chaska .... Minn
Insaco Inc Quakertown .... Pa
Ipsen Industries Div Alco Standard Corp Cherry Valley Ill
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto .... Japan
Loral Electronic Systems, Div Loral Corp New York .... NY
Metalized Ceramics Corp Providence .... R I
Mitronics Inc Murray Hill .... N J
Narda Microwave Corp Plainview .... N Y
NPC Electronics Canoga Park .... Cal
Quartzite Processing, Inc Malden .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Tek-Wave Inc Princeton .... N J
United Mineral & Chemical Corp New York .... N Y
Varadyne Inc Santa Monica .... Cal

CERAMIC TUBES—ELECTRON

***See* Tubes—Ceramic**

CERAMIC TUBING

***See* Tubing—Nonmetalic**

CERAMOPLASTIC

***See* Mica—Glass-Bonded**

CERIUM

MOLYBDENUM CORP OF AMERICA NEW YORK .... N Y
Aceto Chemical Co, Inc Flushing .... NY
American Potash & Chemical Corp Los Angeles .... Cal
American Potash & Chemical Corp Rare Earth Div West Chicago Ill
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights .... NY
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Electronic Space Products Inc Los Angeles .... Cal
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Molybdenum Corp of America New York .... N Y
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine .... France
Ring, Inc, Bernard New York .... N Y
Ronson Metals Corp Newark .... N J
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
Universal Shellac & Supply Co Inc Brooklyn .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J

CESIUM COMPOUNDS

Aceto Chemical Co, Inc Flushing .... NY
American Potash & Chemical Corp Los Angeles .... Cal
American Potash & Chemical Corp Rare Earth Div West Chicago Ill
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Electronic Space Products Inc Los Angeles .... Cal
Henley & Co Inc New York .... N Y
Kawecki Berylco Industries Inc New York .... N Y
King Laboratories Inc Syracuse .... N Y
Koch Light Labs Ltd Colnbrook, Bucks .... England
Lockheed-Georgia Co Marietta .... Ga
Mackay Inc, A D New York .... N Y
Rocky Mountain Research Inc Denver .... Colo
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Elements Inc Saxonburg .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J

CHAINS—DRIVE, SMALL, LINK OR BEAD

Bead Chain Mfg Co Bridgeport .... Conn
Boston Gear Works Quincy .... Mass
Kerrco Inc Lincoln .... Nebr
Rex Chainbelt Inc Milwaukee .... Wis

CHAMBERS, ENVIRONMENTAL—ACOUSTIC TEST

American Instrument Co, Inc Silver Spring .... Md
Ardel Corp Glendale .... Cal
Filtron Co Inc Sub Liquidonics Ind Inc Flushing .... N Y
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
General Acoustics Corp Los Angeles .... Cal
Koppers Co Inc Pittsburgh .... Pa
Korfund Dynamics Corp Westbury .... N Y
Lehigh Valley Electronics Inc Fogelsville .... Pa
Lindsay Structures Div, Intl Steel Co Evansville .... Ind
Ray Proof Corp Norwalk .... Conn
Wyle Laboratories El Segundo .... Cal

CHAMBERS, ENVIRONMENTAL—ALTITUDE

Aircraft Components Inc Benton Harbor .... Mich
Alcatel Paris 8eme .... France
American Research Corp Farmington .... Conn
Ardel Corp Glendale .... Cal
Associated Testing Labs, Inc Wayne .... N J
Atlas Engineering Corp West Hartford .... Conn
Auto-Control Labs Div Rucker Co Los Angeles .... Cal
Bendix Scientific Instr & Equip Div Rochester .... N Y
CHA Industries, Div Carl Herrmann Assoc Menlo Park .... Cal
Churchill Corp Melrose .... Mass
Cincinnati Sub-Zero Products Inc Cincinnati .... Ohio
Conrad-Missimer Corte Madera .... Cal
Cooke Vacuum Products Inc South Norwalk .... Conn
Cosmodyne Corp Torrance .... Cal
CVI Corp Columbus .... Ohio
Develco, Inc Norwalk .... Conn
Energy Beams Inc Haskell .... N J
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
Gruenberg Electric Co Inc Garden City .... N Y
High Vacuum Equipment Corp Hingham .... Mass
Hotpack Corp Philadelphia .... Pa
Hull Corp Hatboro .... Pa
Ideal Aerosmith Cheyenne .... Wyo
Inca Engineering Corp San Gabriel .... Cal
Industrial Refrigeration Co Inc Los Angeles .... Cal
Kidde & Co Inc, Walter Belleville .... N J
Leybold-Heraeus, Inc. Monroeville .... Pa
Materials Research Corp Orangeburg .... N Y
Norton Co Vacuum Equip Div Newton .... Mass
Nuclide Corp, AGV Div Acton .... Mass
Precision Scientific Co Sub GCA Corp Chicago Ill
Standard Cabinet Co Inc Totowa .... N J
Tenney Engineering Inc Union .... N J
Tenvac, Inc Pembroke .... Mass
Thermotron Corp Holland .... Mich

T-M Vacuum Products Riverton . . . . N J
20th Century Electronics Ltd
  New Addington Croydon Cr 90 BG. . . . . England
Ultek Div Perkin-Elmer Palo Alto . . . . Cal
Ulvac Corp Tokyo. . . . . Japan
Vacuum/Atmospheres Corp N Hollywood . . . . Cal
Varian Palo Alto. . . . . Cal
Veeco Andar Sub Veeco Palo Alto . . . . Cal
Webber Mfg Co Inc Indianapolis . . . . Ind

CHAMBERS, ENVIRONMENTAL—CONTROLLED MAGNETIC FIELD

MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL
Ace Shielded Products Corp Huntingdon Valley . . . . Pa
Andonian Associates, Inc Waltham . . . . Mass
Cincinnati Sub-Zero Products Inc Cincinnati . . . . Ohio
Electro-Mechanics Co Austin . . . . Tex
Emerson & Cuming Inc Canton . . . . Mass
Energy Beams Inc Haskell . . . . N J
Ercona Corp Bellmore . . . . NY
Falstrom Co Passaic . . . . N J
Filtron Co Inc Sub Liquidonics Ind Inc Flushing . . . . N Y
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Kinney Vacuum Co Boston . . . . Mass
LaPine Scientific Co Chicago Ill
Lindgren & Associates Inc, Erik A Chicago Ill
Magnetic Shield Div, Perfection Mica Co Bensenville Ill
Trylon Inc Elverson . . . . Pa

CHAMBERS, ENVIRONMENTAL—EXPLOSION

Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
BTU Engineering Corp Waltham . . . . Mass
Churchill Corp Melrose . . . . Mass
Cincinnati Sub-Zero Products Inc Cincinnati . . . . Ohio
Hotpack Corp Philadelphia . . . . Pa
LaPine Scientific Co Chicago Ill
Lindsay Structures Div, Intl Steel Co Evansville . . . . Ind
Standard Cabinet Co Inc Totowa . . . . N J
Tenney Engineering Inc Union . . . . N J
Thermal Research Inc Union Beach . . . . N J
Vacuum/Atmospheres Corp N Hollywood . . . . Cal
Webber Mfg Co Inc Indianapolis . . . . Ind

CHAMBERS, ENVIRONMENTAL—FUNGUS

American Instrument Co, Inc Silver Spring . . . . Md
Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Churchill Corp Melrose . . . . Mass
Develco, Inc Norwalk . . . . Conn
Gardner Lab Inc Bethesda . . . . Md
Hotpack Corp Philadelphia . . . . Pa
LaPine Scientific Co Chicago Ill
Lindsay Structures Div, Intl Steel Co Evansville . . . . Ind
Matthews Research Inc Alexandria . . . . Va
Standard Cabinet Co Inc Totowa . . . . N J
Tenney Engineering Inc Union . . . . N J
Thermal Research Inc Union Beach . . . . N J

CHAMBERS, ENVIRONMENTAL—HUMIDITY

BLUE M ENGINEERING CO BLUE ISLAND ILL
Aircraft Components Inc Benton Harbor . . . . Mich
American Instrument Co, Inc Silver Spring . . . . Md
American Research Corp Farmington . . . . Conn
Associated Testing Labs, Inc Wayne . . . . N J
Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Blue M Engineering Co Blue Island Ill
Cincinnati Sub-Zero Products Inc Cincinnati . . . . Ohio
Cole-Parmer Instrument Co Chicago Ill
Conrad-Missimer Corte Madera . . . . Cal
Custom Scientific Instruments Inc Whippany . . . . N J
Develco, Inc Norwalk . . . . Conn
Forma Scientific Inc Marietta . . . . Ohio
Gardner Lab Inc Bethesda . . . . Md
Gruenberg Electric Co Inc Garden City . . . . N Y
Hotpack Corp Philadelphia . . . . Pa
Hygrodynamics Inc Silver Spring . . . . Md
Industrial Refrigeration Co Inc Los Angeles . . . . Cal
Jersey Technical Consultants Morristown . . . . NJ
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Kidde & Co Inc, Walter Belleville . . . . N J
Koppers Co Inc Pittsburgh . . . . Pa
Kulicke & Soffa Industries Inc Fort Washington . . . . Pa
Lab-Line Instruments Inc Melrose Park Ill
LaPine Scientific Co Chicago Ill
Lindsay Structures Div, Intl Steel Co Evansville . . . . Ind
Matthews Research Inc Alexandria . . . . Va
Precision Scientific Co Sub GCA Corp Chicago Ill
Ramney Industries Corp Farmingdale . . . . N J
Ray Products Inc Alhambra . . . . Cal
Standard Cabinet Co Inc Totowa . . . . N J
System Enclosures Inc, Div Anetsberger Bros Inc
  Northbrook Ill
Tenney Engineering Inc Union . . . . N J
Tenvac, Inc Pembroke . . . . Mass
Thermal Research Inc Union Beach . . . . N J
Thermotron Corp Holland . . . . Mich
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American Research Corp Farmington . . . . Conn
Associated Testing Labs, Inc Wayne . . . . N J
Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Benthos Inc North Falmouth . . . . Mass
BTU Engineering Corp Waltham . . . . Mass
Churchill Corp Melrose . . . . Mass
Cincinnati Sub-Zero Products Inc Cincinnati . . . . Ohio
Cryogenic Engineering Co Denver . . . . Colo
CVI Corp Columbus . . . . Ohio
Develco, Inc Norwalk . . . . Conn
Energy Beams Inc Haskell . . . . N J
High Vacuum Equipment Corp Hingham . . . . Mass
Hotpack Corp Philadelphia . . . . Pa
Hull Corp Hatboro . . . . Pa
Industrial Refrigeration Co Inc Los Angeles . . . . Cal
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Kahn & Co Inc Wethersfield . . . . Conn
Koppers Co Inc Pittsburgh . . . . Pa
LaPine Scientific Co Chicago Ill
Matthews Research Inc Alexandria . . . . Va
Ray Products Inc Alhambra . . . . Cal
Research Instrument Co Inc Westbury . . . . N Y
Standard Cabinet Co Inc Totowa . . . . N J
Systems Research Labs Inc Dayton . . . . Ohio
Tenney Engineering Inc Union . . . . N J
Thermotron Corp Holland . . . . Mich
Ulvac Corp Tokyo . . . . Japan

CHAMBERS, ENVIRONMENTAL—RADIATION

Ardel Corp Glendale . . . . Cal
CVI Corp Columbus . . . . Ohio
Energy Beams Inc Haskell . . . . N J
High Vacuum Equipment Corp Hingham . . . . Mass
High Voltage Engineering Corp Burlington . . . . Mass
Ion Physics Corp Burlington . . . . Mass
Kewaunee Scientific Equipment Adrian . . . . Mich
Lockheed-Georgia Co Marietta . . . . Ga
Nuclear Corp of America, Nuclear Div Denville . . . . N J
Nuclear Enterprises Ltd Edinburgh . . . . Scotland
Nuclear Equipment Chemical Corp Farmingdale . . . . N Y
Nuclear Supplies Encino . . . . Cal
Nuclear Technology Corp White Plains . . . . N Y
Ray Proof Corp Norwalk . . . . Conn
Reuter-Stokes Electronic Components Inc Cleveland . . . . Ohio
The Nucleus, Inc Oak Ridge . . . . Tenn
Trylon Inc Elverson . . . . Pa
Vacuum/Atmospheres Corp N Hollywood . . . . Cal
Victoreen Instrument Div Cleveland . . . . Ohio

CHAMBERS, ENVIRONMENTAL—SALT SPRAY

Associated Testing Labs, Inc Wayne . . . . N J
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Develco, Inc Norwalk . . . . Conn
Gardner Lab Inc Bethesda . . . . Md
Kidde & Co Inc, Walter Belleville . . . . N J
Lab-Line Instruments Inc Melrose Park Ill
Standard Cabinet Co Inc Totowa . . . . N J
Tenney Engineering Inc Union . . . . N J

CHAMBERS, ENVIRONMENTAL—SAND & DUST

American Research Corp Farmington . . . . Conn
Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Kewaunee Scientific Equipment Adrian . . . . Mich
Koppers Co Inc Pittsburgh . . . . Pa
Lindsay Structures Div, Intl Steel Co Evansville . . . . Ind
Matthews Research Inc Alexandria . . . . Va
Ray Products Inc Alhambra . . . . Cal
Standard Cabinet Co Inc Totowa . . . . N J
Tenney Engineering Inc Union . . . . N J

CHAMBERS, ENVIRONMENTAL—SHIELDED SCREEN

SIEMENS AMERICA INC NEW YORK . . . . N Y
Ace Shielded Products Corp Huntingdon Valley . . . . Pa
Ark Electronics Corp Willow Grove . . . . Pa
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Churchill Corp Melrose . . . . Mass
Emerson & Cuming Inc Canton . . . . Mass
Ercona Corp Bellmore . . . . NY
Filtron Co Inc Sub Liquidonics Ind Inc Flushing . . . . N Y
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
General Dynamics, Electronics Div Rochester . . . . N Y
Interference Measurement Lab Inc Brooklyn . . . . N Y
Lindgren & Associates Inc, Erik A Chicago Ill
Lindsay Structures Div, Intl Steel Co Evansville . . . . Ind
Ray Proof Corp Norwalk . . . . Conn
Siemens America Inc New York . . . . N Y
Sprague Electric Co North Adams . . . . Mass
Thermal Research Inc Union Beach . . . . N J
Topatron Inc Costa Mesa . . . . Cal
Trylon Inc Elverson . . . . Pa
Tyler Co, W S Mentor . . . . Ohio

CHAMBERS, ENVIRONMENTAL—SUNSHINE

American Research Corp Farmington . . . . Conn
American Ultraviolet Co Chatham . . . . NJ
Ardel Corp Glendale . . . . Cal
Associated Testing Labs, Inc Wayne . . . . N J
Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Gardner Lab Inc Bethesda . . . . Md
Hotpack Corp Philadelphia . . . . Pa
Lab-Line Instruments Inc Melrose Park Ill
Standard Cabinet Co Inc Totowa . . . . N J
Tenney Engineering Inc Union . . . . N J
Thermal Research Inc Union Beach . . . . N J
Thermotron Corp Holland . . . . Mich
Tipptronic Inc Chagrin Falls . . . . Ohio
Vestal Modern Design Corp Vestal . . . . N Y

CHAMBERS, ENVIRONMENTAL—TEMPERATURE

BLUE M ENGINEERING CO BLUE ISLAND ILL . . . ADV PG 115
CGS UNITS INC ROCHESTER . . . . N Y
TEST TECHNOLOGY INC FERN PARK FLA . . . . . ADV PG 114
TRACOR INC AUSTIN . . . . TEX
VICTORY ENGINEERING CORP SPRINGFIELD N J . . . . ADV PG Facing Pg 1
Aerotronic Associates, Inc Contoocook . . . . N H
Aircraft Components Inc Benton Harbor . . . . Mich
American Instrument Co, Inc Silver Spring . . . . Md
American Research Corp Farmington . . . . Conn
Andonian Associates, Inc Waltham . . . . Mass
Ardel Corp Glendale . . . . Cal
Associated Testing Labs, Inc Wayne . . . . N J
Atlas Engineering Corp West Hartford . . . . Conn
Auto-Control Labs Div Rucker Co Los Angeles . . . . Cal
Blue M Engineering Co Blue Island Ill
BTU Engineering Corp Waltham . . . . Mass
Cambridge Thermionic Corp Cambridge . . . . Mass
CGS Units Inc Rochester . . . . N Y
Cincinnati Sub-Zero Products Inc Cincinnati . . . . Ohio
Cole-Parmer Instrument Co Chicago Ill
Conrad-Missimer Corte Madera . . . . Cal
Continental Device Corp Hawthorne . . . . Cal
Continental Testing Labs Fern Park . . . . Fla
Cryogenic Engineering Co Denver . . . . Colo
Custom Scientific Instruments Inc Whippany . . . . N J
CVI Corp Columbus . . . . Ohio
Delta Design Inc La Mesa . . . . Cal

Develco, Inc Norwalk	Conn
E G & G Inc, Electronic Prods Div Boston	Mass
Exactel Instrument Co Div Statham Instrs Inc Oxnard	Cal
Forma Scientific Inc Marietta	Ohio
Gardner Lab Inc Bethesda	Md
Gruenberg Electric Co Inc Garden City	N Y
Hafstrom Technical Products Inc San Diego	Cal
Harris Mfg Co Inc Cambridge	Mass
High Vacuum Equipment Corp Hingham	Mass
Hotpack Corp Philadelphia	Pa
Hull Corp Hatboro	Pa
Industrial Refrigeration Co Inc Los Angeles	Cal
International Energy Conversion Div Nuclear Sys Inc Garland	Tex
Jersey Technical Consultants Morristown	NJ
Kahl Scientific Instrument Corp El Cajon	Cal
Kahn & Co Inc Wethersfield	Conn
Kidde & Co Inc, Walter Belleville	N J
Koppers Co Inc Pittsburgh	Pa
Lab-Line Instruments Inc Melrose Park	Ill
LaPine Scientific Co Chicago	Ill
Lindsay Structures Div, Intl Steel Co Evansville	Ind
Marin Controls Co Div FRL Inc Belmont	Cal
Matthews Research Inc Alexandria	Va
OAL Associates Inc Westbury	N Y
Precision Scientific Co Sub GCA Corp Chicago	Ill
Ramney Industries Corp Farmingdale	N J
Research Inc, R-I Controls Div Minneapolis	Minn
Research Instrument Co Inc Westbury	N Y
Rosemount Engineering Co Minneapolis	Minn
Scionics Corp Northridge	Cal
Standard Cabinet Co Inc Totowa	N J
Statham Instruments Inc Oxnard	Cal
System Enclosures Inc, Div Anetsberger Bros Inc Northbrook	Ill
Systems Research Labs Inc Dayton	Ohio
Tafa Div Humphreys Corp Concord	N H
Tenney Engineering Inc Union	N J
Test Technology Inc Fern Park	Fla
Thermal Research Inc Union Beach	N J
Thermotron Corp Holland	Mich
Tia Electric Co Princeton	N J
Tipptronic Inc Chagrin Falls	Ohio
Tracor Inc Austin	Tex
Transistor Automation A Teledyne Co Woburn	Mass
U S Philips Corp., Cryogenic Div. Ashton	R I
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Vestal Modern Design Corp Vestal	N Y
Victory Engineering Corp Springfield	N J
Webber Mfg Co Inc Indianapolis	Ind
West Coast Research Corp Los Angeles	Cal
Winslow Tele-Tronics Inc Eatontown	N J

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TEST TECHNOLOGY INC FERN PARK	**FLA**
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Associated Testing Labs, Inc Wayne	N J
Atlas Engineering Corp West Hartford	Conn
Blue M Engineering Co Blue Island	Ill
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Conrad-Missimer Corte Madera	Cal
Continental Device Corp Hawthorne	Cal
CVI Corp Columbus	Ohio
Delta Design Inc La Mesa	Cal
Develco, Inc Norwalk	Conn
Exactel Instrument Co Div Statham Instrs Inc Oxnard	Cal
Forma Scientific Inc Marietta	Ohio
Gruenberg Electric Co Inc Garden City	N Y
Hafstrom Technical Products Inc San Diego	Cal
Harris Mfg Co Inc Cambridge	Mass
Hotpack Corp Philadelphia	Pa
Industrial Refrigeration Co Inc Los Angeles	Cal
International Energy Conversion Div Nuclear Sys Inc Garland	Tex
Research Inc, R-I Controls Div Minneapolis	Minn
Standard Cabinet Co Inc Totowa	N J
Tenney Engineering Inc Union	N J
Test Technology Inc Fern Park	Fla
Thermotron Corp Holland	Mich
Webber Mfg Co Inc Indianapolis	Ind
Winslow Tele-Tronics Inc Eatontown	N J

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Aero Vac Corp Troy	N Y
Aircraft Components Inc Benton Harbor	Mich
Alcatel Paris 8eme	France
Allen-Jones Electronics Div WEMS Inc Gardena	Cal
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Andonian Associates, Inc Waltham	Mass
Ardel Corp Glendale	Cal
Associated Testing Labs, Inc Wayne	N J
Atlas Engineering Corp West Hartford	Conn
Auto-Control Labs Div Rucker Co Los Angeles	Cal
Avco Electronics Div Cincinnati	Ohio
Bendix Scientific Instr & Equip Div Rochester	N Y
Blue M Engineering Co Blue Island	Ill
CHA Industries, Div Carl Herrmann Assoc Menlo Park	Cal
Cincinnati Sub-Zero Products Inc Cincinnati	Ohio
Clean Room Products Inc Farmingdale	N Y
Cole-Parmer Instrument Co Chicago	Ill
Cooke Vacuum Products Inc South Norwalk	Conn
Cryogenic Engineering Co Denver	Colo
CVI Corp Columbus	Ohio
Denton Vacuum Inc Cherry Hill	N J
Develco, Inc Norwalk	Conn
Edwards High Vacuum Inc Grand Island	N Y

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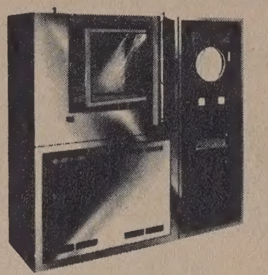
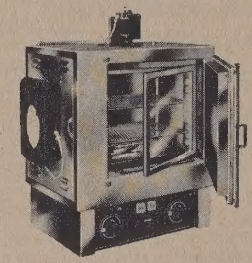


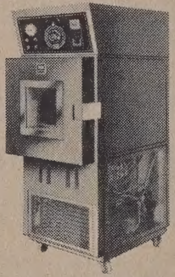
Easily meet every current MIL humidity spec . . . plus a host of even tougher industrial requirements. Automatically perform MIL-202C, Method 106B, Steps 1-7, including Step 7-A (—18°C.) without changing cams. Patented wet and dry bulb POWER-O-MATIC 60® Saturable Reactor Controls provide ±½%°C. performance from −18°C. to +93°C. and ±½% relative humidity throughout 20% to 98% range. Quality features include cam-type programming, separate monitoring recorder, non-cycling mechanical refrigeration, and elapsed time meter.

HUMIDAIRE *AIR-COOLED* TEMPERATURE/HUMIDITY CABINETS



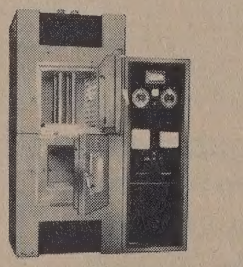
The most accurate, reliable and economical chamber ever developed for long-term high temperature humidity testing. Ideal for such steady state requirements as MIL-202C, Method 103B, Condition D—continuous operation for 56 days. Unique design uses air, not costly conditioned water. Saves thousands of gallons a year, minimizes operating costs. POWER-O-MATIC 60 Control automatically regulates temperature from +12°C. above ambient to +93°C. (±½°C.) . . . R.H. from 40% to 98% (±½%).

VERSA-RANGE REFRIGERATED TEST CHAMBERS

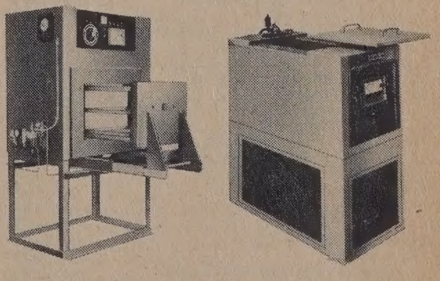


Ranges: −73°C. to +204°C., −40°C. to +93°C., −73°C. to +93°C. and ambient to −85°C. or −40°C. with cascade or single stage mechanical refrigeration. Front and top opening models. Sizes to 64 cu. ft. Above ambient units feature POWER-O-MATIC 60 Control. Also front opening and chest type CO2/LN2 chambers with −73°C. to +204°C., −73°C. to +204°C., −73°C. to +300°C. and −185°C. to +200°C. ranges.

THERMAL CYCLING AND SHOCK TEST CHAMBERS



Dual Thermal Test Cabinets. For Mil. Std. 202C, Method 107B, Conditions A, B, C and F. . . . Mil. Std. 883, Method 1010, Conditions A, B, C and D. 2.3 cu. ft. work chamber moves vertically from cold chamber to heat chamber per spec. −73°C. to +204°C. range. LN_2 for cooling, POWER-O-MATIC 60 controls heating.



Also: 3-Stage Thermal Shock Test Cabinets, left, for Mil, Std. 202C, Method 102A, Preferred Conditions C & D.
Versa-Whirl Constant Temperature Baths, right, for Mil. Std. 883, Method 1011, Conditions A to F. Plus a variety of Thermal Cycling Chambers, bench and floor models, and LN_2 Chambers. Send for brochure.

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Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept
  Oceanside .... Cal
Hull Corp Hatboro .... Pa
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Matthews Research Inc Alexandria .... Va
Nelson Vacuum Pump Co Berkeley .... Cal
Norton Co Vacuum Equip Div Newton .... Mass
Nuclear Diodes, Inc Prairie View Ill
Nuclide Corp, AGV Div Acton .... Mass
Precision Scientific Co Sub GCA Corp Chicago Ill
Research Instrument Co Inc Westbury .... N Y
Scully-Jones Co Downers Grove Ill
Sloan Instruments Corp Santa Barbara .... Cal
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Systems Research Labs Inc Dayton .... Ohio
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Tenvac, Inc Pembroke .... Mass
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Thermotron Corp Holland .... Mich
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Vacuum Industries Inc Sub GCA Corp Somerville .... Mass
Vacuum Metallizing Van Nuys .... Cal
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Veeco Andar Sub Veeco Palo Alto .... Cal
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Atlas Engineering Corp West Hartford .... Conn
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Cincinnati Sub-Zero Products Inc Cincinnati .... Ohio
Cleveland Vibrator Co Cleveland .... Ohio
Conrad-Missimer Corte Madera .... Cal
Industrial Refrigeration Co Inc Los Angeles .... Cal
Lindsay Structures Div, Intl Steel Co Evansville .... Ind
Standard Cabinet Co Inc Totowa .... N J
Tenney Engineering Inc Union .... N J
Thermotron Corp Holland .... Mich
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Baker Co, Inc Biddeford .... Me
Blue M Engineering Co Blue Island Ill
Clean Room Products Inc Farmingdale .... N Y
Edcraft Industries Inc Linden .... N J
Envirco Div Becton, Dickinson & Co Albuquerque .... N M
General Acoustics Corp Los Angeles .... Cal
Gruenberg Electric Co Inc Garden City .... N Y
Kewaunee Scientific Equipment Adrian .... Mich
Koppers Co Inc Pittsburgh .... Pa
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Liberty Industries Inc Berlin .... Conn
Matthews Research Inc Alexandria .... Va
Pure Aire Corp of America Van Nuys .... Cal
Ramney Industries Corp Farmingdale .... N J
Ray Products Inc Alhambra .... Cal
Siemens America Inc New York .... N Y
Techni-Tool Inc Philadelphia .... Pa
Tipptronic Inc Chagrin Falls .... Ohio
Torit Corp St Paul .... Minn
Vacuum/Atmospheres Corp N Hollywood .... Cal
Zicon Corp Mt Vernon .... N Y

CHAMBERS—IONIZATION

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
Alcatel Paris 8eme .... France
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EON Corp Brooklyn .... N Y
GCA Technology Div GCA Corp Bedford .... Mass
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Lockheed-Georgia Co Marietta .... Ga
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Nuclear-Chicago Des Plaines Ill
Nuclear Corp of America, Nuclear Div Denville .... N J
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Supplies Encino .... Cal
Plessey Co Ltd Ilford Essex .... England
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RIL Electronics Inc Southampton .... Pa
Tracerlab-The Instrument Div of ICN Oakland .... Cal
20th Century Electronics Ltd
  New Addington Croydon Cr 90 BG .... England
Victoreen Instrument Div Cleveland .... Ohio
Westinghouse Electric Corp, Electronic Tube Div
  Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

CHAMBERS—MICROWAVE TEST

Ace Shielded Products Corp Huntingdon Valley .... Pa
Ark Electronics Corp Willow Grove .... Pa
Emerson & Cuming Inc Canton .... Mass
Filtron Co Inc Sub Liquidonics Ind Inc Flushing .... N Y
Lindsay Structures Div, Intl Steel Co Evansville .... Ind
McMillan Radiation Labs Inc Ipswich .... Mass
Ray Proof Corp Norwalk .... Conn
Topatron Inc Costa Mesa .... Cal
Trylon Inc Elverson .... Pa

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FORK STANDARDS INC WEST CHICAGO ILL .... ADV PG 320
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INTERELECTRONICS CORP CONGERS .... N Y
Advanced Energy Conversion Menlo Park .... Cal
American Time Products, Elctns Div Bulova Watch Co Inc
  Woodside .... N Y
Aritech Corp Brighton .... Mass
Astro-Metrix Corp Burbank .... Cal
Avtel Corp Covina .... Cal
Basler Electric Co Highland Ill
Borg-Warner Controls Div Borg-Warner Corp Santa Ana .... Cal
California Instruments Corp San Diego .... Cal
C M L Inc Plainfield .... N J
Coil Co of America Inc Northvale .... N J
Consolidated Electric Corp Seattle .... Wash
Electro Marine Corp Falmouth .... Mass
Electronic Research Associates Inc Cedar Grove .... N J
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Electro-Pacific Inc Goleta .... Cal
Elgar Corp San Diego .... Cal
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Geo Space Corp Houston .... Tex
Industrial Instruments Ltd Bromley Kent .... England
Industrial Test Equipment Co Port Washington .... N Y
Inet Power A Teledyne Co Gardena .... Cal
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Kato Engineering Co Mankato .... Minn
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Leland Airborne Products Div AMF Vandalia .... Ohio
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Microdot, Inc South Pasadena .... Cal
Mid-Eastern Industries Inc Scotch Plains .... N J
North Electric Co Galion .... Ohio
Optimation, Inc Sun Valley .... Cal
Pacific Electro Dynamics Inc Bellevue .... Wash
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
Philco-Ford Corp Washington .... D C
Racal Electronics Ltd Bracknell Berks .... England
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Standard Industries Buena Park .... Cal
Tel-Instrument Electronics Corp Carlstadt .... N J
Topaz Inc San Diego .... Cal
Valradio Ltd Feltham, Mdsx .... Eng
Varo Inc, Static Power Div Plano .... Tex
Westinghouse Electric Corp, Tube Div Elmira .... NY

CHARACTER GENERATORS

***See* Generators—Character**

CHARACTER TUBES

***See* Tubes—Cathode Ray**

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Bronson Corp, Sub Kurz & Root Co Appleton .... Wisc
Denki Kogyo Co Ltd Tokyo .... Japan
Electric Machinery Mfg Co Minneapolis .... Minn
General Electric Co, ECSO Schenectady .... N Y
Guardian Electric Mfg Co of Cal Inc Culver City .... Cal
Inet Power A Teledyne Co Gardena .... Cal
Kato Engineering Co Mankato .... Minn
Onan Div, Studebaker Corp Minneapolis .... Minn
Reflectone. Inc, Englewood Cliffs .... N J
Safety Electrical Equipment Corp New Haven .... Conn
Sun Electric Corp Chicago Ill
Superior Continental Corp Hickory .... N C
Test Technology Inc Fern Park .... Fla
Thermo Electron Engineering Corp Waltham .... Mass

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GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
Automatic Switch Co Florham Park .... N J
Bendix Corp Electric Power Div Eatontown .... NJ
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General Electric Co, ECSO Schenectady .... N Y
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Kearfott Div Singer-General Precision Inc Little Falls .... NJ
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Reflectone. Inc, Englewood Cliffs .... N J
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  Corp Brooklyn .... N Y
Thermo Electron Engineering Corp Waltham .... Mass

CHARGERS, BATTERY—PORTABLE

C M L INC PLAINFIELD .... N J
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POWER INC, ELECTRONICS DIV BURNSVILLE .... MINN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
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Bullock Magnetics Corp Pomona .... Cal
Carol Electronics Div Weeco Inc Martinsburg .... W Va
CEA Div Berkleonics Inc Monrovia .... Cal
Christie Electric Corp Los Angeles .... Cal
C M L Inc Plainfield .... N J
Coil Co of America Inc Northvale .... N J
Collins Electronics Inc Stevensville .... Md
Cornell-Dubilier Electronics Div Federal Pacific Electric Co
  Newark .... N J
Dowa Trading Co Ltd Kobe .... Japan
Eastern Delta Corp Fair Lawn .... N J
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Components Corp Addison Ill
Electronic Measurements Corp New York .... N Y
Electronic Research Associates Inc Cedar Grove .... N J
Electro-Standards Labs Inc Miami .... Fla
Fedtro Inc Rockville Centre .... N Y
Field Electronics Inc Chatham .... N J
Gates Electronic Co Inc Bronx .... N Y
General Battery & Ceramic Corp Reading .... Pa
General Electric Co, ECSO Schenectady .... N Y
General Radio Co West Concord .... Mass
Gould Marathon Battery Co Div Gould-Natl Batteries Inc
  St Paul .... Minn
Green Electric Corp Fairlawn .... NJ
Gulton Industries Inc Metuchen .... N J
Hydro Products Div Dillingham Corp San Diego .... Cal
Industrial Electronetics Corp Satellite Beach .... Fla
Inet Power A Teledyne Co Gardena .... Cal
Kato Engineering Co Mankato .... Minn
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Kepco Inc Flushing .... N Y
LaMarche Mfg Co Des Plaines Ill
Macarr Inc Bronx .... N Y
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mega Engineering Co Mountain View .... Cal
Mid-Eastern Industries Inc Scotch Plains .... N J
Onan Div, Studebaker Corp Minneapolis .... Minn
Opad Electric Co, Inc New York .... N Y
Philmore Mfg Co Inc Richmond Hill .... N Y
Power Inc, Electronics Div Burnsville .... Minn
Ratelco Inc Seattle .... Wash
Reflectone. Inc, Englewood Cliffs .... N J
Resdel Engineering Corp Pasadena .... Cal
Robins Electronics La Mesa .... Cal
Schauer Mfg Corp Cincinnati .... Ohio
Sel-Rex Corp & Sub The Meaker Co Nutley .... N J
Shigoto Industries Ltd New York .... N Y
Sonotone Corp, Battery Div Elmsford .... N Y
Sterling Mfg Co Cleveland .... Ohio
Sun Electric Corp Chicago Ill
Superior Continental Corp Hickory .... N C
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn .... N Y
Terado Corp St Paul .... Minn
Ther Electric & Machine Works Inc Chicago Ill
Tilton Electronics Corp Winnisquam .... N H
Topping Electronics Ltd Scarborough .... Ont
Transcom Electronics Inc La Mesa .... Cal
Triple A Specialty Co Chicago Ill
Ultra Electronics Ltd London, W 3 .... England
Western Reserve Electronics, Inc Cleveland .... Ohio
Woodward-Schumacher Electric Corp Chicago Ill
Workman Electronic Products Inc Sarasota .... Fla
Yardney Electric Corp New York .... N Y

CHARGERS, BATTERY—SOLID STATE, REGULATED

C M L INC PLAINFIELD . . . . . N J
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN . . . . . MO
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . . ADV PG 7
INTERELECTRONICS CORP CONGERS . . . . . N Y
KEPCO INC FLUSHING N Y . . . . . ADV PG 4th Cover
LAMBDA ELECTRONICS CORP MELVILLE . . . . . N Y
OPAD ELECTRIC CO, INC NEW YORK . . . . . N Y
POWER INC, ELECTRONICS DIV BURNSVILLE . . . . . MINN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN . . . . . N Y
YARDNEY ELECTRIC CORP NEW YORK . . . . . N Y
Alkaline Batteries Corp Easthampton . . . . . Mass
American Rectifier Corp College Point . . . . . N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Analog Technology Corp Pasadena . . . . . Cal
Applied Electro Mechanics Inc Alexandria . . . . . Va
Astro-Metrix Corp Burbank . . . . . Cal
Audn Corp Hamburg . . . . . N Y
Ault, Inc Minneapolis . . . . . Minn
Autronics Corp Pasadena . . . . . Cal
Basler Electric Co Highland Ill
Bergen Lab, Inc Paterson . . . . . N J
Berg Gibson Mfg Co Kansas City . . . . . Mo
Bronson Corp, Sub Kurz & Root Co Appleton . . . . . Wisc
Bruce Industries Inc Gardena . . . . . Cal
Brys Instrument Corp Brooklyn . . . . . N Y
Bullock Magnetics Corp Pomona . . . . . Cal
Cal-Power Corp El Segundo . . . . . Cal
Canadian Research Institute Don Mills . . . . . Ont
Carol Electronics Div Weeco Inc Martinsburg . . . . . W Va
C & D Batteries Div Eltra Corp Conshohocken . . . . . Pa
CEA Div Berkleonics Inc Monrovia . . . . . Cal
Christie Electric Corp Los Angeles . . . . . Cal
C I T E Santa Margherita Ligure . . . . . Italy
C M L Inc Plainfield . . . . . N J
Collins Electronics Inc Stevensville . . . . . Md
Dinion Coil Co Inc Caledonia . . . . . N Y
Eagle-Picher Industries Inc, Electronics Div Joplin . . . . . Mo
Elasco-Eastern Inc Bloomfield . . . . . Conn
Electric Machinery Mfg Co Minneapolis . . . . . Minn
Electro Development Corp Lynnwood . . . . . Wash
Electro Marine Corp Falmouth . . . . . Mass
Electronic Components Corp Addison Ill
Electronic Research Associates Inc Cedar Grove . . . . . N J
Electro Powerpacs Corp Cambridge . . . . . Mass
Elgin Electronics Inc Erie . . . . . Pa
Euro Cedag Milan . . . . . Italy
Exide Power Systems Div ESB Inc Philadelphia . . . . . Pa
Ferranti, Ltd Lancashire . . . . . England
Field Electronics Inc Chatham . . . . . N J
Gates Electronic Co Inc Bronx . . . . . N Y
General Battery & Ceramic Corp Reading . . . . . Pa
General Dynamics, Electronics Div Rochester . . . . . N Y
General Electric Co, ECSO Schenectady . . . . . N Y
Gould Marathon Battery Co Div Gould-Natl Batteries Inc St Paul . . . . . Minn
Green Electric Corp Fairlawn . . . . . NJ
Guardian Electric Mfg Co of Cal Inc Culver City . . . . . Cal
Gulton Industries Inc Metuchen . . . . . N J
Gulton Industries Inc Engineered Magnetics Div Hawthorne . . . . . Cal
Hirst Electric Industries Ltd Crawley, Sussex . . . . . England
Hughes Electronics Co Long Beach . . . . . Cal
Industrial Electronetics Corp Satellite Beach . . . . . Fla
Industrial Instruments Ltd Bromley Kent . . . . . England
Inet Power A Teledyne Co Gardena . . . . . Cal
Instruments Inc San Diego . . . . . Cal
Interelectronics Corp Congers . . . . . N Y
Jefferson Electric Co Bellwood Ill
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kepco Inc Flushing . . . . . N Y
LaMarche Mfg Co Des Plaines Ill
Lambda Electronics Corp Melville . . . . . N Y
Leclanche SA Ch - 1401 Yverdon . . . . . Switz
Leland Airborne Products Div AMF Vandalia . . . . . Ohio
Macarr Inc Bronx . . . . . N Y
Maricopa Controls Scottsdale . . . . . Ariz
Mega Engineering Co Mountain View . . . . . Cal
Mid-Eastern Industries Inc Scotch Plains . . . . . N J
Motor Generator Div Hobart Bros Co Troy . . . . . Ohio
Nichols Co Ltd, R H Downsview . . . . . Ont
Nife Inc Copiague . . . . . N Y
North Electric Co Galion . . . . . Ohio
Opad Electric Co, Inc New York . . . . . N Y
Optronics Labs Div Columbia Scientific Corp Waltham . . . Mass
Origin Electric Co Ltd Tokyo . . . . . Japan
Pacific Electro Dynamics Inc Bellevue . . . . . Wash
Power Control Corp Pittsburgh . . . . . Pa
Power Inc, Electronics Div Burnsville . . . . . Minn
Power Sources Div, Technical Operations Inc Burlington . Mass
Powertec Div, Airtronics Corp Chatsworth . . . . . Cal
Radix Electronics Corp Anaheim . . . . . Cal
Ratelco Inc Seattle . . . . . Wash
RCA, Defense Electronic Products Moorestown . . . . . N J
Reflectone. Inc, Englewood Cliffs . . . . . N J
Resdel Engineering Corp Pasadena . . . . . Cal
RIL Electronics Inc Southampton . . . . . Pa
Robins Electronics La Mesa . . . . . Cal
Schauer Mfg Corp Cincinnati . . . . . Ohio
Sel-Rex Corp & Sub The Meaker Co Nutley . . . . . N J
Servo-Tek Products Co, Marine Div Hawthorne . . . . . N J
Servo-Tek Products Co Hawthorne . . . . . N J
Siltronics Inc Oakmont . . . . . Pa
Sola Electric Div Sola Basic Industries Elk Grove Village . . . Ill
Solar Instrumentation Co South Lake Tahoe Cal . . . . . Cal
Solidstate Controls Inc Columbus . . . . . Ohio
Sonotone Corp, Battery Div Elmsford . . . . . N Y
Space Craft Inc Huntsville . . . . . Ala
Spar Aerospace Products Ltd Toronto . . . . . Ont
Symbolic Displays Inc Orange . . . . . Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn . . . . . N Y
Ther Electric & Machine Works Inc Chicago Ill
Thiem-Transrex Inc Torrance . . . . . Cal
Tilton Electronics Corp Winnisquam . . . . . N H
Topping Electronics Ltd Scarborough . . . . . Ont
Transcom Electronics Inc La Mesa . . . . . Cal
Triple A Specialty Co Chicago Ill
Utah Research & Development Co Inc Salt Lake City . . . . Utah
Vapor Corp Chicago Ill
Varo Inc, Static Power Div Plano . . . . . Tex
Warren Communications Div Sola Basic Ind Littleton . . . Mass
Western Reserve Electronics, Inc Cleveland . . . . . Ohio
Westinghouse Electric Corp, Aerospace Electrical Div Lima . . . . . Ohio
Woodward-Schumacher Electric Corp Chicago Ill
Yardney Electric Corp New York . . . . . N Y

CHARGERS, BATTERY—SOLID STATE, UNREGULATED

C M L INC PLAINFIELD . . . . . N J
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN . . . . . MO
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . . ADV PG 7
HEATH CO BENTON HARBOR . . . . . MICH
INTERELECTRONICS CORP CONGERS . . . . . N Y
KEPCO INC FLUSHING N Y . . . . . ADV PG 4th Cover
OPAD ELECTRIC CO, INC NEW YORK . . . . . N Y
POWER INC, ELECTRONICS DIV BURNSVILLE . . . . . MINN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN . . . . . N Y
YARDNEY ELECTRIC CORP NEW YORK . . . . . N Y
All American Eng Co, Coml Prods Div Newark . . . . . Del
American Rectifier Corp College Point . . . . . N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Analog Technology Corp Pasadena . . . . . Cal
Astro-Metrix Corp Burbank . . . . . Cal
ATR Electronics, Inc St Paul . . . . . Minn
Audn Corp Hamburg . . . . . N Y
Ault, Inc Minneapolis . . . . . Minn
Autronics Corp Pasadena . . . . . Cal
Basler Electric Co Highland Ill
Berg Gibson Mfg Co Kansas City . . . . . Mo
Bullock Magnetics Corp Pomona . . . . . Cal
Cal-Power Corp El Segundo . . . . . Cal
Canadian Research Institute Don Mills . . . . . Ont
Carol Electronics Div Weeco Inc Martinsburg . . . . . W Va
CEA Div Berkleonics Inc Monrovia . . . . . Cal
Christie Electric Corp Los Angeles . . . . . Cal
C I T E Santa Margherita Ligure . . . . . Italy
C M L Inc Plainfield . . . . . N J
Coil Co of America Inc Northvale . . . . . N J
Collins Electronics Inc Stevensville . . . . . Md
Eagle-Picher Industries Inc, Electronics Div Joplin . . . . . Mo
Eastern Delta Corp Fair Lawn . . . . . N J
EICO Electronic Instrument Co Inc Brooklyn . . . . . NY
Elasco-Eastern Inc Bloomfield . . . . . Conn
Electro Development Corp Lynnwood . . . . . Wash
Electronic Components Corp Addison Ill
Electronic Research Associates Inc Cedar Grove . . . . . N J
Electro Powerpacs Corp Cambridge . . . . . Mass
Electro-Standards Labs Inc Miami . . . . . Fla
Field Electronics Inc Chatham . . . . . N J
Gates Electronic Co Inc Bronx . . . . . N Y
General Battery & Ceramic Corp Reading . . . . . Pa
General Electric Co, ECSO Schenectady . . . . . N Y
General Railway Signal Co Rochester . . . . . N Y
Gould Marathon Battery Co Div Gould-Natl Batteries Inc St Paul . . . . . Minn
Green Electric Corp Fairlawn . . . . . NJ
Guardian Electric Mfg Co of Cal Inc Culver City . . . . . Cal
Gulton Industries Inc Metuchen . . . . . N J
Gulton Industries Inc Engineered Magnetics Div Hawthorne . . . . . Cal
Heath Co Benton Harbor . . . . . Mich
Hirst Electric Industries Ltd Crawley, Sussex . . . . . England
Industrial Electronetics Corp Satellite Beach . . . . . Fla
Inet Power A Teledyne Co Gardena . . . . . Cal
Interelectronics Corp Congers . . . . . N Y
Kepco Inc Flushing . . . . . N Y
LaMarche Mfg Co Des Plaines Ill
Leclanche SA Ch - 1401 Yverdon . . . . . Switz
Leland Airborne Products Div AMF Vandalia . . . . . Ohio
Macarr Inc Bronx . . . . . N Y
Mega Engineering Co Mountain View . . . . . Cal
Mid-Eastern Industries Inc Scotch Plains . . . . . N J
Motor Generator Div Hobart Bros Co Troy . . . . . Ohio
North Electric Co Galion . . . . . Ohio
Opad Electric Co, Inc New York . . . . . N Y
Optronics Labs Div Columbia Scientific Corp Waltham . . . Mass
Power Control Corp Pittsburgh . . . . . Pa
Power Inc, Electronics Div Burnsville . . . . . Minn
Powertec Div, Airtronics Corp Chatsworth . . . . . Cal
Radix Electronics Corp Anaheim . . . . . Cal
Ramsay Engineering Co Anaheim . . . . . Cal
RCA, Defense Electronic Products Moorestown . . . . . N J
Resdel Engineering Corp Pasadena . . . . . Cal
Robins Electronics La Mesa . . . . . Cal
Schauer Mfg Corp Cincinnati . . . . . Ohio
Sel-Rex Corp & Sub The Meaker Co Nutley . . . . . N J
Sola Electric Div Sola Basic Industries Elk Grove Village . . . Ill
Solidstate Controls Inc Columbus . . . . . Ohio
Space Craft Inc Huntsville . . . . . Ala
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn . . . . . N Y
Terado Corp St Paul . . . . . Minn
Ther Electric & Machine Works Inc Chicago Ill
Thiem-Transrex Inc Torrance . . . . . Cal
Tilton Electronics Corp Winnisquam . . . . . N H
Topping Electronics Ltd Scarborough . . . . . Ont
Transcom Electronics Inc La Mesa . . . . . Cal
Triple A Specialty Co Chicago Ill
Varo Inc, Static Power Div Plano . . . . . Tex
Westinghouse Electric Corp, Aerospace Electrical Div Lima . . . . . Ohio
Woodward-Schumacher Electric Corp Chicago Ill
Workman Electronic Products Inc Sarasota . . . . . Fla
Yardney Electric Corp New York . . . . . N Y

CHARGERS—DOSIMETER

Collins & Assoc Don L Glendale . . . . . Cal
Landsverk Electrometer Co Glendale . . . . . Cal
Nuclear-Chicago Des Plaines Ill
Nuclear Equipment Chemical Corp Farmingdale . . . . . N Y
Nuclear Supplies Encino . . . . . Cal
RIL Electronics Inc Southampton . . . . . Pa
Victoreen Instrument Div Cleveland . . . . . Ohio

CHASSIS—METAL, FORMED

ALUMINUM DESIGN CORP BROOKFIELD ILL
ELCO CORP WILLOW GROVE . . . . . PA
FORMICA METAL PRODUCTS CO INC MEDFORD . . . . MASS
KINETRON CORP ASBURY PARK . . . . . NJ
VENT-RAK INC INDIANAPOLIS IND . . . . . ADV PG 68
Abalon Precision Mfg Corp Bronx . . . . . N Y
Acme Model Engineering Co Ridgefield . . . . . N J
Acro Products Corp Chicago Ill
Alden Products Co, Inc Brockton . . . . . Mass
All American Eng Co, Coml Prods Div Newark . . . . . Del
All Star Products Inc Defiance . . . . . Ohio
Alpha Products, Inc Chicago Ill
Aluminum Design Corp Brookfield Ill
American Aluminium Co Mountainside . . . . . N J
Applied Research, Inc Port Washington . . . . . N Y
A P T Electronic Industries Ltd Surrey . . . . . England
Aracon Electronics Inc New York . . . . . N Y
A V Electronics, Inc Fresno . . . . . Cal
Baltic Metal Products Co Brooklyn . . . . . N Y
Barker & Williamson Div Sunshine Mining Co Bristol . . . . . Pa
Barnes Engineering Co Santa Ana . . . . . Cal
Barry Controls Div Barry Wright Corp Watertown . . . . . Mass
Binary Electronics of Cal Div Avionic Structures Inc Anaheim . . . . . Cal
Boston Precision Parts Co Inc Hyde Park . . . . . Mass
Brooks & Perkins Inc Detroit . . . . . Mich
Brown Engineering-A Teledyne Co Huntsville . . . . . Ala
California Chassis Co Lynwood . . . . . Cal
California Systems Components, Inc Chatsworth . . . . . Cal
Churchill Corp Melrose . . . . . Mass
C & N Electrical Ltd Gosport . . . . . Hampshire Eng
Component Technology Corp Sunnyvale . . . . . Cal
Computer Metal Reg'd Montreal 376 . . . . . Que
Control Logic Inc Natick . . . . . Mass
Control Products Corp Chicago Ill
Corry Jamestown Corp Div Singer Co Corry . . . . . Pa
Custom Metal Products Div Tyco Labs Inc Garden City Park . . . . . N Y
Dahlstrom Mfg Corp Jamestown . . . . . N Y
Donnelly Mfg Co Waltham . . . . . Mass
Elco Corp Willow Grove . . . . . Pa
Electronic Enclosures Div Wyle Labs Pennsauken . . . . . N J
Electrorack Products Co Anaheim . . . . . Cal
Elzee Metal Products Co Inc Brooklyn . . . . . N Y
Eonetics Burbank . . . . . Cal
Erie Artisan Corp Cleveland . . . . . Ohio
Estes Engineering Co Gardena . . . . . Cal
Eugene Engineering Co Inc Rockland . . . . . Mass
Extrudonics Inc New Brunswick . . . . . N J
Falstrom Co Passaic . . . . . N J
Fansteel Inc North Chicago Ill
Feay Co, Neal Goleta . . . . . Cal
Formica Metal Products Co Inc Medford . . . . . Mass
Forway Industries Inc Woodbury . . . . . N J
General Systems Inc Erie . . . . . Pa
Glentek Inc Santa Monica . . . . . Cal
Golding Mfg Co North Arlington . . . . . N J
Gyrotronics Inc Asbury Park . . . . . N J
Hammond Mfg Co Ltd Guelph . . . . . Ont
Holbrook Merrill Co Sunnyvale . . . . . Cal
Industrial Engravers Inc Jamaica . . . . . N Y
International Electronic Research Corp Burbank . . . . . Cal
Kameco Electronics Ltd. Montreal . . . . . Que
Kinetron Corp Asbury Park . . . . . NJ
Kirk & Blum Mfg Co Cincinnati . . . . . Ohio
Lockhart Industries Inc Paramount . . . . . Cal
Lynch Mfg Co, R H South San Gabriel . . . . . Cal
Markon Mfg Inc Englewood . . . . . Colo
Metal Fab Div, Artisan Industries Inc Waltham . . . . . Mass
Metal Works Inc Hermann . . . . . Mo
Mid-West Metal Products Inc Kansas City . . . . . Kans
Mobil Electronics Inc Anderson . . . . . Ind
M-T Electronics Co San Leandro . . . . . Cal
Muckle Mfg Co Owatonna . . . . . Minn
Nassau Precision Metal Products Port Washington . . . . . N Y
Panelgraphic Corp Caldwell . . . . . N J
Par-Metal Products Div EON Corp Long Island City . . . . . N Y
Plessey Co Ltd Ilford Essex . . . . . England
Premier Metal Products Co Bronx . . . . . N Y
REF Dynamics Div UOP Mineola . . . . . N Y
Richards Metal Products Inc Wolcott . . . . . Conn
Riester & Thesmacher Co Cleveland . . . . . Ohio
Robins Electronics La Mesa . . . . . Cal
Rosemount Plug-In Inc Nashville . . . . . Tenn
Rotary Co, Inc Buffalo . . . . . N Y
Rowe Co, L L Boston . . . . . Mass
Sanyo Electric Co Ltd Osaka . . . . . Japan
Scanbe Mfg Corp El Monte . . . . . Cal
Seastrom Mfg Co Inc Glendale . . . . . Cal
Siltronics Inc Oakmont . . . . . Pa
S K G Associates Inc Boston . . . . . Mass
Skyline Products Inc Deer Park . . . . . N Y
Stafford Mfg Co Inc Brooklyn . . . . . N Y
Stantron Div Wyco Metal Products North Hollywood . . . . . Cal
Strandberg Engineering Labs Inc Greensboro . . . . . N C
System Enclosures Inc, Div Anetsberger Bros Inc Northbrook Ill
Taffet Electronics Inc Woodside . . . . . N Y
Techmar Corp Los Angeles . . . . . Cal
Technical Wire Products Inc Cranford . . . . . N J
Titchener & Co, E H Binghamton . . . . . N Y
Topping Electronics Ltd Scarborough . . . . . Ont
Transcom Electronics Inc La Mesa . . . . . Cal
Utility Communication Systems Inc West Chester . . . . . Pa
Vent-Rak Inc Indianapolis . . . . . Ind
Waterbury Pressed Metal Co Waterbury . . . . . Conn

Watson Mfg Co Inc Jamestown .... N Y
Wyco Metal Products North Hollywood .... Cal
York Metal Products Inc Long Island City .... N Y
Zero Mfg Co Burbank .... Cal

CHASSIS SLIDES

***See* Slides—Chassis**

CHEMICAL PROCESS CONTROLS

***See* Controls—Providing Desired Function**

CHEMICALS—DEGREASING

***See* Solvents**

CHEMICALS—ELECTRONIC

CAIG LABS INC WESTBURY .... N Y
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN .... MO
MOLYBDENUM CORP OF AMERICA NEW YORK .... N Y
NITINE INC CLIFTON .... NJ
Aceto Chemical Co, Inc Flushing .... NY
Alpha Metals Inc Jersey City .... NJ
American Potash & Chemical Corp Los Angeles .... Cal
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Apogee Chemical Inc Richmond .... Cal
Aracon Electronics Inc New York .... N Y
Associated Engineering & Mfg Corp Glen Ridge .... N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Baker Chemical Co, J T Phillipsburg .... N J
Barco Chemical Products Co Chicago Ill
Barium and Chemicals, Inc Steubenville .... Ohio
Bemol Corp Newton .... Mass
Brinkmann Instruments Inc Westbury .... N Y
Caig Labs Inc Westbury .... N Y
Calfonex Inc Englewood .... N J
Cerac Inc Butler .... Wis
City Chemical Corp New York .... N Y
Clarkson Labs Inc Camden .... NJ
Cominco American Inc Electronic Matls Div Spokane .... Wash
Conap Inc Allegany .... N Y
Corco Chemical Corp Fairless Hills .... Pa
Dolph Co, John C Monmouth Junction .... N J
Dow Chemical Co Midland .... Mich
Dow Corning Corp Midland .... Mich
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Eagle-Picher Industries Inc, Electronics Div Joplin .... Mo
Electrolube Ltd Slough .... England
Electronic Chemical Corp Jersey City .... N J
Electronic Space Products Inc Los Angeles .... Cal
Electro Science Labs Inc Philadelphia .... Pa
Emerson & Cuming Inc Canton .... Mass
Enthone Inc New Haven .... Conn
EPD Industries Inc Long Beach .... Cal
Etchomatic Inc Waltham .... Mass
Fidelity Chemical Products Corp Newark .... N J
G C Electronics Div, Hydrometals Inc Rockford Ill
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
General Electric Co Silicone Prods Dept Waterford .... N Y
Henley & Co Inc New York .... N Y
Ideal-Hellerman Canada Ltd Ajax .... Ontario
Injectorall Electronics Corp Great Neck .... NY
Isochem Resins Co Lincoln .... RI
Kawecki Berylco Industries Inc New York .... N Y
Kester Solder Co Chicago Ill
Kulicke & Soffa Industries Inc Fort Washington .... Pa
London Chemical Co Inc Bensenville Ill
Mackay Inc, A D New York .... N Y
Mallinckrodt Chemical Works St Louis .... Mo
Mann Co, Henry Cornwell Heights .... Pa
Materials for Electronics, Inc Jamaica .... N Y
Miller-Stephenson Chemical Co Inc Danbury .... Conn
Molybdenum Corp of America New York .... N Y
Nitine Inc Clifton .... NJ
Oakite Products Inc Berkeley Heights .... N J
Octagon Process Inc Edgewater .... NJ
Pennsylvania Industrial Chemical Corp Clairton .... Pa
Pfizer Minerals, Pigments & Metals Div New York .... NY
Philadelphia Quartz Co Philadelphia .... Pa
Phoenix Materials Corp Forbes Road .... Pa
Polysciences Inc Warrington .... Pa
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine .... France
Quietrole Co Spartanburg .... S C
Rocky Mountain Research Inc Denver .... Colo
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Elements Inc Saxonburg .... Pa
Shannon Luminous Materials Co Hollywood .... Cal
Shipley Co Inc Newton .... Mass
Sperex Corp Los Angeles .... Cal
Sylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
Triad Distributor Div Litton Industries Huntington .... Ind
Ultra Sonic Cleaner Mfg Co N Amityville .... N Y
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Ventron Corp. Metal Chemicals Div. Beverly .... Mass
Ventron Electronics Corp, Controls/Matls Div Bradford .... Pa
Workman Electronic Products Inc Sarasota .... Fla

CHEMICALS—FLOURESCENT

***See* Flourescent Compounds**

CHEMICALS—FUNGICIDAL

***See* Coatings—Fungicidal; Fungiproofing Services**

CHEMICALS—LUMINESCENT

Aceto Chemical Co, Inc Flushing .... NY
American Atomics Corp Tucson .... Ariz
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Black Light Corp of America San Gabriel .... Cal
Canrad Precision Industries Inc New York .... N Y
Cerac Inc Butler .... Wis
City Chemical Corp New York .... N Y
Electronic Space Products Inc Los Angeles .... Cal
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
Kester Solder Co Chicago Ill
Mackay Inc, A D New York .... N Y
Mallinckrodt Chemical Works St Louis .... Mo
3M Company St Paul .... Minn
Nuclear Enterprises Ltd Edinburgh .... Scotland
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine .... France
Semi-Elements Inc Saxonburg .... Pa
Shannon Luminous Materials Co Hollywood .... Cal
Stroblite Co Inc New York .... N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
Ultra-Violet Products Inc San Gabriel .... Cal
United Mineral & Chemical Corp New York .... N Y
United States Radium Corp Morristown .... N J
Var-Lac-Oid Chemical Co Elizabeth .... N J

CHEMICALS, PLATING—ELECTROLESS PLATING

NITINE INC CLIFTON .... NJ
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
TECHNIC INC CRANSTON .... RI
Allied Research Prods Inc Sub The Richardson Co Baltimore .... Md
American Chemical & Refining Co Waterbury .... Conn
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Baker Chemical Co, J T Phillipsburg .... N J
Corco Chemical Corp Fairless Hills .... Pa
Enthone Inc New Haven .... Conn
Etchomatic Inc Waltham .... Mass
Fidelity Chemical Products Corp Newark .... N J
Gale Systems Inc North Reading .... Mass
Henley & Co Inc New York .... N Y
Hull & Co Inc, R O Cleveland .... Ohio
Lea Mfg Co Waterbury .... Conn
Lea-Ronal Inc Freeport .... N Y
London Chemical Co Inc Bensenville Ill
MacDermid Inc Waterbury .... Conn
Mallinckrodt Chemical Works St Louis .... Mo
Metaplast Electrochemicals Corp Bronx .... N Y
3M Company St Paul .... Minn
Nitine Inc Clifton .... NJ

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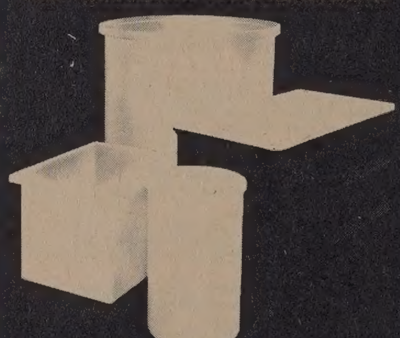

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Nopco Chemical Div Diamond Shamrock Chem Co Newark .... N J
Oakite Products Inc Berkeley Heights .... N J
Octagon Process Inc Edgewater .... NJ
Sel-Rex Corp & Sub The Meaker Co Nutley .... N J
Sel-Rex International S A Geneva .... Switzerland
Semi-Elements Inc Saxonburg .... Pa
Shipley Co Inc Newton .... Mass
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Technic Inc Cranston .... RI
Transene Co Inc Rowley .... Mass
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J

CHEMICALS, PLATING—ELECTROPLATING

TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
TECHNIC INC CRANSTON .... RI
Acheson Colloids Co Port Huron .... Mich
Allied Research Prods Inc Sub The Richardson Co Baltimore .... Md
American Chemical & Refining Co Waterbury .... Conn
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Barco Chemical Products Co Chicago Ill
Barium and Chemicals, Inc Steubenville .... Ohio
Chemclean Corp College Point .... N Y
Conversion Chemical Corp Rockville .... Conn
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Electrolube Ltd Slough .... England
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark .... N J
Enthone Inc New Haven .... Conn
EPEC Industries Inc New Bedford .... Mass
Fidelity Chemical Products Corp Newark .... N J
Henley & Co Inc New York .... N Y
Hull & Co Inc, R O Cleveland .... Ohio
Johnson Matthey & Mallory Ltd Toronto 15 .... Ont
Lea Mfg Co Waterbury .... Conn
London Chemical Co Inc Bensenville Ill
MacDermid Inc Waterbury .... Conn
Marlane Development Co Inc New York .... N Y
Matthey Bishop Inc Malvern .... Pa
Metaplast Electrochemicals Corp Bronx .... N Y
Nopco Chemical Div Diamond Shamrock Chem Co Newark .... N J
Oakite Products Inc Berkeley Heights .... N J
Richardson Company Melrose Park Ill
Selectrons Ltd New York .... N Y
Sel-Rex Corp & Sub The Meaker Co Nutley .... N J
Sel-Rex International S A Geneva .... Switzerland
Semi-Elements Inc Saxonburg .... Pa
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Technic Inc Cranston .... RI
Transene Co Inc Rowley .... Mass
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J

CHEMICALS, PRINTED CIRCUIT—CLEANERS-ASSEMBLIES (AFTER DIP-SOLDERING)

BOW SOLDER PRODUCTS CO INC NEWARK .... N J
CAIG LABS INC WESTBURY .... N Y
NITINE INC CLIFTON .... NJ
Aceto Chemical Co, Inc Flushing .... NY
Allaco Products Braintree .... Mass
Alpha Metals Inc Jersey City .... NJ
Aracon Electronics Inc New York .... N Y
Baker Chemical Co, J T Phillipsburg .... N J
Barco Chemical Products Co Chicago Ill
Bow Solder Products Co Inc Newark .... N J
Caig Labs Inc Westbury .... N Y
Calfonex Inc Englewood .... N J
Chemclean Corp College Point .... N Y
Cimron Div Lear Siegler, Inc San Diego .... Cal
Clarkson Labs Inc Camden .... NJ
Cobehn Inc Fairfield .... N J
Corco Chemical Corp Fairless Hills .... Pa
Cramco Solder Alloys Scarborough .... Ont
Crest Ultrasonics Corp Trenton .... N J
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Dynaloy, Inc Hanover .... N J
Electronic Space Products Inc Los Angeles .... Cal
Enthone Inc New Haven .... Conn
Etchomatic Inc Waltham .... Mass
FMC Corp, Inorganic Chemicals Div New York .... N Y
Gale Systems Inc North Reading .... Mass
Hi-Grade Alloy Corp East Hazelcrest Ill
Hunt Chemical Corp, Philip A Palisades Park .... N J
Industrial Formulations Corp Plainview .... N Y
Isochem Resins Co Lincoln .... RI
Kester Solder Co Chicago Ill
Lea Mfg Co Waterbury .... Conn
Lear Siegler Inc Santa Monica .... Cal
London Chemical Co Inc Bensenville Ill
Mann Co, Henry Cornwell Heights .... Pa
Miller-Stephenson Chemical Co Inc Danbury .... Conn
Nitine Inc Clifton .... NJ
Nopco Chemical Div Diamond Shamrock Chem Co Newark .... N J
Oakite Products Inc Berkeley Heights .... N J
Octagon Process Inc Edgewater .... NJ
Pro-Chem Inc Cleveland .... Ohio
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine .... France
Sel-Rex International S A Geneva .... Switzerland
Semi-Elements Inc Saxonburg .... Pa
Shannon Luminous Materials Co Hollywood .... Cal
Ultra Sonic Cleaner Mfg Co N Amityville .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Wye Industries Inc Boston .... Mass

CHEMICALS, PRINTED CIRCUIT—CLEANERS-BOARD (AFTER ETCHING)

BOW SOLDER PRODUCTS CO INC NEWARK	**N J**
NITINE INC CLIFTON	**NJ**
Aceto Chemical Co, Inc Flushing	NY
Alpha Metals Inc Jersey City	NJ
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Aracon Electronics Inc New York	N Y
Baker Chemical Co, J T Phillipsburg	N J
Bow Solder Products Co Inc Newark	N J
Calfonex Inc Englewood	N J
Chemclean Corp College Point	N Y
Clarkson Labs Inc Camden	NJ
Cobehn Inc Fairfield	N J
Corco Chemical Corp Fairless Hills	Pa
Cramco Solder Alloys Scarborough	Ont
Crest Ultrasonics Corp Trenton	N J
Du Pont De Nemours & Co Inc E I Wilmington	Del
Dynaloy, Inc Hanover	N J
Electronic Space Products Inc Los Angeles	Cal
Enthone Inc New Haven	Conn
Etchomatic Inc Waltham	Mass
Fidelity Chemical Products Corp Newark	N J
Hi-Grade Alloy Corp East Hazelcrest	Ill
Hull & Co Inc, R O Cleveland	Ohio
Hunt Chemical Corp, Philip A Palisades Park	N J
Industrial Formulations Corp Plainview	N Y
Injectorall Electronics Corp Great Neck	NY
Isochem Resins Co Lincoln	RI
Kepro Circuit Systems Inc St Louis	Mo
Kester Solder Co Chicago	Ill
Lea Mfg Co Waterbury	Conn
London Chemical Co Inc Bensenville	Ill
MacDermid Inc Waterbury	Conn
Miller-Stephenson Chemical Co Inc Danbury	Conn
3M Company St Paul	Minn
Multisonic Cleaning Systems Cleveland	Ohio
Nitine Inc Clifton	NJ
Nopco Chemical Div Diamond Shamrock Chem Co Newark	N J
Oakite Products Inc Berkeley Heights	N J
Octagon Process Inc Edgewater	NJ
Phillips Mfg Co Chicago	Ill
Preco Chemical Corp Plainview	N Y
Roosevelt Metal Co Inc Brooklyn	N Y
Semi-Elements Inc Saxonburg	Pa
Shipley Co Inc Newton	Mass
Ultra Sonic Cleaner Mfg Co N Amityville	N Y
United American Metals Div Brooklyn	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J
Wye Industries Inc Boston	Mass

CHEMICALS, PRINTED CIRCUIT—ETCHING ACIDS

NITINE INC CLIFTON NJ	**ADV PG 119**
Alpha Metals Inc Jersey City	NJ
American Screen Process Equipment Co Chicago	Ill
Conversion Chemical Corp Rockville	Conn
Corco Chemical Corp Fairless Hills	Pa
Dow Chemical Co Midland	Mich
Du Pont De Nemours & Co Inc E I Wilmington	Del
Electronic Space Products Inc Los Angeles	Cal
Enthone Inc New Haven	Conn
EPEC Industries Inc New Bedford	Mass
Etchomatic Inc Waltham	Mass
Film Microelectronics, Inc Burlington	Mass
FMC Corp, Inorganic Chemicals Div New York	N Y
Hull & Co Inc, R O Cleveland	Ohio
Hunt Chemical Corp, Philip A Palisades Park	N J
Injectorall Electronics Corp Great Neck	NY
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
MacDermid Inc Waterbury	Conn
Nitine Inc Clifton	NJ
Oakite Products Inc Berkeley Heights	N J
Sel-Rex Corp & Sub The Meaker Co Nutley	N J
Semi-Elements Inc Saxonburg	Pa
Shipley Co Inc Newton	Mass
Techniques, Inc Englewood	N J
Transene Co Inc Rowley	Mass
Vector Electronic Co Inc Sylmar	Cal

CHEMICALS, PRINTED CIRCUIT—LIGHT-SENSITIVE

WIRE CLOTH ENTERPRISES INC PITTSBURGH	**PA**
Electronic Specialties Co Div Fidelitone Batavia	Ill
EPEC Industries Inc New Bedford	Mass
Etchomatic Inc Waltham	Mass
Film Microelectronics, Inc Burlington	Mass
Hunt Chemical Corp, Philip A Palisades Park	N J
Industrial Chemical Specialties Corp Fairfield	Conn
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
Oakite Products Inc Berkeley Heights	N J
Semi-Elements Inc Saxonburg	Pa
Shipley Co Inc Newton	Mass
Var-Lac-Oid Chemical Co Elizabeth	N J
Wire Cloth Enterprises Inc Pittsburgh	Pa

CHEMICALS, PRINTED CIRCUITS—RESISTS

BOW SOLDER PRODUCTS CO INC NEWARK	**N J**
KRESSILK PRODUCTS INC ELMSFORD	**N Y**
NITINE INC CLIFTON	**NJ**
Acheson Colloids Co Port Huron	Mich
Allaco Products Braintree	Mass
Alpha Metals Inc Jersey City	NJ
Baker Chemical Co, J T Phillipsburg	N J
Bow Solder Products Co Inc Newark	N J
Calfonex Inc Englewood	N J
Chemical Products Corp E Providence	R I
Cramco Solder Alloys Scarborough	Ont
Dry Screen Process Inc Pittsburgh	Pa
Dynaloy, Inc Hanover	N J
Etchomatic Inc Waltham	Mass
Fansteel Inc North Chicago	Ill
Fidelity Chemical Products Corp Newark	N J
Hi-Grade Alloy Corp East Hazelcrest	Ill
Hunt Chemical Corp, Philip A Palisades Park	N J
Industrial Chemical Specialties Corp Fairfield	Conn
Injectorall Electronics Corp Great Neck	NY
Isochem Resins Co Lincoln	RI
Kepro Circuit Systems Inc St Louis	Mo
Kester Solder Co Chicago	Ill
Kressilk Products Inc Elmsford	N Y
Lake Engineering Co Ltd Scarborough	Ont
Lambert Co, Inc Boston	Mass
London Chemical Co Inc Bensenville	Ill
Miller-Stephenson Chemical Co Inc Danbury	Conn
Naz-Dar Co Chicago	Ill
Nitine Inc Clifton	NJ
Oakite Products Inc Berkeley Heights	N J
Sel-Rex Corp & Sub The Meaker Co Nutley	N J
Semi-Elements Inc Saxonburg	Pa
Shipley Co Inc Newton	Mass
Techniques, Inc Englewood	N J
Tra-Con, Inc Medford	Mass
Var-Lac-Oid Chemical Co Elizabeth	N J
Vector Electronic Co Inc Sylmar	Cal
Wornow Process Paint Co Los Angeles	Cal

CHEMICALS—WIRE STRIPPING

***See* Strippers**

CHOKES

***See* Coils**

CHOKES—WAVEGUIDE

PREMIER MICROWAVE CORP PORT CHESTER	**NY**
SYSTRON-DONNER CORP CONCORD	**CAL**
Airtec Inc Roselle	N J
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Canadian Marconi Co Montreal 16	Quebec
Cardwell Condenser Corp Lindenhurst	N Y
Fenwick Paris 10	France
Gabriel Electronics Div Maremont Corp Saco	Maine
Herley Industries, Inc Syosset	N Y
La Radiotechnique Compelec Paris 11e	France
Magnetika Inc Venice	Cal
MCS Corp Monrovia	Cal
Meridian Metalcraft Inc Whittier	Cal
Microlab/F X R Livingston	N J
Microwave Development Labs Inc Needham Heights	Mass
Narda Microwave Corp Plainview	N Y
Omega Laboratories Inc Rowley	Mass
Pem Machine & Tool Co Inc Cranford	N J
Portchester Instrument Corp Port Chester	N Y
Premier Microwave Corp Port Chester	NY
R F Systems Inc Cohasset	Mass
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Victor Microwave Inc Wakefield	Mass
Vitra Instrument & Electronics Corp Syosset	N Y
Waveline Inc West Caldwell	N J

CHOPPERS, D-C TO A-C—DIODE TYPE (CRYSTAL & TUBE)

Arra, Inc Bay Shore	NY
Atlas Coil Corp Ansonia	Conn
Continental Device Corp Hawthorne	Cal
Control Technology Co Inc Long Island City	N Y
Glentek Inc Santa Monica	Cal
Industrial Control Co Farmingdale	N Y
Leclanche SA Ch - 1401 Yverdon	Switz

CHOPPERS, D-C TO A-C—MAGNETIC AMPLIFIER TYPE

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE	**FLA**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
ADC Products Minneapolis	Minn
Airpax Electronics Inc, Cambridge Div Cambridge	Md
Airpax Electronics Inc Seminole Div Fort Lauderdale	Fla
Atlas Coil Corp Ansonia	Conn
Bulova Watch Co Inc Elctns Div Servo Products Woodside	NY
Coilcraft Inc Cary	Ill
Daytron Inc Mountain View	Cal
Electro-Pacific Inc Goleta	Cal
General Magnetics Inc Bloomfield	N J
Impectron Inc New York	N Y
Kollsman Motor Corp Dublin	Pa
Leclanche SA Ch - 1401 Yverdon	Switz
Modelectric Products Corp Asbury Park	N J
Nippon Electric Co Ltd Tokyo	Japan
Qutronic Transformer Corp Oneonta	N Y
Scott Electronics Corp Orlando	Fla
Signet Controls Inc Tulsa	Okla

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Number 60

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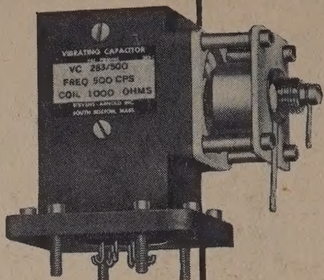
VIBRATING CAPACITORS

A vibrating-reed type capacitance modulator used to measure currents as low as 10^{-16} amperes. Drift never exceeds ±0.2 millivolts per day, noncumulative. Thus it is ideal where stable performance without recalibration is required for periods of a month or more.

Please write for Catalog 523.


VIBRATING CAPACITOR
VC 283/500
FREQ 500 CPS
COIL 1000 OHMS

STEVENS
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QUALITY SINCE 1943

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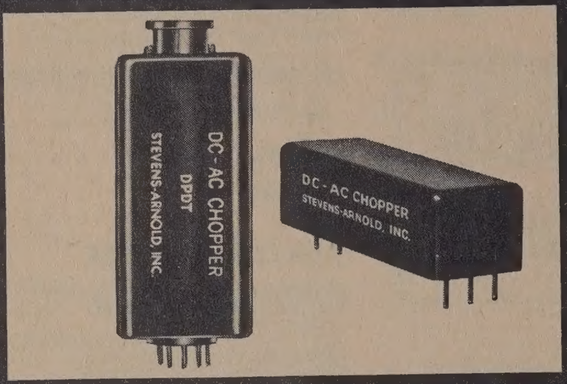
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DPDT
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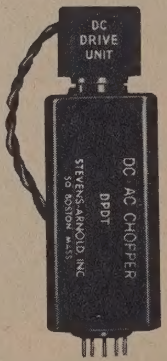
DC-AC CHOPPERS For 50/60/94/120 CPS

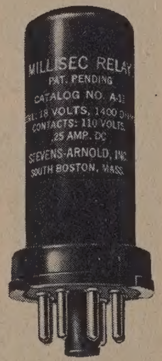
These miniature Choppers are outstanding. Long life is assured by our exclusive twin-contact construction. Noise level is less than 1 microvolt into 100,000 ohms with circuit capabilities of .01 microvolt. Packaged two ways, as shown. Built to rigid commercial specifications, there is a selection of types for all applications. Single pole, double pole, make-before-break, break-before-make, AC or DC drive.

DC DRIVEN CHOPPERS

For portable and transistorized instruments. A modification of our service proven AC driven type, these have a 94 cycle chopping rate to eliminate offsets in DC amplifiers and null-seeking equipment. Drive Unit operates from 12 volts DC.

Please write for Catalog 554.


DC
DRIVE
UNIT
DC AC CHOPPER
DPDT
STEVENS-ARNOLD, INC
SO. BOSTON MASS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MILLISEC RELAYS

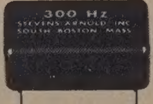
Amazingly fast, from 200 microseconds to 1 millisecond. Available in both commercial and military models, single-pole and double-pole, with shielded or unshielded coils. They are factory sealed and may be mounted in any position.

Please write for Catalog 337

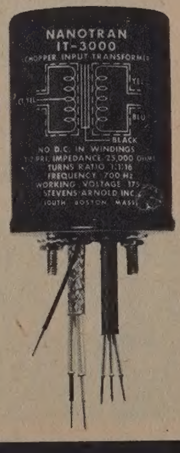
NEW

TONE REEDS

Miniature components for frequency stabilizing and frequency sensing. Used to construct lifetime encoders and decoders. Frequencies from 300-3000 Hz. Please write for Catalog 590.


300 Hz
STEVENS-ARNOLD INC
SOUTH BOSTON MASS

S/A-42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CHOPPER INPUT TRANSFORMER

NANOTRAN ISOLATION TRANSFORMERS

Have −190 dB common mode rejection capabilities plus all other special features needed to minimize thermal noise and microphonics. Highest levels of magnetic shielding supplied. For less exacting applications, less expensive types are available. Please write for Catalog 589.

S K G Associates Inc Boston . . . . Mass
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
Transmagnetics Inc Flushing . . . . N Y
United Transformer Co Div TRW Inc New York . . . . N Y

CHOPPERS, D-C TO A-C—PHOTOELECTRIC

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE . . . . FLA
CLAIREX ELECTRONICS INC NEW YORK . . . . N Y
HEWLETT-PACKARD PALO ALTO . . . . CAL
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Clairex Electronics Inc New York . . . . N Y
Hewlett-Packard Palo Alto . . . . Cal
Industrial Control Co Farmingdale . . . . N.Y
James Electronics Inc Chicago Ill
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Slocum Industries Reseda . . . . Cal

CHOPPERS, D-C TO A-C—REED RELAY TYPE

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
STEVENS-ARNOLD INC SOUTH BOSTON MASS . ADV PG 120
Douglas Randall Inc Westerly . . . . R I
Leeds & Northrup Co North Wales . . . . Pa
Nippon Electric Co Ltd Tokyo . . . . Japan
Slocum Industries Reseda . . . . Cal
Solid State Electronics Corp Sepulveda . . . . Cal
Stevens-Arnold Inc South Boston . . . . Mass
VP Co Pasadena . . . . Cal

CHOPPERS, D-C TO A-C—SOLID STATE

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE . . . . FLA
BELL, INC F W COLUMBUS . . . . OHIO
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
INTRONICS INC NEWTON . . . . MASS
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Arra, Inc Bay Shore . . . . NY
Atlas Coil Corp Ansonia . . . . Conn
Ault, Inc Minneapolis . . . . Minn
Autronics Corp Pasadena . . . . Cal
Barden Co Los Angeles . . . . Cal
Bell, Inc F W Columbus . . . . Ohio
Biddle Co, James G Plymouth Meeting . . . . Pa
Brower Labs Inc Waltham . . . . Mass
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Computer Conversions Corp East Northport . . . . N Y
Continental Device Corp Hawthorne . . . . Cal
Control Technology Co Inc Long Island City . . . . N Y
Daytron Inc Mountain View . . . . Cal
Ferranti, Ltd Lancashire . . . . England
General Electric Co, ECSO Schenectady . . . . N Y
General Laboratory Assoc Inc Norwich . . . . N Y
General Magnetics Inc Bloomfield . . . . N J
Glentek Inc Santa Monica . . . . Cal
Howell Instruments Co Fort Worth . . . . Tex
International Rectifier Semiconductor Div El Segundo . . . . Cal
Intronics Inc Newton . . . . Mass
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kollsman Motor Corp Dublin . . . . Pa
La Radiotechnique Compelec Paris 11e . . . . France
Lear Siegler Inc, Power Equipment Div Cleveland . . . . Ohio
Leclanche SA Ch - 1401 Yverdon . . . . Switz
Leeds & Northrup Co North Wales . . . . Pa
Mayberry Electronics Co Inglewood . . . . Cal
Natel Electronic Industries Inc. Van Nuys . . . . Cal
National Semiconductor Corp Santa Clara . . . . Cal
Nippon Electric Co Ltd Tokyo . . . . Japan
North Electric Co Galion . . . . Ohio
Plessey Co Ltd Ilford Essex . . . . England
Power Control Corp Pittsburgh . . . . Pa
Precision Transformer Anaheim . . . . Cal
Radix Electronics Corp Anaheim . . . . Cal
Rawco Instruments Inc Fort Worth . . . . Tex
Solid State Electronics Corp Sepulveda . . . . Cal
Space Craft Inc Huntsville . . . . Ala
Sprague Electric Co North Adams . . . . Mass
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
Transmagnetics Inc Flushing . . . . N Y
Valradio Ltd Feltham, Mdsx . . . . Eng
Varo Inc, Static Power Div Plano . . . . Tex
VP Co Pasadena . . . . Cal
Zeltex Inc Sub Redcor Corp Concord . . . . Cal

CHOPPERS, D-C TO A-C—TUBE TYPE

Atlas Coil Corp Ansonia . . . . Conn
Valradio Ltd Feltham, Mdsx . . . . Eng
VP Co Pasadena . . . . Cal

CHOPPERS, D-C TO A-C—VIBRATING ARMATURE (ELECTROMAGNETIC)

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE . . . . FLA
ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
OAK MFG CO, DIV OAK ELECTRO/NETICS CORP CRYSTAL LAKE ILL
POLY SCIENTIFIC DIV LITTON INDUSTRIES BLACKSBURG . . . . VA
STEVENS-ARNOLD INC SOUTH BOSTON MASS . ADV PG 120
Adams & Westlake Co Elkhart . . . . Ind
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Anritsu Electric Co Ltd Tokyo . . . . Japan
ATR Electronics, Inc St Paul . . . . Minn
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Cambridge Scientific Industries Inc Cambridge . . . . Md
Collins Electronics Inc Stevensville . . . . Md
Electronic Specialty Co Portland Elctns Div Portland . . . . . Ore
Engineering Associates Dayton . . . . Ohio
Honeywell Industrial Div Fort Washington . . . . Pa
James Electronics Inc Chicago Ill
Oak Mfg Co, Div Oak Electro/Netics Corp Crystal Lake Ill
Poly Scientific Div Litton Industries Blacksburg . . . . VA
Stevens-Arnold Inc South Boston . . . . Mass

CHOPPERS, D-C TO A-C—VIBRATING TRANSISTOR TYPE, D-C DRIVE

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE . . . . FLA
STEVENS-ARNOLD INC SOUTH BOSTON MASS . ADV PG 120
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Control Technology Co Inc Long Island City . . . . N Y
La Radiotechnique Compelec Paris 11e . . . . France
Singer Co, Diehl Div Somerville . . . . N J
Solid State Electronics Corp Sepulveda . . . . Cal
Stevens-Arnold Inc South Boston . . . . Mass
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
VP Co Pasadena . . . . Cal

CHOPPERS—LIGHT

FORK STANDARDS INC WEST CHICAGO ILL
Advanced Kinetics, Inc Costa Mesa . . . . Cal
Brower Labs Inc Waltham . . . . Mass
Fork Standards Inc West Chicago Ill
Heuer Electronics Corp Norwalk . . . . Conn
Isomet Corp Palisades Park . . . . N J
Leclanche SA Ch - 1401 Yverdon . . . . Switz
Melpar Inc, Special Prods Dept Falls Church . . . . Va
Princeton Applied Research Corp Princeton . . . . N J
Ransom Labs, John H Los Angeles . . . . Cal
Schoeffel Instrument Corp Westwood . . . . NJ

CHROMATOGRAPHS

HEWLETT-PACKARD PALO ALTO . . . . CAL
TRACOR INC AUSTIN . . . . TEX
AMBAC Industries Inc Garden City . . . . N Y
Analog Technology Corp Pasadena . . . . Cal
Beckman Instruments Inc Fullerton, ... Cal
Bio-Rad Laboratories Richmond . . . . Cal
Brinkmann Instruments Inc Westbury . . . . N Y
Corning Glass Works Corning . . . . N Y
Farrand Optical Co Inc Bronx . . . . N Y
Gow-Mac Instrument Co Madison . . . . N J
Hewlett-Packard Palo Alto . . . . Cal
Infotronics Corp Houston . . . . Tex
Mine Safety Appliances Co Pittsburgh . . . . Pa
Picker Nuclear White Plains . . . . N Y
Tracor Inc Austin . . . . Tex

CHROMIUM

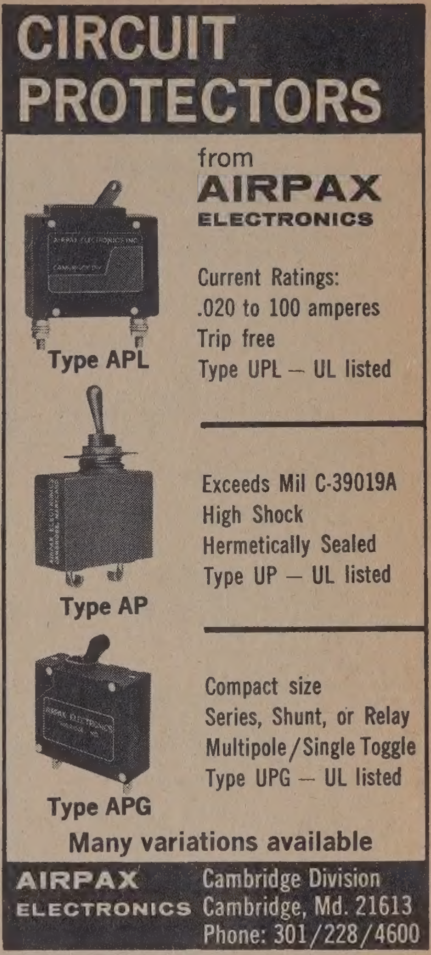
Aceto Chemical Co, Inc Flushing . . . . NY
Active Alloys, Inc Elizabeth . . . . N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights . . . . NY
Bram Metallurgical Chemical Co Philadelphia . . . . Pa
City Chemical Corp New York . . . . N Y
Kawecki Berylco Industries Inc New York . . . . N Y
Koch Light Labs Ltd Colnbrook, Bucks . . . . England
Mackay Inc, A D New York . . . . N Y
Ronson Metals Corp Newark . . . . N J
Semi-Alloys Inc Mt Vernon . . . . N Y
Semi-Elements Inc Saxonburg . . . . Pa
Sylvania Elec Prods Inc, Chem & Met Div Towanda . . . . . . Pa
Union Carbide Corp, Mining & Metals Div New York . . . . . N Y
United Mineral & Chemical Corp New York . . . . N Y
Universal Shellac & Supply Co Inc Brooklyn . . . . N Y
Var-Lac-Oid Chemical Co Elizabeth . . . . N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa

CHRONOGRAPHS & CHRONOSCOPES

HEWLETT-PACKARD PALO ALTO . . . . CAL
Aircraft Components Inc Benton Harbor . . . . Mich
Avtron Mfg, Inc Cleveland . . . . Ohio
Chrono-Log Corp Broomall . . . . Pa
Ebauches SA Dept Oscilloquartz 2001 Neuchatel . . . . . . Switz
Electronic Counters Inc Englewood . . . . N J
Hewlett-Packard Palo Alto . . . . Cal
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Sticht Co Inc, Herman H New York . . . . N Y

CIRCUIT ANALYZERS

***See* Comparators; Testers—Circuit**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ELECTRONICS

Type APL
Current Ratings:
.020 to 100 amperes
Trip free
Type UPL — UL listed

Type AP
Exceeds Mil C-39019A
High Shock
Hermetically Sealed
Type UP — UL listed

Type APG
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Many variations available

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CURTIS DEVELOPMENT & MFG CO MILWAUKEE . . . . . . WIS
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
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SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN . . . . N Y
TRANSFORMER ELECTRONICS CO BOULDER COLO . . . . . . ADV PGS 2nd Cover & Facing Page
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK . . . . N J
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Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Appleton Electric Co Chicago Ill
B & B Motor & Control Corp New York . . . . N Y
Carter Precision Electric Co Skokie Ill
Cole-Hersee Co S Boston . . . . Mass
Curtis Development & Mfg Co Milwaukee . . . . Wis
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Dickson Electronics Corp Scottsdale . . . . Ariz
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Fuji Electric Co Ltd Tokyo . . . . Japan
G C Electronics Div, Hydrometals Inc Rockford Ill
General Electric Co, ECSO Schenectady . . . . N Y
General Equipment & Mfg Co Louisville . . . . Ky
Gulton Industries Inc Metuchen . . . . N J
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I-T-E Imperial Corp Philadelphia . . . . Pa
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Lake Engineering Co Ltd Scarborough . . . . Ont
Littelfuse Inc Des Plaines Ill
Mechanical Products Div Aiken Indus Inc. Jackson . . . . . Mich
Mel-Rain Corp Indianapolis . . . . Ind
Mitsumi Electric Co Ltd Tokyo . . . . Japan
Modern Mfg Co Inc Willow Grove . . . . Pa
Murray Mfg Corp Jericho . . . . NY
Plessey Co Ltd Ilford Essex . . . . England
Ross Co, Milton Southampton . . . . Pa
Ross Engineering Corp Saratoga . . . . Cal
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Square D Co Park Ridge Ill
Sylvania Elec Prods Inc Special Prod Div Danvers . . . . . . Mass
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn . . . . N Y
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Transformer Electronics Co Boulder . . . . Colo
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Westinghouse Electric Corp, Aerospace Electrical Div Lima . . . . Ohio
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Wood Electric Corp Danvers . . . . Mass
Workman Electronic Products Inc Sarasota . . . . Fla
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CIRCUIT DEMONSTRATORS

See **Demonstrators**

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Cambridge Thermionic Corp Cambridge .... Mass
Circuit Technology Inc Farmingdale .... NY
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Ferranti, Ltd Lancashire .... England
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General Electric Co, ECSO Schenectady .... N Y
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ICC Mfg Corp South Hackensack .... N J
Industro Transistor Corp Long Island City .... N Y
Infomax Palo Alto .... Cal
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Jet Electronics Corp Albuquerque .... N M
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Solid State Scientific Corp Montgomery .... Pa
Solitron Devices Inc Transistor Div Riviera Beach .... Fla
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Sylvania Electric Products Inc, Semiconductor Div Woburn .... Mass
Union Carbide Electronics, Semiconductor Dept. San Diego .... Cal
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Akers Electronics Horten .... Norway
Ampar Div Adams-Russell Waltham .... Mass
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Autonetics Div North American Rockwell Corp Anaheim ... Cal
Burroughs Corp Electronic Components Div Plainfield .... N J
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Collins Radio Co, Electronic Components Newport Beach .. Cal
Columbia Components Corp Sub Computer Instr Corp Hempstead .... N Y
CTS Corp Elkhart .... Ind
Dickson Electronics Corp Scottsdale .... Ariz
Electra/Midland Corp Kansas City .... Kan
Ferranti, Ltd Lancashire .... England
Film Microelectronics, Inc Burlington .... Mass
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
HEI Inc Chaska .... Minn
Hewlett-Packard Palo Alto .... Cal
Hybrid Electronics Inc Bedford .... Mass
Industro Transistor Corp Long Island City .... N Y
Infomax Palo Alto .... Cal
Intersil Inc Cupertino .... Cal
Jet Electronics Corp Albuquerque .... N M
Kyodo Electronic Labs Inc Sagamihara shi .... Kanagawa-Ken Jap
La Radiotechnique Compelec Paris 11e .... France
Ledex Div Ledex Inc Dayton .... Ohio
Loral Electronic Systems, Div Loral Corp New York ...... NY
Megadyne Industries Inc Rochester .... N Y
Mial S P A I 20124 Milano .... Italy
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Motorola Semiconductor Products Inc Phoenix .... Ariz
National Semiconductor Corp Santa Clara .... Cal
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Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Quantum Devices Bergenfield .... NJ
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
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Solitron Devices Inc Transistor Div Riviera Beach .... Fla
Sylvania Electric Products Inc, Semiconductor Div Woburn .... Mass
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Varadyne Inc Santa Monica .... Cal
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DALE ELECTRONICS INC COLUMBUS .... NEB
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ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP LOS ANGELES CAL .... ADV PG 122
MITSUMI ELECTRIC CO LTD TOKYO JAPAN ... ADV PG 692
QUANTROL ELECTRONICS INC EL PASO .... TEX
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HEI Inc Chaska .... Minn
Hybrid Electronics Inc Bedford .... Mass
Infomax Palo Alto .... Cal
Intersil Inc Cupertino .... Cal
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles ... Cal
Jet Electronics Corp Albuquerque .... N M
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Loral Electronic Systems, Div Loral Corp New York ...... NY
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Mitsumi Electric Co Ltd Tokyo .... Japan
Motorola Semiconductor Products Inc Phoenix .... Ariz
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Silicon Transistor Corp Garden City .... NY
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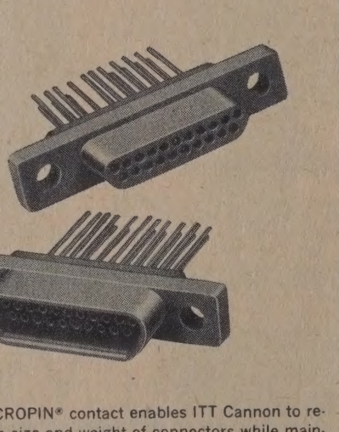
MICROMINIATURE CONNECTORS



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Ledex Div Ledex Inc Dayton .... Ohio
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Computer Central Detroit .... Mich
Electronic Arrays Inc Mountain View .... Cal
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Ferranti, Ltd Lancashire .... England
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Harris-Intertype Corp Cleveland .... Ohio
Industro Transistor Corp Long Island City .... N Y
Infomax Palo Alto .... Cal
Intersil Inc Cupertino .... Cal
Jet Electronics Corp Albuquerque .... N M
Kyodo Electronic Labs Inc
Sagamihara shi .... Kanagawa-Ken Jap
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Motorola Semiconductor Products Inc Phoenix .... Ariz
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NPC Electronics Canoga Park .... Cal
Philco-Ford Corp Washington .... D C
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Plessey Electronics Corp Farmingdale .... N Y
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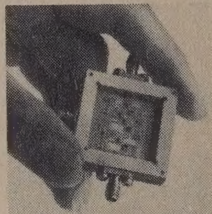

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Burroughs Corp Electronic Components Div Plainfield .... N J
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Ferranti, Ltd Lancashire .... England
General Electric Co, ECSO Schenectady .... N Y
Harris-Intertype Corp Cleveland .... Ohio
Industro Transistor Corp Long Island City .... N Y
Infomax Palo Alto .... Cal
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Kyodo Electronic Labs Inc
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Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Radiation Inc Microelectronics Div Melbourne .... Fla
Radio Corp of America, Electronic Components Harrison .. N J
Solid State Scientific Corp Montgomery .... Pa
Transitron Electronic Corp Wakefield .... Mass

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Ferranti, Ltd Lancashire .... England
Harris-Intertype Corp Cleveland .... Ohio
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Intersil Inc Cupertino .... Cal
Jet Electronics Corp Albuquerque .... N M
Laboratoires De Marcoussis Ctr De Rsch De La CGE
91 Marcoussis .... France
Marconi Co Ltd Chelmsford .... England
Motorola Semiconductor Products Inc Phoenix .... Ariz
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Cal
NPC Electronics Canoga Park .... Cal
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Radio Corp of America, Electronic Components Harrison .. N J
Silicon General Inc Westminister .... Cal
Solid State Scientific Corp Montgomery .... Pa
Sylvania Electric Products Inc, Semiconductor Div
Woburn .... Mass
Transitron Electronic Corp Wakefield .... Mass
Union Carbide Electronics, Semiconductor Dept.
San Diego .... Cal

CIRCUITS, INTEGRATED, MONOLITHIC—LARGE-SCALE, MOS (EXCEPT MEMORIES)

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
American Micro-Systems, Inc Santa Clara .... Cal
Amperex Electronic Corp Semiconductor & Microcircuits Div
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Ferranti, Ltd Lancashire .... England
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp
Hicksville .... N Y
Harris-Intertype Corp Cleveland .... Ohio
Infomax Palo Alto .... Cal
Intersil Inc Cupertino .... Cal
Jet Electronics Corp Albuquerque .... N M
Marconi Co Ltd Chelmsford .... England
Motorola Semiconductor Products Inc Phoenix .... Ariz
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Cal
NPC Electronics Canoga Park .... Cal
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Radio Corp of America, Electronic Components Harrison .. N J
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NIPPON ELECTRIC CO LTD TOKYO JAPAN .... ADV PG 125
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Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Plessey Electronics Corp Farmingdale .... N Y
Radiation Inc Microelectronics Div Melbourne .... Fla
Radio Corp of America, Electronic Components Harrison .. N J
Silicon General Inc Westminister .... Cal
Solid State Scientific Corp Montgomery .... Pa
Transitron Electronic Corp Wakefield .... Mass
Union Carbide Electronics, Semiconductor Dept.
San Diego .... Cal
Varadyne Inc Santa Monica .... Cal

CIRCUITS, INTEGRATED, MONOLITHIC—MEMORY STORAGE, BIPOLAR

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
General Electric Co, ECSO Schenectady .... N Y
Infomax Palo Alto .... Cal
Intersil Inc Cupertino .... Cal
Jet Electronics Corp Albuquerque .... N M
Kyodo Electronic Labs Inc
Sagamihara shi .... Kanagawa-Ken Jap
Marconi Co Ltd Chelmsford .... England
Memory Technology Inc Waltham .... Mass
Motorola Semiconductor Products Inc Phoenix .... Ariz
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Cal
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Radio Corp of America, Electronic Components Harrison .. N J
Solid State Scientific Corp Montgomery .... Pa
Transitron Electronic Corp Wakefield .... Mass
Union Carbide Electronics, Semiconductor Dept.
San Diego .... Cal

CIRCUITS, INTEGRATED, MONOLITHIC— MEMORY STORAGE, MOS

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
American Micro-Systems, Inc Santa Clara	Cal
Autonetics Div North American Rockwell Corp Anaheim	Cal
Electronic Arrays Inc Mountain View	Cal
Ferranti, Ltd Lancashire	England
General Electric Co, ECSO Schenectady	N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville	N Y
Infomax Palo Alto	Cal
Intersil Inc Cupertino	Cal
Kyodo Electronic Labs Inc Sagamihara shi	Kanagawa-Ken Jap
La Radiotechnique Compelec Paris 11e	France
Marconi Co Ltd Chelmsford	England
Memory Technology Inc Waltham	Mass
Motorola Semiconductor Products Inc Phoenix	Ariz
Mullard Ltd London, WC 1	Eng
National Semiconductor Corp Santa Clara	Cal
Philco-Ford Corp Washington	D C
Plessey Co Ltd Ilford Essex	England
Radio Corp of America, Electronic Components Harrison	N J
Solid State Scientific Corp Montgomery	Pa
Union Carbide Electronics, Semiconductor Dept. San Diego	Cal

CIRCUITS, INTEGRATED, MONOLITHIC— MULTIPLEXERS

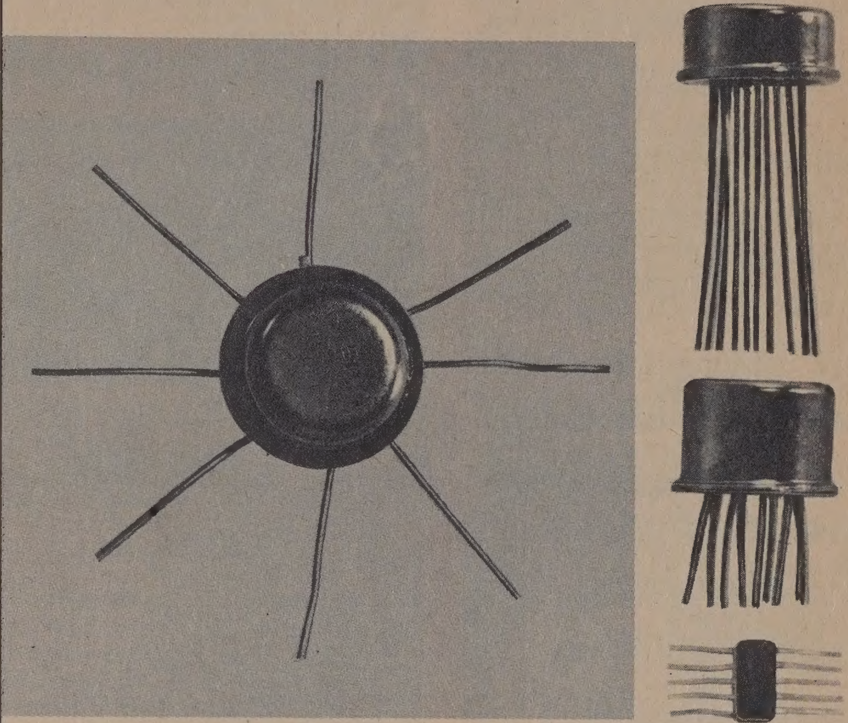
SYLVANIA ELECTRIC PRODUCTS INC, SEMICONDUCTOR DIV WOBURN MASS	**ADV PG 3rd Cover Inleaf**
American Micro-Systems, Inc Santa Clara	Cal
Autonetics Div North American Rockwell Corp Anaheim	Cal
Electronic Arrays Inc Mountain View	Cal
Ferranti, Ltd Lancashire	England
Harris-Intertype Corp Cleveland	Ohio
Industro Transistor Corp Long Island City	N Y
Infomax Palo Alto	Cal
Intersil Inc Cupertino	Cal
Kyodo Electronic Labs Inc Sagamihara shi	Kanagawa-Ken Jap
Motorola Semiconductor Products Inc Phoenix	Ariz
National Semiconductor Corp Santa Clara	Cal
Philco-Ford Corp Washington	D C
Plessey Co Ltd Ilford Essex	England
Radiation Inc Microelectronics Div Melbourne	Fla
Radio Corp of America, Electronic Components Harrison	N J
Sylvania Electric Products Inc, Semiconductor Div Woburn	Mass
Union Carbide Electronics, Semiconductor Dept. San Diego	Cal

CIRCUITS, INTEGRATED, MONOLITHIC— OPERATIONAL AMPLIFIERS

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville	R I
Burr-Brown Research Corp Tucson	Ariz
Data Device Corp Hicksville	N Y
Ferranti, Ltd Lancashire	England
General Electric Co, ECSO Schenectady	N Y
Harris-Intertype Corp Cleveland	Ohio
Industro Transistor Corp Long Island City	N Y
Infomax Palo Alto	Cal
Intersil Inc Cupertino	Cal
La Radiotechnique Compelec Paris 11e	France
Marconi Co Ltd Chelmsford	England
Motorola Semiconductor Products Inc Phoenix	Ariz
Mullard Ltd London, WC 1	Eng
National Semiconductor Corp Santa Clara	Cal
NPC Electronics Canoga Park	Cal
Optical Electronics Inc Tuscon	Ariz
Philbrick/Nexus Research A Teledyne Co Dedham	Mass
Philco-Ford Corp Washington	D C
Plessey Co Ltd Ilford Essex	England
Plessey Electronics Corp Farmingdale	N Y
Radiation Inc Microelectronics Div Melbourne	Fla
Radio Corp of America, Electronic Components Harrison	N J
Shiba Electric Co Ltd Chiyoda-Ku Tokyo	Japan
Silicon General Inc Westminister	Cal
Solid State Scientific Corp Montgomery	Pa
Transitron Electronic Corp Wakefield	Mass
Union Carbide Electronics, Semiconductor Dept. San Diego	Cal
Varadyne Inc Santa Monica	Cal

CIRCUITS, INTEGRATED, MONOLITHIC— SHIFT REGISTERS

SYLVANIA ELECTRIC PRODUCTS INC, SEMICONDUCTOR DIV WOBURN MASS	**ADV PG 3rd Cover Inleaf**
American Micro-Systems, Inc Santa Clara	Cal
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville	R I
Autonetics Div North American Rockwell Corp Anaheim	Cal
Electronic Arrays Inc Mountain View	Cal
Ferranti, Ltd Lancashire	England
Industro Transistor Corp Long Island City	N Y
Infomax Palo Alto	Cal
Intersil Inc Cupertino	Cal
Kyodo Electronic Labs Inc Sagamihara shi	Kanagawa-Ken Jap
Marconi Co Ltd Chelmsford	England
Motorola Semiconductor Products Inc Phoenix	Ariz
Mullard Ltd London, WC 1	Eng



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NPC Electronics Canoga Park	Cal
Philco-Ford Corp Washington	D C
Plessey Co Ltd Ilford Essex	England
Radio Corp of America, Electronic Components Harrison	N J
Sylvania Electric Products Inc, Semiconductor Div Woburn	Mass
Transitron Electronic Corp Wakefield	Mass
Union Carbide Electronics, Semiconductor Dept. San Diego	Cal

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GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
AEI Semiconductors Ltd Lincoln	U K
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville	R I
Collins Radio Co Dallas	Tex
General Electric Co, ECSO Schenectady	N Y
Industro Transistor Corp Long Island City	N Y
Infomax Palo Alto	Cal
Intersil Inc Cupertino	Cal
Marconi Co Ltd Chelmsford	England
Motorola Semiconductor Products Inc Phoenix	Ariz
National Semiconductor Corp Santa Clara	Cal
NPC Electronics Canoga Park	Cal
Optical Electronics Inc Tuscon	Ariz
Philbrick/Nexus Research A Teledyne Co Dedham	Mass
Philco-Ford Corp Washington	D C
Radio Corp of America, Electronic Components Harrison	N J
Silicon General Inc Westminister	Cal
Solid State Scientific Corp Montgomery	Pa
Transitron Electronic Corp Wakefield	Mass
Union Carbide Electronics, Semiconductor Dept. San Diego	Cal
Varadyne Inc Santa Monica	Cal

CIRCUITS—PACKAGED

***See* Modules-Active; Modules Passive**

CIRCUITS, PRINTED WIRING—ETCHED

ACCURATE ELECTRONICS CORP ELYRIA	**OHIO**
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN	**MO**
E D P CORP ORLANDO	**FLA**
KINTRON A DICTAPHONE CO PASADENA CAL	**ADV PG 389**
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN	**ADVPG 98**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
QUANTROL ELECTRONICS INC EL PASO	**TEX**
SUPERIOR CIRCUITS DIV RESALAB INC DALLAS	**TEX**
VEGA PRECISION LABS VIENNA	**VA**
Abacus Electronics Corp Dobbs Ferry	N Y
Accurate Electronics Corp Elyria	Ohio
Advanced Space Age Products Inc Alexandria	Va
Aerolite Electronics Corp Union City	N J
Agard Electronics Corp New Hyde Park	N Y
Aikow Shoji Kaisha Ltd Osaka	Japan
Allegri-Tech Inc Nutley	N J
American Circuit-Tronics Corp Royal Oak	Mich
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville	R I
Ampex Corp Redwood City	Cal
Amtron Inc Sub Republic Corp Midlothian	Ill
Ansley Doylestown	Pa
Applied Devices Corp College Point	n y
Applied Electro Mechanics Inc Alexandria	Va
A R F Products, Inc Raton	N M
Aries Industries Inc Gardena	Cal
Astrodata Inc Anaheim	Cal
Astro-Space Labs Inc Huntsville	Ala
Audn Corp Hamburg	N Y
Avco Electronics Div Cincinnati	Ohio
Avco Systems Div Wilmington	Mass
A V Electronics, Inc Fresno	Cal
Avionics Ltd Niagara-on-the-Lake	Ont
Barnes Engineering Co Santa Ana	Cal
Bartlett Mfg Co Div C P Clare & Co Elk Grove Village	Ill
Brown Engineering-A Teledyne Co Huntsville	Ala
Buckbee-Mears Co. St Paul	Minn
Bunker-Ramo Corp Defense Systems Div Canoga Park	Cal
Bureau of Engraving Inc, Industrial Div Minneapolis	Minn
Burtek Inc Tulsa	Okla
Cambridge Thermionic Corp Cambridge	Mass
Celtic Industries Inc Van Nuys	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chemical & Aerospace Products Inc Wilmington	Cal
Chemical Micro Milling Co Pennsauken	N J
Chrysler Corp, Space Div, Huntsville Oper Huntsville	Ala
Cimron Div Lear Siegler, Inc San Diego	Cal
Cinch-Graphik Div United-Carr Inc City of Industry	Cal
Circuits, Inc Berlin	Conn
Circuit Technology Inc San Carlos	Cal
Circuit-Wise Inc North Haven	Conn
Cleveland Metal Specialties Co Cleveland	Ohio
C & N Electrical Ltd Gosport	Hampshire Eng
Coastal Dynamics Corp Venice	Cal
Comco Plastics Inc Richmond Hill	N Y
Condor Industrial Corp Wheaton	Ill
Conductorlab Inc Groton	Mass
Continental Device Corp Hawthorne	Cal
Control Logic Inc Natick	Mass
Custom Control Mfg Inc Merriam	Kan
Data-Design Labs Cucamonga	Cal
Data Sensors Inc Addison	Ill
DatCon Electronics Corp Mt Vernon	NY
Defiance Circuit Corp Lawrence	Mass
Delta Electronics Ltd Rexdale	Ont
DeSoto Electrical Products DeSoto	Mo
Di/An Controls Inc Boston	Mass
Diceon Electronics Inc Irvine	Cal
Dietz Design Inc Belton	Mo
Digiac Corp Plainview	N Y
Digital Equipment Corp Maynard	Mass
Digital Products San Pedro	Cal
Digital Products Corp Fort Lauderdale	Fla
Digital Sensors Inc Los Angeles	Cal
Diventco Inc New Milford	Conn
Dorsett Electronics Inc Tulsa	Okla
Douglas Electronics Inc San Leandro	Cal
Dry Screen Process Inc Pittsburgh	Pa
Eagle-Picher Industries Inc, Electronics Div Joplin	Mo
Eby Co Hugh H Philadelphia	Pa
E D P Corp Orlando	Fla
Electro-Chemical Engraving Co Inc Bronx	N Y
Electro-Etch Circuits Inc Los Angeles	Cal
Electro-Mechanisms, Inc Nashua	N H
Electronic Communications Inc Div NCR St Petersburg	Fla
Electronic Ideas Inc Wyncote	Pa
Electronic Modules Corp Timonium	Md
Electronic Precision Circuitry Inc Providence	RI
Electronics Inc of Pa Willow Grove	Pa
Electro-Sonics, Inc Spofford	N H
Elgin Electronics Inc Erie	Pa
Elna-Fox Electronics Co Ltd Tokyo	Japan
EPEC Industries Inc New Bedford	Mass
Executive Electronics Inc. Denver	Colo
Fabri-Tek Circuits Inc Baldwin	Wisc
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Ferranti, Ltd Lancashire	England
Flexible Circuits Inc Warrington	Pa
Flexible Products Inc Lakeville	Minn
General Circuits Inc Rochester	N Y
General Components, Inc St Petersburg	Fla
General Dynamics, Electronics Div Rochester	N Y
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena	Cal
Golden Technology Inc Santa Rosa	Cal
Goodyear Aerospace Corp Akron	Ohio
Greene Electronics Inc Cranston	R I
Gridcraft Inc Fort Wayne	Ind
GTI Corp Meadville	Pa
GTI Corp Dytronics Div Leesburg	Ind
Hampden Mfg Co Inc Thompsonville	Conn
Hartzell Electronics Inc Minneapolis	Minn
Hayakawa Electric Co Ltd Osaka	Japan
Industrial Circuits Co Fairfield	N J
Industro Transistor Corp Long Island City	N Y
Infotronics Corp Houston	Tex
Instrumentation & Control Systems Inc Addison	Ill
International Electronic Research Corp Burbank	Cal
Interstate Circuits Inc Rochester	N Y
Itek Corp Lexington	Mass
ITT Aerospace, Optical Div Fort Wayne	Ind
ITT Telecommunications New York	N Y
Jetronics Co Div J L Hall Co Inc Redwood City	Cal
Keil Engineering Products Inc St Louis	Mo
Kintron A Dictaphone Co Pasadena	Cal
Komak Inc Philadelphia	Pa
Lake Engineering Co Ltd Scarborough	Ont
LaPointe Industries, Inc Rockville	Conn
La Radiotechnique Compelec Paris 11e	France
Larago Electronics Mfgrs Inc Melbourne	Fla
Lear Siegler Inc Santa Monica	Cal
Lek-Trol, Inc Grapevine	Tex
Lightning Circuits Niagara on the Lake	Ont
Link Div Singer Co Binghamton	N Y
Litton Industries, Advanced Circuitry Div Springfield	Mo
Litton Industries, Advanced Circuitry Div, West Canoga Park	Cal
Lockheed Electronics Co Plainfield	N J
Lockheed Electronics Co Data Prods Div Los Angeles	Cal
Markon Mfg Inc Englewood	Colo
Methode Electronics Inc Chicago	Ill
Micro Instrument Co Hawthorne	Cal
Mid-West Metal Products Inc Kansas City	Kans
Minco Products Inc Minneapolis	Minn
Molecular Research Inc Palm Beach Gardens	Fla
National Technology, Inc Santa Ana	Cal
Navcor Inc Div KDI Corp Norristown	Pa
Nippon Electric Co Ltd Tokyo	Japan
Northwoods Electronics Corp West Chicago	Ill
Novatronics Inc Pompano Beach	Fla
Oki Electric Industry Co Ltd Tokyo	Japan
Paraplegics Mfg Co Inc Bensenville	Ill
Pelley Co Inc, E H Cambridge	Mass
Pentronics Corp Dorchester	Mass
Performance Measurements Co Detroit	Mich
Philway Products Inc Ashland	Ohio
Photocircuits Corp Glen Cove	N Y
Pho-Tronics Inc Butler	Wisc
Platronics Inc Linden	N J
P M C Electronics Corp Philadelphia	Pa
Power Control Corp Pittsburgh	Pa
Precision Circuits Inc Farmingdale	N J
Printed Circuits Inc Minneapolis	Minn
Printex Corp Mountain View	Cal
Quantrol Electronics Inc El Paso	Tex
Quantum Devices Bergenfield	NJ
Radiation Systems Inc McLean	Va
RCA, Defense Electronic Products Moorestown	N J
RG Circuits Co El Segundo	Cal
Robintech Inc Owego	N Y
Rogers Corp Rogers	Conn
Rosemount Plug-In Inc Nashville	Tenn
Sanders Assoc Inc, Flexprint Div Manchester	N H
Sawyer Associates Inc Chelmsford	Mass
Schjeldahl Co, G T Northfield	Minn
Scientific Data Systems Inc El Segundo	Cal
Sparton Southwest Inc Albuquerque	NM
Stafford Mfg Co Inc Brooklyn	N Y
Stromberg-Carlson Sub Gen Dynamics Rochester	N Y
Summit Engineering Corp Bozeman	Mont
Superior Circuits Div Resalab Inc Dallas	Tex
Superior Plastics Inc Paramount	Cal
Systems Engineering Labs. Ft Lauderdale	Fla
Taft Electrosystems Inc Applied Elctns Div Metuchen	N J
Techniques, Inc Englewood	N J
Technograph,Inc Winston-Salem	N C
Texas Instruments Incorporated Dallas	Tex
Thermal Systems Inc Los Angeles	Cal
Towne Labs Inc Somerville	N J
TPC Div Webb Press Eng Cedarburg	Wisc
Transitron Electronic Corp Wakefield	Mass
Tri-Tronics Lab Inc Euless	Tex
Tyco Printed Circuit Grp Electralab Div Encinitas	Cal
Universal Circuits Inc Minneapolis	Minn
Universal Scientific Corp. Vincennes	Ind
Vactric Control Equipment Ltd Morden	England
Vector Electronic Co Inc Sylmar	Cal
Vega Precision Labs Vienna	Va
Vero Electronics, Inc Farmingdale	N Y
Vero Electronics Ltd Southampton	England
Vitramon Microwave Corp Middlesex	N J
Waber Electronics Inc Philadelphia	Pa
Warlock Systems Inc Danbury	Conn
Warmus Associates Anaheim	Cal
Washington Technological Assoc Inc Rockville	Md
Weecoil Inc Sub Wells Electronics South Bend	Ind
Wyle Laboratories El Segundo	Cal
X Cel Controls Inc South Bend	Ind
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

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KINTRON A DICTAPHONE CO PASADENA CAL	**ADV PG 389**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
SUPERIOR CIRCUITS DIV RESALAB INC DALLAS	**TEX**
American Circuit-Tronics Corp Royal Oak	Mich
Ansley Doylestown	Pa
Avionics Ltd Niagara-on-the-Lake	Ont
Bartlett Mfg Co Div C P Clare & Co Elk Grove Village	Ill
Brown Engineering-A Teledyne Co Huntsville	Ala
Buckbee-Mears Co. St Paul	Minn
Bureau of Engraving Inc, Industrial Div Minneapolis	Minn
Celtic Industries Inc Van Nuys	Cal
Cerro Corp New York	NY
Cerro Sales Corp New York	NY
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chemical & Aerospace Products Inc Wilmington	Cal
Chemical Micro Milling Co Pennsauken	N J
Cinch-Graphik Div United-Carr Inc City of Industry	Cal
Coastal Dynamics Corp Venice	Cal
Data-Design Labs Cucamonga	Cal
Digital Sensors Inc Los Angeles	Cal
Dorsett Electronics Inc Tulsa	Okla
Dry Screen Process Inc Pittsburgh	Pa
Electro Connective Systems Inc Brockton	Mass
Electro-Etch Circuits Inc Los Angeles	Cal
Electro-Mechanisms, Inc Nashua	N H
Electronics Inc of Pa Willow Grove	Pa
EPEC Industries Inc New Bedford	Mass
Flexible Circuits Inc Warrington	Pa
Flexible Products Inc Lakeville	Minn
General Circuits Inc Rochester	N Y
General Components, Inc St Petersburg	Fla
Golden Technology Inc Santa Rosa	Cal
GTI Corp Dytronics Div Leesburg	Ind
Hartzell Electronics Inc Minneapolis	Minn
Industrial Circuits Co Fairfield	N J
Interstate Circuits Inc Rochester	N Y
ITT Aerospace, Optical Div Fort Wayne	Ind
Keil Engineering Products Inc St Louis	Mo
Kintron A Dictaphone Co Pasadena	Cal
Komak Inc Philadelphia	Pa
Lane Industries,Electronics Div North Hollywood	Cal
La Radiotechnique Compelec Paris 11e	France
Lash Labs, Inc San Diego	Cal
Lek-Trol, Inc Grapevine	Tex
Litton Industries, Advanced Circuitry Div Springfield	Mo
Litton Industries, Advanced Circuitry Div, West Canoga Park	Cal
Lockheed Electronics Co Plainfield	N J
Lockheed Electronics Co Data Prods Div Los Angeles	Cal
Markon Mfg Inc Englewood	Colo
Methode Electronics Inc Chicago	Ill
Minco Products Inc Minneapolis	Minn
Nippon Electric Co Ltd Tokyo	Japan
Northwoods Electronics Corp West Chicago	Ill
Orega Electronique & Mecanique Vincennes, Seine	France
Performance Measurements Co Detroit	Mich
Philway Products Inc Ashland	Ohio
Photocircuits Corp Glen Cove	N Y
Printed Circuits Inc Minneapolis	Minn
Printex Corp Mountain View	Cal
Rogers Corp Rogers	Conn
Sanders Assoc Inc, Flexprint Div Manchester	N H
Schjeldahl Co, G T Northfield	Minn
Solitron Devices Inc Tappan	NY
Sparton Southwest Inc Albuquerque	NM
Superior Circuits Div Resalab Inc Dallas	Te
Technograph,Inc Winston-Salem	N
Thermal Systems Inc Los Angeles	Ca
Tyco Printed Circuit Grp Electralab Div Encinitas	Ca
Universal Scientific Corp. Vincennes	In

CIRCUITS, PRINTED WIRING—INLAID, FLUSH OR EMBEDDED

AIRFLYTE ELECTRONICS CO BAYONNE	**N**
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LAPOINTE INDUSTRIES, INC ROCKVILLE CONN	**ADV PG 9**
NIPPON ELECTRIC CO LTD TOKYO	**JAPA**
SUPERIOR CIRCUITS DIV RESALAB INC DALLAS	**TE**
Agard Electronics Corp New Hyde Park	N
Airflyte Electronics Co Bayonne	N
American Circuit-Tronics Corp Royal Oak	Mic
Ansley Doylestown	F
Astrodata Inc Anaheim	C
Atlantic Laminates Inc Franklin	N
Avionics Ltd Niagara-on-the-Lake	O
Bartlett Mfg Co Div C P Clare & Co Elk Grove Village	
Buckbee-Mears Co. St Paul	Mi
Bunker-Ramo Corp Defense Systems Div Canoga Park	C
Bureau of Engraving Inc, Industrial Div Minneapolis	Mi
Celtic Industries Inc Van Nuys	C
Chemical & Aerospace Products Inc Wilmington	C

Circuits, Inc Berlin ... Conn
Circuit Technology Inc San Carlos ... Cal
Circuit-Wise Inc North Haven ... Conn
Cleveland Metal Specialties Co Cleveland ... Ohio
Coastal Dynamics Corp Venice ... Cal
Conductorlab Inc Groton ... Mass
Data Sensors Inc Addison ... Ill
Electro-Etch Circuits Inc Los Angeles ... Cal
Electronic Communications Inc Div NCR St Petersburg ... Fla
Electronic Precision Circuitry Inc Providence ... RI
EPEC Industries Inc New Bedford ... Mass
Fabri-Tek Circuits Inc Baldwin ... Wisc
Flexible Circuits Inc Warrington ... Pa
Flexible Products Inc Lakeville ... Minn
General Circuits Inc Rochester ... N Y
General Components, Inc St Petersburg ... Fla
GTI Corp Meadville ... Pa
GTI Corp Dytronics Div Leesburg ... Ind
Hartzell Electronics Inc Minneapolis ... Minn
Industrial Circuits Co Fairfield ... N J
International Electronic Research Corp Burbank ... Cal
Interstate Circuits Inc Rochester ... N Y
Kintron A Dictaphone Co Pasadena ... Cal
Komak Inc Philadelphia ... Pa
LaPointe Industries, Inc Rockville ... Conn
Litton Industries, Advanced Circuitry Div Springfield ... Mo
Litton Industries, Advanced Circuitry Div, West Canoga Park ... Cal
Lockheed Electronics Co Data Prods Div Los Angeles ... Cal
Markon Mfg Inc Englewood ... Colo
McCullough Aero Corp Hawthorne ... Cal
Metalized Ceramics Corp Providence ... R I
Methode Electronics Inc Chicago ... Ill
Molecular Dielectrics Inc Clifton ... N J
Nippon Electric Co Ltd Tokyo ... Japan
Performance Measurements Co Detroit ... Mich
Philway Products Inc Ashland ... Ohio
Photocircuits Corp Glen Cove ... N Y
Pho-Tronics Inc Butler ... Wisc
Printed Circuits Inc Minneapolis ... Minn
RCA, Defense Electronic Products Moorestown ... N J
Rogers Corp Rogers ... Conn
Solitron Devices Inc Tappan ... NY
Superior Circuits Div Resalab Inc Dallas ... Tex
Taft Electrosystems Inc Applied Elctns Div Metuchen ... N J
Technograph,Inc Winston-Salem ... N C
Techron Corp Boston ... Mass
Thermal Systems Inc Los Angeles ... Cal
Tri-Tronics Lab Inc Euless ... Tex
Tyco Printed Circuit Grp Electralab Div Encinitas ... Cal
Universal Circuits Inc Minneapolis ... Minn
Vactric Control Equipment Ltd Morden ... England
Vitramon Microwave Corp Middlesex ... N J

CIRCUITS, PRINTED WIRING—LAMINATED

KINTRON A DICTAPHONE CO PASADENA CAL . ADV PG 389
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NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
SUPERIOR CIRCUITS DIV RESALAB INC DALLAS TEX ... ADV PG 127
Abacus Electronics Corp Dobbs Ferry ... N Y
Aerovox Corp Distr Sales New Bedford ... Mass
Agard Electronics Corp New Hyde Park ... N Y
American Circuit-Tronics Corp Royal Oak ... Mich
Ansley Doylestown ... Pa
A R F Products, Inc Raton ... N M
Astrodata Inc Anaheim ... Cal
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Avco Electronics Div Cincinnati ... Ohio
Avionics Ltd Niagara-on-the-Lake ... Ont
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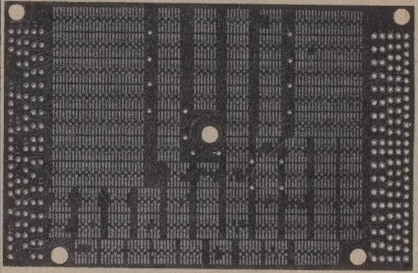
Buckbee-Mears Co. St Paul ... Minn
Bunker-Ramo Corp Defense Systems Div Canoga Park ... Cal
Bureau of Engraving Inc, Industrial Div Minneapolis ... Minn
Celtic Industries Inc Van Nuys ... Cal
Cerro Corp New York ... NY
Cerro Sales Corp New York ... NY
Cerro Wire & Cable Div Cerro Corp New Haven, ... Conn
Chemical & Aerospace Products Inc Wilmington ... Cal
Cinch-Graphik Div United-Carr Inc City of Industry ... Cal
Circuits, Inc Berlin ... Conn
Circuit Technology Inc San Carlos ... Cal
Circuit-Wise Inc North Haven ... Conn
Cleveland Metal Specialties Co Cleveland ... Ohio
Coastal Dynamics Corp Venice ... Cal
Collins Radio Co, Electronic Components Newport Beach ... Cal
Conductorlab Inc Groton ... Mass
Data-Design Labs Cucamonga ... Cal
Dietz Design Inc Belton ... Mo
Diventco Inc New Milford ... Conn
Electro-Etch Circuits Inc Los Angeles ... Cal
Electro-Mechanisms, Inc Nashua ... N H
Electronic Precision Circuitry Inc Providence ... RI
EPEC Industries Inc New Bedford ... Mass
Fabri-Tek Circuits Inc Baldwin ... Wisc
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown ... Md
Ferranti, Ltd Lancashire ... England
Flexible Circuits Inc Warrington ... Pa
Flexible Products Inc Lakeville ... Minn
General Circuits Inc Rochester ... N Y
General Components, Inc St Petersburg ... Fla
General Dynamics, Electronics Div Rochester ... N Y
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena ... Cal
Golden Technology Inc Santa Rosa ... Cal
GTI Corp Dytronics Div Leesburg ... Ind
Hartzell Electronics Inc Minneapolis ... Minn
Industrial Circuits Co Fairfield ... N J
Industro Transistor Corp Long Island City ... N Y
Interstate Circuits Inc Rochester ... N Y
Kintron A Dictaphone Co Pasadena ... Cal
LaPointe Industries, Inc Rockville ... Conn
Lek-Trol, Inc Grapevine ... Tex
Litton Industries, Advanced Circuitry Div Springfield ... Mo
Litton Industries, Advanced Circuitry Div, West Canoga Park ... Cal

If availability, quality or cost is your circuit board problem...

No problem!



Eight-layer circuit board having 0.006-inch internal line width, with more than 1500 0.022-inch-diameter holes in a 4" x 7" area. Overall thickness of this complex circuit board produced by Superior Circuits is less than 0.050 inches.

If tardy delivery is your headache, try us. We're primed with the people, facilities and know-how to go from artwork to finished P/C boards fast! And no skimping on quality.

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If design "producibility" is your hang-up, we can help in design evaluation, in materials selection, in layout, in applying state-of-the-art techniques to fulfill your requirements.

Solve all of your P/C board problems by turning them over to us. Call us. And if you'd like to know more about us, write for our new data kit.

Superior Circuits
Division of Resalab, Inc.

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Lockheed Electronics Co Data Prods Div Los Angeles ... Cal
Markon Mfg Inc Englewood ... Colo
McCullough Aero Corp Hawthorne ... Cal
Metalized Ceramics Corp Providence ... R I
Minco Products Inc Minneapolis ... Minn
National Technology, Inc Santa Ana ... Cal
Nippon Electric Co Ltd Tokyo ... Japan
Northwoods Electronics Corp West Chicago ... Ill
Novatronics Inc Pompano Beach ... Fla
Orega Electronique & Mecanique Vincennes, Seine ... France
Pelley Co Inc, E H Cambridge ... Mass
Performance Measurements Co Detroit ... Mich
Philway Products Inc Ashland ... Ohio
Photocircuits Corp Glen Cove ... N Y
Pho-Tronics Inc Butler ... Wisc
P M C Electronics Corp Philadelphia ... Pa
Precision Circuits Inc Farmingdale ... N J
Printed Circuits Inc Minneapolis ... Minn
Printex Corp Mountain View ... Cal
Radiation Systems Inc McLean ... Va
RCA, Defense Electronic Products Moorestown ... N J
Rogers Corp Rogers ... Conn
Sanders Assoc Inc, Flexprint Div Manchester ... N H
Schjeldahl Co, G T Northfield ... Minn
Scientific Data Systems Inc El Segundo ... Cal
Sonoma Engineering & Rsch Inc Santa Rosa ... Cal
Sparton Southwest Inc Albuquerque ... NM
Superior Circuits Div Resalab Inc Dallas ... Tex
Taft Electrosystems Inc Applied Elctns Div Metuchen ... N J
Technograph,Inc Winston-Salem ... N C
Texas Instruments Incorporated Dallas ... Tex
Thermal Systems Inc Los Angeles ... Cal
Tyco Printed Circuit Grp Electralab Div Encinitas ... Cal
Universal Circuits Inc Minneapolis ... Minn
Ventron Electronics Corp, Controls/Matls Div Bradford ... Pa
Vero Electronics, Inc Farmingdale ... N Y
Warmus Associates Anaheim ... Cal

CIRCUITS, PRINTED WIRING—PLATED

ACCURATE ELECTRONICS CORP ELYRIA ... OHIO
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN ... MO
KINTRON A DICTAPHONE CO PASADENA CAL . ADV PG 389
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN . . ADV PG 98
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
SUPERIOR CIRCUITS DIV RESALAB INC DALLAS ... TEX
Abacus Electronics Corp Dobbs Ferry ... N Y
Accurate Electronics Corp Elyria ... Ohio
Advanced Space Age Products Inc Alexandria ... Va
Agard Electronics Corp New Hyde Park ... N Y
Allegri-Tech Inc Nutley ... N J
American Circuit-Tronics Corp Royal Oak ... Mich
Ansley Doylestown ... Pa
Astrodata Inc Anaheim ... Cal
Audn Corp Hamburg ... N Y
Avco Electronics Div Cincinnati ... Ohio
Avionics Ltd Niagara-on-the-Lake ... Ont
Barnes Engineering Co Santa Ana ... Cal
Bartlett Mfg Co Div C P Clare & Co Elk Grove Village ... Ill
Brown Engineering-A Teledyne Co Huntsville ... Ala
Buckbee-Mears Co. St Paul ... Minn
Bureau of Engraving Inc, Industrial Div Minneapolis ... Minn
Cae Industries Ltd, Elctns Div Montreal 3 ... Que
Celtic Industries Inc Van Nuys ... Cal
Chemical & Aerospace Products Inc Wilmington ... Cal
Chemical Micro Milling Co Pennsauken ... N J
Chrysler Corp, Space Div, Huntsville Oper Huntsville ... Ala
Cimron Div Lear Siegler, Inc San Diego ... Cal
Cinch-Graphik Div United-Carr Inc City of Industry ... Cal
Circuits, Inc Berlin ... Conn
Circuit Technology Inc San Carlos ... Cal
Circuit-Wise Inc North Haven ... Conn
Cleveland Metal Specialties Co Cleveland ... Ohio
Conductorlab Inc Groton ... Mass
Continental Device Corp Hawthorne ... Cal
Data-Design Labs Cucamonga ... Cal
Defiance Circuit Corp Lawrence ... Mass
Diceon Electronics Inc Irvine ... Cal
Dietz Design Inc Belton ... Mo
Digiac Corp Plainview ... N Y
Digital Products Corp Fort Lauderdale ... Fla
Diventco Inc New Milford ... Conn
Dorsett Electronics Inc Tulsa ... Okla
Dry Screen Process Inc Pittsburgh ... Pa
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando ... Fla
Eagle-Picher Industries Inc, Electronics Div Joplin ... Mo
Electro-Etch Circuits Inc Los Angeles ... Cal
Electronic Precision Circuitry Inc Providence ... RI
Electro-Sonics, Inc Spofford ... N H
Elgin Electronics Inc Erie ... Pa
EPEC Industries Inc New Bedford ... Mass
Fabri-Tek Circuits Inc Baldwin ... Wisc
Flexible Circuits Inc Warrington ... Pa
Flexible Products Inc Lakeville ... Minn
General Circuits Inc Rochester ... N Y
General Components, Inc St Petersburg ... Fla
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena ... Cal
Golden Technology Inc Santa Rosa ... Cal
Greene Electronics Inc Cranston ... R I
GTI Corp Dytronics Div Leesburg ... Ind
Hartzell Electronics Inc Minneapolis ... Minn
Hopwood Retinning Corp Malden ... Mass
Industrial Circuits Co Fairfield ... N J
Industro Transistor Corp Long Island City ... N Y
International Electronic Research Corp Burbank ... Cal
Interstate Circuits Inc Rochester ... N Y
ITT Aerospace, Optical Div Fort Wayne ... Ind
Keil Engineering Products Inc St Louis ... Mo
Kintron A Dictaphone Co Pasadena ... Cal
Lake Engineering Co Ltd Scarborough ... Ont
LaPointe Industries, Inc Rockville ... Conn
Larago Electronics Mfgrs Inc Melbourne ... Fla
Lek-Trol, Inc Grapevine ... Tex
Lightning Circuits Niagara on the Lake ... Ont
Litton Industries, Advanced Circuitry Div Springfield ... Mo

Litton Industries, Advanced Circuitry Div, West Canoga Park ... Cal
Lockheed Electronics Co Data Prods Div Los Angeles ... Cal
Markon Mfg Inc Englewood ... Colo
Methode Electronics Inc Chicago ... Ill
Mid-West Metal Products Inc Kansas City ... Kans
Molecular Dielectrics Inc Clifton ... N J
Molecular Research Inc Palm Beach Gardens ... Fla
National Technology, Inc Santa Ana ... Cal
Nippon Electric Co Ltd Tokyo ... Japan
Northwoods Electronics Corp West Chicago ... Ill
Novatronics Inc Pompano Beach ... Fla
Orega Electronique & Mecanique Vincennes, Seine ... France
Pelley Co Inc, E H Cambridge ... Mass
Performance Measurements Co Detroit ... Mich
Philway Products Inc Ashland ... Ohio
Photocircuits Corp Glen Cove ... N Y
Pho-Tronics Inc Butler ... Wisc
Platronics Inc Linden ... N J
P M C Electronics Corp Philadelphia ... Pa
Precision Circuits Inc Farmingdale ... N J
Printed Circuits Inc Minneapolis ... Minn
Printex Corp Mountain View ... Cal
Radiation Systems Inc McLean ... Va
RG Circuits Co El Segundo ... Cal
Robintech Inc Owego ... N Y
Rogers Corp Rogers ... Conn
Sanders Assoc Inc, Flexprint Div Manchester ... N H
Sawyer Associates Inc Chelmsford ... Mass
Schjeldahl Co, G T Northfield ... Minn
Solitron Devices Inc Tappan ... NY
Sonoma Engineering & Rsch Inc Santa Rosa ... Cal
Sparton Southwest Inc Albuquerque ... NM
Stromberg-Carlson Sub Gen Dynamics Rochester ... N Y
Summit Engineering Corp Bozeman ... Mont
Superior Circuits Div Resalab Inc Dallas ... Tex
Superior Plastics Inc Paramount ... Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen ... N J
Techniques, Inc Englewood ... N J
Texas Instruments Incorporated Dallas ... Tex
Thermal Systems Inc Los Angeles ... Cal
Transitron Electronic Corp Wakefield ... Mass
Triad Distributor Div Litton Industries Huntington ... Ind
Tri-Tronics Lab Inc Euless ... Tex
Tyco Printed Circuit Grp Electralab Div Encinitas ... Cal
Universal Circuits Inc Minneapolis ... Minn
Universal Scientific Corp. Vincennes ... Ind
Vero Electronics, Inc Farmingdale ... N Y
Vitramon Microwave Corp Middlesex ... N J
Yaskawa Electric Mfg Co Ltd Tokyo ... Japan

CIRCUITS, PRINTED WIRING—STAMPED OR EMBOSSED

NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
SUPERIOR CIRCUITS DIV RESALAB INC DALLAS ... TEX
Ackerman Gould Co, Inc Oceanside ... N Y
Avionics Ltd Niagara-on-the-Lake ... Ont
Barnes Engineering Co Santa Ana ... Cal
Chemical & Aerospace Products Inc Wilmington ... Cal
Circuit Technology Inc San Carlos ... Cal
Comco Plastics Inc Richmond Hill ... N Y
Dorsett Electronics Inc Tulsa ... Okla
GTI Corp Meadville ... Pa
GTI Corp Dytronics Div Leesburg ... Ind
Industrial Circuits Co Fairfield ... N J
Industro Transistor Corp Long Island City ... N Y
Interstate Circuits Inc Rochester ... N Y
ITT Aerospace, Optical Div Fort Wayne ... Ind
Molecular Research Inc Palm Beach Gardens ... Fla
Molex Products Co Downers Grove ... Ill
Nippon Electric Co Ltd Tokyo ... Japan
Northwoods Electronics Corp West Chicago ... Ill
Printex Corp Mountain View ... Cal
Rogers Corp Rogers ... Conn
Superior Circuits Div Resalab Inc Dallas ... Tex
Sylvania Electric Prods Inc, Parts Div Warren ... Pa
Systems Research Labs Inc Dayton ... Ohio
Thermal Systems Inc Los Angeles ... Cal
Yaskawa Electric Mfg Co Ltd Tokyo ... Japan

CIRCUITS—WOVEN WIRE

Industra Products Inc Fort Wayne ... Ind
Wire Cloth Manufacturers Inc Parsippany ... N J

CIRCUIT TESTERS

***See* Testers—Circuit**

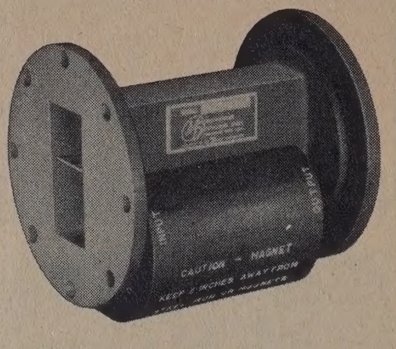
CIRCUIT-TESTING BRIDGES

***See* Comparators**

CIRCULATORS—MICROWAVE

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN IND ... ADV PG 128
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS ... ADV PG 372
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER ... NY
SYSTRON-DONNER CORP CONCORD ... CAL
VEGA PRECISION LABS VIENNA ... VA
Addington Labs Inc Santa Clara ... Cal
Advanced Microwave Labs Sunnyvale ... Cal
Airtron, Div of Litton Industries, Inc Morris Plains ... N J
Alpha Industries Inc Newton Upper Falls ... Mass
Ampar Div Adams-Russell Waltham ... Mass
Arra, Inc Bay Shore ... NY
Astrolab Inc Linden ... N J

circulators and isolators



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Microwave Devices Division,
The Bendix Corporation
Hurricane Road,
Franklin, Indiana 46131
Tel: 317/736-6136

Bendix

Aviation Electric Ltd St Laurent, Montreal ... Que
Bendix Corp, Microwave Devices Div Franklin ... Ind
Control Data Corp. Boston Sp & Def Sys Div East Boston ... Mass
E & M Labs Westlake Village ... Cal
Ewen-Knight Corp East Natick ... Mass
Ferranti Electric Inc Plainview ... N Y
Ferranti, Ltd Lancashire ... England
Ferrotec Inc Newton ... Mass
Gombos Microwave Inc Clifton ... N J
Guide Industries Inc Sun Valley ... Cal
Herley Industries, Inc Syosset ... N Y
La Radiotechnique Compelec Paris 11e ... France
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
MCS Corp Monrovia ... Cal
Melabs Palo Alto ... Cal
Meridian Metalcraft Inc Whittier ... Cal
Microlab/F X R Livingston ... N J
Micromega Div Bunker-Ramo Corp Venice ... Cal
Micronetics Div Teledyne Systems Co San Diego ... Cal
Microphase Corp Cos Cob ... Conn
Microwave Associates Inc Burlington ... Mass
Microwave Development Labs Inc Needham Heights ... Mass
Microwave Products Inc Chatsworth ... Cal
Mitsubishi Electric Corp Tokyo ... Japan
M-O Valve Co Ltd Hammersmith, London W6 ... Eng
Narda Microwave Corp Plainview ... N Y
N-H Microwave Inc Red Bank ... N J
Nippon Electric Co Ltd Tokyo ... Japan
Nippon Ferrite Industrial Co Ltd Tokyo ... Japan
O'Dell Brothers Mountain View ... Cal
Oki Electronics of America, Inc Fort Lauderdale ... Fla
Portchester Instrument Corp Port Chester ... N Y
Premier Microwave Corp Port Chester ... NY
Ramcor Inc Huntington ... NY
Rantec Div Emerson Electric Co Calabasas ... Cal
Raytheon Co, Microwave & Power Tube Div Waltham ... Mass
RCA, Defense Electronic Products Moorestown ... N J
Sedco Systems Inc Farmingdale ... N Y
Solitron/Microwave Long Island City ... N Y
Sonoma Engineering & Rsch Inc Santa Rosa ... Cal
Sperry Microwave Electronics Div Clearwater ... Fla
Symetrics Engineering Corp Satellite Beach ... Fla
Systron-Donner Corp Concord ... Cal
Vega Precision Labs Vienna ... Va
Western Microwave Labs Inc Los Gatos ... Cal

CITIZENS' RADIO

***See* Communication Systems— Citizens' Band; Receivers—Citizens' Band; Transceivers—Citizens' Band; Transmitters—Citizens' Band**

CLAD METALS

***See* Metals—Clad**

CLAMP-ON AMMETERS

***See* Ammeters**

CLAMPS—CABLE

AMPHENOL CHICAGO ... ILL
AUGAT, INC ATTLEBORO ... MASS
BURNDY CORP NORWALK ... CONN
DABURN ELECTRONICS & CABLE CORP BRONX ... N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ... ILL
ZIERICK MFG CORP MOUNT KISCO ... N Y
Acme Model Engineering Co Ridgefield ... N J
Allmetal Screw Products Co Inc Garden City ... N Y
Aluminum Co of America Pittsburgh ... Pa
Amatom Electronic Hardware New Rochelle ... N Y
Amphenol Chicago ... Ill
Appleton Electric Co Chicago ... Ill
Augat, Inc Attleboro ... Mass
Bendix Corp Electrical Components Div Sidney ... N Y
Birnbach Co Inc Freeport ... N Y
Budwig Mfg Co Ramona ... Cal
Burndy Corp Norwalk ... Conn
Cable Electric Products Inc Providence ... R I
Camloc Div Rex Chainbelt Inc Paramus ... N J
Cole-Hersee Co S Boston ... Mass
Commercial Plastics Co Mundelein ... Ill
Daburn Electronics & Cable Corp Bronx ... N Y
Electrovert Inc Mt Vernon ... N Y
Emerson Plastics Corp Bronx ... New York
Estes Engineering Co Gardena ... Cal
Extrudonics Inc New Brunswick ... N J
Fastex Div Illinois Tool Works Des Plaines ... Ill
Federal Screw Products Inc Chicago ... Ill
G C Electronics Div, Hydrometals Inc Rockford ... Ill
Glenair Inc Glendale ... Cal
Gries Reproducer Co Div Coats & Clark Inc New Rochelle ... N Y
Hartwell Corp Los Angeles ... Cal
Heyman Mfg Co Kenilworth ... N J
Holub Industries Inc Sycamore ... Ill
Hydro Molding Co Inc Plattsburgh ... N Y
Ideal-Hellerman Canada Ltd Ajax ... Ontario
Ideal Industries Inc Sycamore ... Ill
Lake Engineering Co Ltd Scarborough ... Ont
Panduit Corp Tinley Park ... Ill
Parker Metal Goods Co Worcester ... Mass
Penn-Union Electric A Teledyne Co Edinboro ... Pa
Phelps Dodge Communications Co North Haven ... Conn
Porter H K Co Electrical Div Pittsburgh ... Pa
Preformed Line Products Co Cleveland ... Ohio
Product Components Corp Hastings-on-Hudson ... N Y
Pyco Inc Penndel ... Pa
Seastrom Mfg Co Inc Glendale ... Cal
Shamban & Co, W S Los Angeles ... Cal
Shigoto Industries Ltd New York ... N Y
Smith Inc, Herman H Brooklyn ... N Y
Stafford Mfg Co Inc Brooklyn ... N Y
Standard Polymer Inc Van Nuys ... Cal
Superior Continental Corp Hickory ... N C
TA Mfg Corp Los Angeles ... Cal
Thomas & Betts Co Elizabeth ... N J
Tinnerman Products Inc Sub Eaton Yale & Towne Cleveland ... Ohio
Trico Fuse Mfg Co Milwaukee ... Wis
Tru-Connector Corp Peabody ... Mass
Vemaline Products Co, Inc Wycoff ... N J
Victor-Bernard Industries Inc Philadelphia ... Pa
Vikoa Inc Hoboken ... N J
Waldom Electronics Inc Chicago ... Ill
Waterbury Pressed Metal Co Waterbury ... Conn
Weckesser Co Inc Chicago ... Ill
Whitso Inc Schiller Park ... Ill
Zierick Mfg Corp Mount Kisco ... N Y

CLAMPS—COMPONENT

AUGAT, INC ATTLEBORO ... MASS
DABURN ELECTRONICS & CABLE CORP BRONX ... N Y
SECS, INC LONG ISLAND CITY ... N Y
Acme Model Engineering Co Ridgefield ... N J
Astrolab Inc Linden ... N J
Atlee Corp Winchester ... Mass
Augat, Inc Attleboro ... Mass
Birtcher Corp, Industrial Div Monterey Park ... Ca
Daburn Electronics & Cable Corp Bronx ... N Y
De-Sta-Co Div Dover Corp Detroit ... Mich
Dynamic Gear Co Inc Amityville ... N Y
Industrial Devices Inc Edgewater ... N
Instru-Lec Corp Mt Vernon ... N
International Electronic Research Corp Burbank ... Ca
Kestler Electronics Rosemead ... Ca
Keystone Electronics Corp New York ... N
Lake Engineering Co Ltd Scarborough ... On
Marman Div Aeroquip Corp Los Angeles ... Ca
Millen Mfg Co Inc, James Malden ... Mas
Naugler Engineering Inc Beverly ... Mas
Panduit Corp Tinley Park ... I
PIC Design Corp East Rockaway ... N
Product Components Corp Hastings-on-Hudson ... N
Samarius, Inc Derby ... Cor
Seastrom Mfg Co Inc Glendale ... C
Secs, Inc Long Island City ... N
Shamban & Co, W S Los Angeles ... C
Shur-Lok Corp Santa Ana ... C
Smith Inc, Herman H Brooklyn ... N
Standard Polymer Inc Van Nuys ... C
Sterling Instrument Div, Designatronics Inc Mineola ... N
TA Mfg Corp Los Angeles ... C
Victor-Bernard Industries Inc Philadelphia ...
Waldom Electronics Inc Chicago ...
Waterbury Pressed Metal Co Waterbury ... Co

CLAMPS—SYNCHRO

SECS, INC LONG ISLAND CITY .... **N Y**
THETA INSTRUMENT CORP FAIRFIELD .... **N J**
TIMBER-TOP INC FREEPORT N Y .... **ADV PG 129**
Amatom Electronic Hardware New Rochelle .... N Y
Dynamic Gear Co Inc Amityville .... N Y
Muirhead Instruments Inc Mountainside .... N J
Precision Mechanisms Corp Westbury .... N Y
Seastrom Mfg Co Inc Glendale .... Cal
Secs, Inc Long Island City .... N Y
Sterling Instrument Div, Designatronics Inc Mineola ..... N Y
Theta Instrument Corp Fairfield .... N J
Timber-Top Inc Freeport .... N Y
Vemaline Products Co, Inc Wycoff .... N J
Waterbury Pressed Metal Co Waterbury .... Conn

CLAMPS—TUBE

AUGAT, INC ATTLEBORO .... **MASS**
DABURN ELECTRONICS & CABLE CORP BRONX .... **N Y**
ZIERICK MFG CORP MOUNT KISCO .... **N Y**
Accurate Spring Mfg Co Div United Greenfield Corp
  River Grove Ill
Atlee Corp Winchester .... Mass
Augat, Inc Attleboro .... Mass
Birtcher Corp, Industrial Div Monterey Park .... Cal
Commercial Plastics Co Mundelein Ill
Daburn Electronics & Cable Corp Bronx .... N Y
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Fastex Div Illinois Tool Works Des Plaines Ill
Holub Industries Inc Sycamore Ill
International Electronic Research Corp Burbank .... Cal
Kestler Electronics Rosemead .... Cal
Lake Engineering Co Ltd Scarborough .... Ont
Marman Div Aeroquip Corp Los Angeles .... Cal
Microdot Inc. Troy .... Mich
Millen Mfg Co Inc, James Malden .... Mass
Panduit Corp Tinley Park Ill
Remler Co San Francisco .... Cal
Sanyo Electric Co Ltd Osaka .... Japan
Seastrom Mfg Co Inc Glendale .... Cal
Smith Inc, Herman H Brooklyn .... N Y
Stafford Mfg Co Inc Brooklyn .... N Y
Staver Co Inc Bay Shore .... N Y
TA Mfg Corp Los Angeles .... Cal
Thomas & Betts Co Elizabeth .... N J
Tinnerman Products Inc Sub Eaton Yale & Towne
  Cleveland .... Ohio
Trought Associates Inc Belleville .... N J
USECO Div, Litton Industries Van Nuys .... Cal
Waterbury Pressed Metal Co Waterbury .... Conn
Weckesser Co Inc Chicago Ill
York Metal Products Inc Long Island City .... N Y
Zierick Mfg Corp Mount Kisco .... N Y

Works in Seconds.

The '70 Electronics Buyers' Guide lets you find people, places, and things in seconds. In the Directory of Manufacturers and Sales Offices, for example, more than 6,000 manufacturers are listed, including addresses, telephone numbers, sales offices, the people to call for information, the total number of engineers and employees and sales volumes. So use your EBG. It works in seconds.

Electronics Buyers' Guide

SAVE ASSEMBLY TIME WITH *SYNCLAMPS*

SYNCLAMPS ARE THE ONLY QUICK-RELEASING, SELF-LOCKING, INSTANT-NULLING SYNCHRO CLAMPS!

Simple screw rotation HALF-TURN LOCKS — UNLOCKS. No special tools, no manual manipulation needed. Meets all requirements of **MIL-E-5272C & MIL-S-901.**

LOWEST INSTALLED COST: 2 minutes **total** time in First Assembly **AND** Nulling!

SPECIFICATIONS

MATERIAL:

CLAMP: Sintered stainless steel, Type 316, Tensile Strength: 60,000 psi, Shear Strength: 25,000 psi

SCREW: Slotted Pan Head, CRES, per MS-35233 and MS-35234

INSERT: Nylon (Polyamide), Type 1, per MIL-M-20693, Natural color (ZYTEL 103)

FINISH: Screw, Treat per MIL-S-5002. Clamp, as cast and tumbled.

OPERATING TEMPERATURE RANGE: −55°C to +125°C.

VIBRATION: 5 to 2000 CPS, 15g accel with size 15 Synchro

SHOCK: 2000 ft. lb. Shock, size 15 Synchro, per MIL-S-901

Exclusive Features:

- Quick-releasing
- Self-locking
- Instant Nulling
- Integral Stops
- Line-to-line clamping Surface
- Rigid captive sub-assembly
- Designed for Maintainability

(Non-exclusive):
- Mounted before the component
- Captive to equipment
- Corrosion-resistant

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Removes oxide films caused by most corrosive atmospheres such as sulphur dioxide, etc. Effective on all metal contacts of most electronic or electric apparatus. Safe to use. Will not harm plastics. Free of acids. Wide operating temperature range.

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155 SULLIVAN LANE, WESTBURY, N. Y. 11590
TEL. 516 742-0278

CLEANER—CONTACT

CAIG LABS INC WESTBURY N Y .... **ADV PG 129**
Barco Chemical Products Co Chicago Ill
Bel-Ray Co, Inc Farmingdale .... N J
Caig Labs Inc Westbury .... N Y
Chemtronics Inc Brooklyn .... NY
Clean Room Products Inc Farmingdale .... N Y
Cobehn Inc Fairfield .... N J
CRC Chemicals Dresher .... Pa
Electronic Chemical Corp Jersey City .... N J
G C Electronics Div, Hydrometals Inc Rockford Ill
Ideal-Hellerman Canada Ltd Ajax .... Ontario
L & R Mfg Co Kearny .... N J
Sprayon Products Inc Bedford Heights .... Ohio

ACCUVOLT

BESPONDER

CINDERELLA

If you're confused over product trade names, locate the source easily in EBG's Trade Name Listing in the back of the green section.

MICRO-CLEANING
FOR PRODUCT RELIABILITY

TEXWIPE™
A disposable 100% cellulose LINT-FREE CLOTH.

OPTIC-CLOTH
for scratch-free cleaning and polishing coated optics.

FOAMWIPE
A three dimensional polyurethane clean room wiper.

"FREON" TF
Aerosol Solvent Cleaner — A selective, precision cleaning agent.
*Reg. Trade Mark of E. I. DuPont Company

MICRO-DUSTER™
A compressed gas precision cleaning instrument.

PRECISION CLEANING KIT
For critical cleaning of magnetic tape equipment

FOAM-SWABS
A non-linting cleaning swab and applicator.

THE TEXWIPE COMPANY
HILLSDALE, NEW JERSEY 07642

CATALOG AVAILABLE UPON REQUEST

CLEANERS—AIR, ELECTRONIC (ELECTROSTATIC)

SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX . N Y
TEXWIPE CO HILLSDALE N J . . . . ADV PG 130
Cambridge Filter Corp Syracuse . . . . N Y
Carey Electronic Engineering Co Springfield . . . . Ohio
Clean Room Products Inc Farmingdale . . . . N Y
Dow Chemical Co Midland . . . . Mich
Electro-Air Div Emerson Electric Co McKees Rocks . . . . . . Pa
Electronic Homes Co New York . . . . N Y
Haydu Products Inc Opa Locka . . . . Fla
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Minn
Koppers Co Inc Pittsburgh . . . . Pa
Perfectaire Equipment Co Cambridge . . . . Mass
Preco Chemical Corp Plainview . . . . N Y
Ramney Industries Corp Farmingdale . . . . N J
Sigma Instruments Inc Braintree . . . . Mass
Simco Co Inc Lansdale . . . . Pa
Spellman High Voltage Electronics Corp Bronx . . . . N Y
Texwipe Co Hillsdale . . . . N J
Thermo Electron Engineering Corp Waltham . . . . Mass
Trion Inc McKees Rocks . . . . Pa
Waterbury Pressed Metal Co Waterbury . . . . Conn
Wheelabrator Corp Wheelabrator Div Mishawaka . . . . Ind

CLEANERS—ULTRASONIC

***See* Ultrasonic Equipment**

CLEANING FLUIDS

***See* Solvents**

CLEANING MACHINES

***See* Machines—Printed-Circuit Production;**
Machines—Cleaning

CLEAN ROOMS

ICA LABORATORIES INC FORT LEE . . . . NJ
Advanced Purification System Co Inc Great Neck . . . . N Y
Agnew-Higgins Inc Garden Grove . . . . Cal
Air Control Inc Norristown . . . . Pa
Baker Co, Inc Biddeford . . . . Me
Birdair Structures Inc Buffalo . . . . NY
Clean Room Products Inc Farmingdale . . . . N Y
Controlled Environment Equipment Corp Brockton . . . . . Mass
Envirco Div Becton, Dickinson & Co Albuquerque . . . . N M
Haydu Products Inc Opa Locka . . . . Fla
ICA Laboratories Inc Fort Lee . . . . NJ
Janel Inc Stirling . . . . N J
Kidde & Co Inc, Walter Belleville . . . . N J
Koppers Co Inc Pittsburgh . . . . Pa
Liberty Industries Inc Berlin . . . . Conn
Matrix Engineering Corp Gardena . . . . Cal
Pure Aire Corp of America Van Nuys . . . . Cal
Ramney Industries Corp Farmingdale . . . . N J
Zicon Corp Mt Vernon . . . . N Y

CLEAN ROOMS—BENCHES & ACCESSORIES

ICA LABORATORIES INC FORT LEE . . . . NJ
TEXWIPE CO HILLSDALE . . . . N J
Adjusto Equipment Co Bowling Green . . . . Ohio
Advanced Purification System Co Inc Great Neck . . . . N Y
Agnew-Higgins Inc Garden Grove . . . . Cal
Air Control Inc Norristown . . . . Pa
American Ultraviolet Co Chatham . . . . NJ
Baker Co, Inc Biddeford . . . . Me
Clauss Cutlery Co Div Alco Standard Corp Fremont . . . . . Ohio
Clean Room Products Inc Farmingdale . . . . N Y
Controlled Environment Equipment Corp Brockton . . . . . Mass
Cramer Industries Inc Kansas City . . . . Kansas
Edcraft Industries Inc Linden . . . . N J
Envirco Div Becton, Dickinson & Co Albuquerque . . . . N M
Flotron Industries Inc El Segundo . . . . Cal
Gelman Instrument Co Ann Arbor . . . . Mich
ICA Laboratories Inc Fort Lee . . . . NJ
Janel Inc Stirling . . . . N J
Kidde & Co Inc, Walter Belleville . . . . N J
Koppers Co Inc Pittsburgh . . . . Pa
K Square Corp Pittsburgh . . . . Pa
Kulicke & Soffa Industries Inc Fort Washington . . . . Pa
Liberty Industries Inc Berlin . . . . Conn
Mann Co, Henry Cornwell Heights . . . . Pa
Matthews Research Inc Alexandria . . . . Va
Millipore Corp Bedford . . . . Mass
3M Company St Paul . . . . Minn
Morgan Adhesives Co Stow . . . . Ohio
Panel Controls Corp Detroit . . . . Mich
Parent Metal Products Philadelphia . . . . Pa
Phoenix Precision Instrument Co, Inc Philadelphia . . . . . . Pa
Pure Aire Corp of America Van Nuys . . . . Cal
Ramney Industries Corp Farmingdale . . . . N J
Sandefur Engineering Co, Inc Lawndale . . . . Cal
Seelye Plastic Fab Inc Minneapolis . . . . Minn
Techni-Tool Inc Philadelphia . . . . Pa
Tenney Engineering Inc Union . . . . N J
Texwipe Co Hillsdale . . . . N J
Workplace Systems, Inc Manchester . . . . N H

CLIPS—ALLIGATOR

DABURN ELECTRONICS & CABLE CORP BRONX . . . . N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
Aerolite Electronics Corp Union City . . . . N J
Amatom Electronic Hardware New Rochelle . . . . N Y
BEC Inc Brooklyn . . . . NY
Birnbach Co Inc Freeport . . . . N Y
Components Specialties Inc Freeport . . . . N Y
Daburn Electronics & Cable Corp Bronx . . . . N Y
Don Mar Products Inc Denver . . . . Colo
Dowa Trading Co Ltd Kobe . . . . Japan
Federal Screw Products Inc Chicago Ill
G C Electronics Div, Hydrometals Inc Rockford Ill
Gelman Instrument Co Ann Arbor . . . . Mich
Mueller Electric Co Cleveland . . . . Ohio
National Tel-Tronics Corp Yonkers . . . . N Y
Penn-Union Electric A Teledyne Co Edinboro . . . . Pa
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Pomona Electronics Co Inc Pomona . . . . Cal
Rye Industries, Inc Mamaroneck . . . . N Y
Shigoto Industries Ltd New York . . . . N Y
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Smith Inc, Herman H Brooklyn . . . . N Y
Triple A Specialty Co Chicago Ill
Vikoa Inc Hoboken . . . . N J
Workman Electronic Products Inc Sarasota . . . . Fla

CLIPS—BATTERY

DABURN ELECTRONICS & CABLE CORP BRONX . . . . N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
ZIERICK MFG CORP MOUNT KISCO . . . . N Y
Acme Model Engineering Co Ridgefield . . . . N J
Allmetal Screw Products Co Inc Garden City . . . . N Y
Anchor Alloys Inc Brooklyn . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Anchor Plastics Co Inc Long Island City . . . . N Y
Anchor Specialty Mfg Co Inc Teterboro . . . . N J
BEC Inc Brooklyn . . . . NY
Cable Electric Products Inc Providence . . . . R I
Cambridge Thermionic Corp Cambridge . . . . Mass
Daburn Electronics & Cable Corp Bronx . . . . N Y
Dowa Trading Co Ltd Kobe . . . . Japan
Essex Intl Corp, Terminal Sales Chicago Ill
Federal Screw Products Inc Chicago Ill
Forney Industries Inc Fort Collins . . . . Colo
G C Electronics Div, Hydrometals Inc Rockford Ill
General Scientific Equipment Co Philadelphia . . . . Pa
Keystone Electronics Corp New York . . . . N Y
Mueller Electric Co Cleveland . . . . Ohio
Penn-Union Electric A Teledyne Co Edinboro . . . . Pa
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Positive Connector Co Derby . . . . Conn
Roosevelt Metal Co Inc Brooklyn . . . . N Y
Rye Industries, Inc Mamaroneck . . . . N Y
Seastrom Mfg Co Inc Glendale . . . . Cal
Shigoto Industries Ltd New York . . . . N Y
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Smith Inc, Herman H Brooklyn . . . . N Y
Star-A Electric Mfg Co Inc Brooklyn . . . . N Y
Triple A Specialty Co Chicago Ill
United American Metals Div Brooklyn . . . . N Y
Workman Electronic Products Inc Sarasota . . . . Fla
Zierick Mfg Corp Mount Kisco . . . . N Y

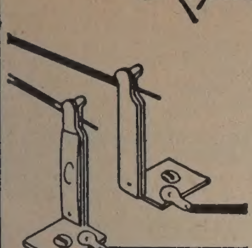
CLIPS—TEST

BARNES CORP LANSDOWNE . . . . PA
DABURN ELECTRONICS & CABLE CORP BRONX . . . . N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
GRAYHILL INC LA GRANGE ILL
RAPID SPECIALTIES CO CHICAGO ILL . . . . ADV PG 131
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
Abacus Electronics Corp Dobbs Ferry . . . . N Y
Anchor Specialty Mfg Co Inc Teterboro . . . . N J
Barnes Corp Lansdowne . . . . Pa
BEC Inc Brooklyn . . . . NY
Birnbach Co Inc Freeport . . . . N Y
Cambridge Thermionic Corp Cambridge . . . . Mass
Cleverly Electrical Works Inc Philadelphia . . . . Pa
Contact, Inc Hudson . . . . N H
Daburn Electronics & Cable Corp Bronx . . . . N Y
Don Mar Products Inc Denver . . . . Colo
Dowa Trading Co Ltd Kobe . . . . Japan
Electronic Training Aids Co Cambridge . . . . Mass
Electro Scientific Industries Inc Portland . . . . Ore
Fairhill Products Corp Philadelphia . . . . Pa
Federal Screw Products Inc Chicago Ill
G C Electronics Div, Hydrometals Inc Rockford Ill
Grayhill Inc La Grange Ill
Industrial Devices Inc Edgewater . . . . N J
Jermyn Industries Sevenoaks . . . . Kent UK
Jettron Products Inc Hanover . . . . N J
Mueller Electric Co Cleveland . . . . Ohio
Penn-Union Electric A Teledyne Co Edinboro . . . . Pa
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Pomona Electronics Co Inc Pomona . . . . Cal
Rapid Specialties Co Chicago Ill
Rye Industries, Inc Mamaroneck . . . . N Y
Seastrom Mfg Co Inc Glendale . . . . Cal
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Smith Inc, Herman H Brooklyn . . . . N Y
Transitron Electronic Corp Wakefield . . . . Mas
Triple A Specialty Co Chicago Il
Vector Electronic Co Inc Sylmar . . . . Ca
Waldom Electronics Inc Chicago Il
Workman Electronic Products Inc Sarasota . . . . Fl

CLOCKS—ATOMIC

***See* Standards**

-Rapid



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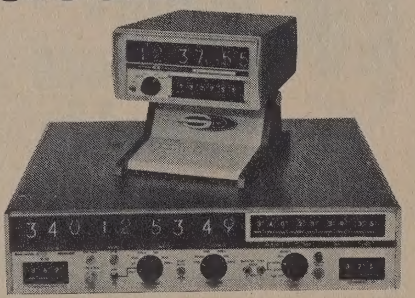
Electronics Buyers' Guide

CLOCKS—DIGITAL

***See Also* Timers**

C & K COMPONENTS INC WATERTOWN	**MASS**
E D P CORP ORLANDO	**FLA**
FORK STANDARDS INC WEST CHICAGO	**ILL**
HAYDON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
HEWLETT-PACKARD PALO ALTO	**CAL**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
SYSTRON-DONNER CORP CONCORD CAL	**ADV PG 131**
TELE-SIGNAL CORP SUB SINGER CO WOODBURY	**N Y**
TRACOR INC AUSTIN	**TEX**
Adcole Corp Waltham	Mass
A D Data Systems Inc Rochester	N Y
Aerospace Research, Inc Boston	Mass
American Time Products, Elctns Div Bulova Watch Co Inc Woodside	N Y
Arizona Modular Electronic Systems Tempe	Ariz
Astrodata Inc Anaheim	Cal
Automation Development Co Culver City	Cal
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Binary Electronics of Cal Div Avionic Structures Inc Anaheim	Cal
Bio-Medical Electronics Inc Rockville	Md
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook	Conn
Bulova Watch Co Inc, Timer Lab Flushing	N Y
California Systems Components, Inc Chatsworth	Cal
Canberra Industries Meriden	Conn
Central Dynamics Ltd Pte Claire	Que
Chrono-Log Corp Broomall	Pa
Cimron Div Lear Siegler, Inc San Diego	Cal
C & K Components Inc Watertown	Mass
Clare & Co, C P Chicago	Ill
Coldspring Instrument Corp Huntington	N Y
Computer Logic Corp Santa Monica	Cal
Control Logic Inc Natick	Mass
Datatron Inc Santa Ana	Cal
DatCon Electronics Corp Mt Vernon	NY
Datum Inc Anaheim	Cal
Digital Equipment Corp Maynard	Mass
DuKane Corp St Charles	Ill
Durant Digital Instruments A C-H Co Milwaukee	Wis
Dynamco Ltd Chertsey Surrey	Eng
Dyna Metric Inc Pasadena	Cal
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Ebauches SA Dept Oscilloquartz 2001 Neuchatel	Switz
E D P Corp Orlando	Fla
Electric Tachometer Corp Philadelphia	Pa
Electronic Modules Corp Timonium	Md
Elesta Ltd Electronics Bad Ragaz	Switzerland
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset	NY
Fisher-Akin Co Manhattan Beach	Cal
Flow Corp Watertown	Mass
Fork Standards Inc West Chicago	Ill
Frequency Electronics Inc New Hyde Park	N Y
General Dynamics, Electronics Div Rochester	N Y
General Oceonology Inc Cambridge	Mass
General Radio Co West Concord	Mass
Gibbs Mfg & Research Corp Janesville	Wis
Hathaway Pacific Palo Alto	Cal
Haydon Co The, A W Waterbury	Conn
Haydon Switch & Instrument Inc Waterbury	Conn
Heuer Electronics Corp Norwalk	Conn
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Hird-Brown Ltd Bolton, Lancs	England
Honeywell Inc, Computer Control Div Framingham	Mass
Humphrey Electronics Inc Raleigh	N C
Infomax Palo Alto	Cal
Information Control Corp El Segundo	Cal
Information Instruments, Inc Ann Arbor	Mich
Instrument Displays Inc Sub Burns & Towne Inc Haverhill	Mass
International Laser Systems Inc Orlando	Fla
Keltron Corp Waltham	Mass
Laben S p A Milan	Italy
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim	Cal
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Machinery Electrification Inc Northboro	Mass
Measurement Technology Corp Canoga Park	Cal
Melpar Inc, Special Prods Dept Falls Church	Va
Milgo Electronic Corp Miami	Fla
Model Rectifier Corp Brooklyn	N Y
Navcor Inc Div KDI Corp Norristown	Pa
Okaya Electric Industries Co Ltd Tokyo	Japan
Parabam Inc Compton	Cal
Pennwood Numechron Co Tymeter Electronics Pittsburgh	Pa
P P M Inc Cleveland	Ohio
Racal Electronics Ltd Bracknell Berks	England
Radix Electronics Corp Anaheim	Cal
Rosemount Plug-In Inc Nashville	Tenn
Sankyo Seiki Mfg Co, Ltd Tokyo	Japan
Sigmatron Inc Goleta	Cal
Signet Controls Inc Tulsa	Okla
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Solari & C/Udine Udine	Italy
Solartron Electronic Group Ltd Farnbrough	England
Solid State Electronics Corp Sepulveda	Cal
Space Craft Inc Huntsville	Ala
Space & Systems Div General Time Corp Stamford	Conn
Spectrum Technology Inc Goleta	Cal
Stelma Inc Stamford	Conn
Systron-Donner Corp Concord	Cal
Takeda Riken Industry Co Ltd Tokyo	Japan
Techmetric Co Redwood City	Cal
Tele-Signal Corp Sub Singer Co Woodbury	N Y
Time-O-Matic Inc Danville	Ill
Towner Systems Co Alameda	Cal
Tracor Inc Austin	Tex
United Systems Corp Dayton	Ohio
Venner Electronics Ltd New Malden, Surrey	Eng
Vidar Corp Mountain View	Cal
Vitro Labs Div Sub Automation Ind Inc Silver Spring	Md
Vitro Labs Div Vitro Corp of America W Orange	N J
Wang Labs Inc Tewksbury	Mass
Watesta Electronics Ltd Loughton Essex	England
Wickes Industries Inc Camden	N J
Zehntel, Inc Berkeley	Cal

Digital clocks



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CLOSED-CIRCUIT TV

***See* TV Systems**

CLOTHING—LINT FREE

Affiliated Manufacturers Inc Whitehouse	N J
Angelica Uniform Co St Louis	Mo
Clean Room Products Inc Farmingdale	N Y
Edmont-Wilson Coshocton	Ohio
General Scientific Equipment Co Philadelphia	Pa
Mann Co, Henry Cornwell Heights	Pa
3M Company St Paul	Minn
Research Associates Inc Linden	N J
Techni-Tool Inc Philadelphia	Pa
Victor Gloves Inc New York	N Y
Vidaro Corp Kent	Ohio

CLUTCHES—FRICTION

AMERICAN PRECISION INDUSTRIES, E/M DIV. EAST AURORA	**NY**
GRAPHITE METALLIZING CORP YONKERS N Y	**ADV PG 65**
NORTHFIELD PRECISION INSTRUMENT CORP ISLAND PARK	**N Y**
American Precision Industries, E/M Div. East Aurora	NY
American Precision Industries Inc East Aurora	NY
Autotronics Inc Joplin	Mo
Cutler-Hammer Inc Milwaukee	Wisc
Dynamic Gear Co Inc Amityville	N Y
Gap Instrument Corp Westbury	N Y
Geartronics Corp N Billerica	Mass
General-Electro Mechanical Corp Buffalo	N Y
Graphite Metallizing Corp Yonkers	N Y
ICC Mfg Corp South Hackensack	N J
Insco Corp Groton	Mass
Kollsman Motor Corp Dublin	Pa
LEM Instrument Corp Farmingdale	N Y
Meltronics Inc Wantagh	NY
Northfield Precision Instrument Corp Island Park	N Y
Precision Mechanisms Corp Westbury	N Y
Precision Specialties Inc Pitman	N J
Siemon Mfg Co Wayne	Ill
Sterling Instrument Div, Designatronics Inc Mineola	N Y
Superite Gear & Instrument Corp Syosset	N Y
Technology Instrument Corp Sub Bowmar Instr Corp Newbury Park	Cal
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
Vogue Instrument Corp Plainview	NY
Warner Electric Brake & Clutch Co Beloit	Wisc

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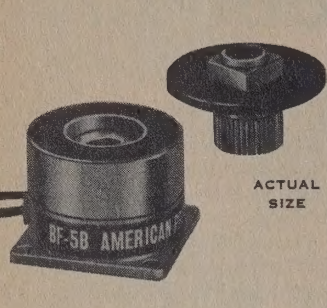
MINIATURE
COMMERCIAL
CLUTCH/BRAKE



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- Instant torque — no burnishing required
- Ease of installation
- Optional coil voltage @ no additional charge
- High quality; low cost; fast delivery

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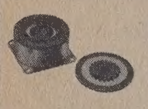
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*API ceramic type friction faces

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- Lightweight—high torque/inertia ratio
- Designed to airborne specifications
- BuOrd sizes 5 thru 18

PANCAKE STYLE
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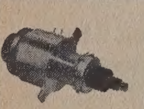
- Compact shape—space utilization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- High torque per unit volume
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- Complies with airborne environmental specs.

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- Precise torque repeatability
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Electroid Corp Union .... N J
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Precision Specialties Inc Pitman .... N J
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Secs, Inc Long Island City .... N Y
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Sterling Instrument Div, Designatronics Inc Mineola .... N Y
Technology Instrument Corp Sub Bowmar Instr Corp Newbury Park .... Cal
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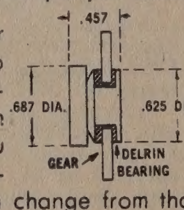

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Midwest Automatic Inc of Iowa Des Moines .... Iowa
Northfield Precision Instrument Corp Island Park .... N Y
PIC Design Corp East Rockaway .... N Y
Precision Mechanisms Corp Westbury .... N Y
Precision Specialties Inc Pitman .... N J
Secs, Inc Long Island City .... N Y
Sterling Instrument Div, Designatronics Inc Mineola .... N Y
Wer Industrial Corp Grand Island .... N Y
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Amicon Corp Polymer Prods Div Lexington .... Mass
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Camie Co Inc St Louis .... Mo
Carboline Co St Louis .... Mo
Castall Research Lab Inc Brockton .... Mass
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Columbia Technical Corp Woodside .... N Y
Coors Porcelain Co Golden .... Colo
Custom Materials Inc Chelmsford .... Mass
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Everlube Corp of America North Hollywood .... Cal
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Huron Industries Port Huron .... Mich
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Isochem Resins Co Lincoln .... RI
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Lithoid Corp Lima .... Pa
Mann Co, Henry Cornwell Heights .... Pa
Metavac Inc Flushing .... N Y
Micro-Circuits Co New Buffalo .... Mich
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Quantum-Joclin Wallingford .... Conn
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Simco Co Inc Lansdale .... Pa
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Techni-Tool Inc Philadelphia .... Pa
Tra-Con, Inc Medford .... Mass
Triad Distributor Div Litton Industries Huntington .... Ind

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Acme Chemicals & Insulation New Haven .... Conn
Adhesive Engineering Co San Carlos .... Cal
Allaco Products Braintree .... Mass
Alpha Metals Inc Jersey City .... NJ
Amicon Corp Polymer Prods Div Lexington .... Mass
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Aracon Electronics Inc New York .... N Y
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Dynaloy, Inc Hanover .... N J
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Fish-Schurman Corp New Rochelle .... N Y
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Fredericks Co Huntingdon Valley .... Pa
Fuller Co, H B St Paul .... Minn
General Plastics Corp Bloomfield .... N J
Grafo Colloids Corp Sharon .... Pa
Hopwood Retinning Corp Malden .... Mass
Huron Industries Port Huron .... Mich
Hysol Div, The Dexter Corp Olean .... N Y
Interelectronics Corp Congers .... N Y
International Electronic Research Corp Burbank .... Ca
Isochem Resins Co Lincoln .... R
Isomet Corp Palisades Park .... N
Kressilk Products Inc Elmsford .... N
Laser Optics Inc Danbury .... Con
Lek-Trol, Inc Grapevine .... Te

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Lundy Electronics & Systems Inc Glen Head ... N Y
Mann Co, Henry Cornwell Heights ... Pa
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Mereco Prods Inc, Div Metachem Resins Corp Cranston ... RI
Metalized Ceramics Corp Providence ... R I
Metaplast Electrochemicals Corp Bronx ... N Y
Metavac Inc Flushing ... N Y
Micro-Circuits Co New Buffalo ... Mich
Motson Co, J Frank Flourtown ... Pa
Multi-Flex Seals Inc Bronx ... N Y
Nuclear Materials & Equipment Corp Apollo ... Pa
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Pervel Industries, Inc Plainfield ... Conn
Philadelphia Quartz Co Philadelphia ... Pa
Pierce & Stevens Chemical Corp Buffalo ... N Y
Product Techniques, Inc Downey ... Cal
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Reon Resistor Corp Yonkers ... N Y
R F Systems Inc Cohasset ... Mass
Roosevelt Metal Co Inc Brooklyn ... N Y
Sel-Rex Corp & Sub The Meaker Co Nutley ... N J
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Shipley Co Inc Newton ... Mass
Sigmatron Inc Goleta ... Cal
Sterling Div. Reichhold Chemicals Inc. Sewickley ... Pa
Stevenson Bro & Co Inc Philadelphia ... Pa
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck ... N Y
Techform Labs Inc Venice ... Cal
Technical Wire Products Inc Cranford ... N J
Techni-Tool Inc Philadelphia ... Pa
Thermal American Fused Quartz Co Montville ... N J
Thermionics Lab Inc Hayward ... Cal
Topper Mfg Co Inc Great Neck ... NY
Tra-Con, Inc Medford ... Mass
Transene Co Inc Rowley ... Mass
United American Metals Div Brooklyn ... N Y
Vacuum Metallizing Van Nuys ... Cal
Vitta Corp Wilton ... Conn
Wornow Process Paint Co Los Angeles ... Cal

COATINGS—FUNGICIDAL

KRESSILK PRODUCTS INC ELMSFORD ... N Y
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Amatom Electronic Hardware New Rochelle ... N Y
Benco Industries Paramount ... Cal
Carboline Co St Louis ... Mo
Castall Research Lab Inc Brockton ... Mass
Chemtronics Inc Brooklyn ... NY
Columbia Technical Corp Woodside ... N Y
Conap Inc Allegany ... N Y
Dolph Co, John C Monmouth Junction ... N J
Dow Chemical Co Midland ... Mich
Emerson & Cuming Inc Canton ... Mass
Everlube Corp of America North Hollywood ... Cal
Franklin Fibre-Lamitex Corp Wilmington ... Del
Furane Plastics Inc Los Angeles ... Cal
G C Electronics Div, Hydrometals Inc Rockford ... Ill
Hi-Lo Mfg Corp Chicago ... Ill
Injectorall Electronics Corp Great Neck ... NY
International Electronic Research Corp Burbank ... Cal
Isochem Resins Co Lincoln ... RI
Kressilk Products Inc Elmsford ... N Y
Mann Co, Henry Cornwell Heights ... Pa
Millen Mfg Co Inc, James Malden ... Mass
Oakite Products Inc Berkeley Heights ... N J
Pierce & Stevens Chemical Corp Buffalo ... N Y
Product Techniques, Inc Downey ... Cal
Sprayon Products Inc Bedford Heights ... Ohio
Sterling Div. Reichhold Chemicals Inc. Sewickley ... Pa
Stevenson Bro & Co Inc Philadelphia ... Pa
Techni-Tool Inc Philadelphia ... Pa
Triad Distributor Div Litton Industries Huntington ... Ind
Tricraft Products Corp Chicago ... Ill
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin ... Pa
Zicon Corp Mt Vernon ... N Y

COATINGS—PROTECTIVE, PERMANENT & SEALING

KRESSILK PRODUCTS INC ELMSFORD ... N Y
TECHNIC INC CRANSTON ... RI
Acme Chemicals & Insulation New Haven ... Conn
Adhesive Engineering Co San Carlos ... Cal
Allaco Products Braintree ... Mass
Allied Research Prods Inc Sub The Richardson Co Baltimore ... Md
Alpha Metals Inc Jersey City ... NJ
American Solder & Flux Co Inc Philadelphia ... Pa
Amicon Corp Polymer Prods Div Lexington ... Mass
Anchor Alloys Inc Brooklyn ... N Y
Anchor Metal Co, Inc Div Brooklyn ... N Y
Aracon Electronics Inc New York ... N Y
Aremco Products Inc Briarcliff Manor ... N Y
Armite Laboratories Los Angeles ... Cal
Armstrong Products Co Inc Warsaw ... Ind
Avco Bay State Abrasives Div Westboro ... Mass
Avco Bay State Abrasives Div Indus Prods Sub Div Westboro ... Mass
Bacon Industries, Inc Watertown ... Mass
Baker Castor Oil Co Bayonne ... N J
Ball Brothers Research Corp Boulder ... Colo
Barrett Varnish Co Cicero ... Ill
Bean Inc, William T Detroit ... Mich
Bel-Ray Co, Inc Farmingdale ... N J
Benco Industries Paramount ... Cal
Biggs Co Santa Monica ... Cal
Biwax Corp Des Plaines ... Ill
Borden Chemical Div Borden Inc New York ... N Y
Calfonex Inc Englewood ... N J
Camie Co Inc St Louis ... Mo
Carboline Co St Louis ... Mo
Castall Research Lab Inc Brockton ... Mass
Cerac Inc Butler ... Wis
Chase & Sons Inc Randolph ... Mass
Chemtronics Inc Brooklyn ... NY
Clarkson Labs Inc Camden ... NJ
Clean Room Products Inc Farmingdale ... N Y
Columbia Research Corp Gaithersburg ... Md
Columbia Technical Corp Woodside ... N Y
Conap Inc Allegany ... N Y
Conversion Chemical Corp Rockville ... Conn
Coors Porcelain Co Golden ... Colo
Cramco Solder Alloys Scarborough ... Ont
CRC Chemicals Dresher ... Pa
Dennis Chemical Co St Louis ... Mo
Devcon Corp Danvers ... Mass
Dilectrix Corp Farmingdale ... N Y
Division Lead Co Summit ... Ill
Dolph Co, John C Monmouth Junction ... N J
Dow Chemical Co Midland ... Mich
Dow Corning Corp Midland ... Mich
Du Pont De Nemours & Co Inc E I Wilmington ... Del
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park ... N J
Dynaloy, Inc Hanover ... N J
Electrolube Ltd Slough ... England
Electro Materials Corp of America Mamaroneck ... N Y
Emerson & Cuming Inc Canton ... Mass
EPD Industries Inc Long Beach ... Cal
Epoxylite Corp South El Monte ... Cal
Etchomatic Inc Waltham ... Mass
Everlube Corp of America North Hollywood ... Cal
Fel Pro Inc Div Felt Products Mfg Co Skokie ... Ill
Fidelity Chemical Products Corp Newark ... N J
Forest City Foam Products Wellington ... Ohio
Fuller Co, H B St Paul ... Minn
Furane Plastics Inc Los Angeles ... Cal
G C Electronics Div, Hydrometals Inc Rockford ... Ill
General Electric Co Silicone Prods Dept Waterford ... N Y
General Plastics Corp Bloomfield ... N J
Goodrich Industrial Prods Co, B F Akron ... Ohio
Hardman Incorporated Belleville ... N J
Hightemp Resins Inc Stamford ... Conn
Hi-Lo Mfg Corp Chicago ... Ill
Hi-Shear Corp Torrance ... Cal
Hopwood Retinning Corp Malden ... Mass
Hughson Chemical Co Div Lord Corp Erie ... Pa
Hunt Chemical Corp, Philip A Palisades Park ... N J
Hysol Div, The Dexter Corp Olean ... N Y
Injectorall Electronics Corp Great Neck ... NY
International Electronic Research Corp Burbank ... Cal
Isochem Resins Co Lincoln ... RI
Koppers Co Inc Pittsburgh ... Pa
Kressilk Products Inc Elmsford ... N Y
Laser Optics Inc Danbury ... Conn
Lash Labs, Inc San Diego ... Cal
Lithoid Corp Lima ... Pa
London Chemical Co Inc Bensenville ... Ill
MacDermid Inc Waterbury ... Conn
Mann Co, Henry Cornwell Heights ... Pa
Marblette Co Div Allied Prods Corp Long Island City ... N Y
Markal Co Chicago ... Ill
Mereco Prods Inc, Div Metachem Resins Corp Cranston ... RI
Micro-Circuits Co New Buffalo ... Mich
Microdot Inc. Troy ... Mich
Millen Mfg Co Inc, James Malden ... Mass
Miller-Stephenson Chemical Co Inc Danbury ... Conn
3M Company St Paul ... Minn
Monsanto Co St Louis ... Mo
National Engineering Products Inc Washington ... D C
Norton Co Worcester ... Mass
Oakite Products Inc Berkeley Heights ... N J
Organic Products Co Irving ... Tex
Pelmor Labs Inc Newtown ... Pa
Pennsylvania Industrial Chemical Corp Clairton ... Pa
Penntube Plastics Co Clifton Heights ... Pa
Philadelphia Quartz Co Philadelphia ... Pa
Photo Chemical Products Inc Santa Monica ... Cal
Pierce & Stevens Chemical Corp Buffalo ... N Y
Polymer Corp Reading ... Pa
Preco Chemical Corp Plainview ... N Y
Products Research & Chemical Corp Burbank ... Cal
Product Techniques, Inc Downey ... Cal
Quantum-Joclin Wallingford ... Conn
Roberts & Associates Inc, E V Culver City ... Cal
Roosevelt Metal Co Inc Brooklyn ... N Y
Saunders Corp Los Angeles ... Cal
Schenectady Chemicals Inc Schenectady ... N Y
Sparta Mfg Co Dover ... Ohio
Sperex Corp Los Angeles ... Cal
Sprayon Products Inc Bedford Heights ... Ohio
Standard Polymer Inc Van Nuys ... Cal
Stauffer Wacker Silicone Corp New York ... N Y
Sterling Div. Reichhold Chemicals Inc. Sewickley ... Pa
Stevenson Bro & Co Inc Philadelphia ... Pa
Techform Labs Inc Venice ... Cal
Technic Inc Cranston ... RI
Techni-Tool Inc Philadelphia ... Pa
Tempil Div Big Three Ind Gas & Equip Co New York ... N Y
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton ... N J
Tra-Con, Inc Medford ... Mass
Transene Co Inc Rowley ... Mass
Tricraft Products Corp Chicago ... Ill
United American Metals Div Brooklyn ... N Y
Vacuum Metallizing Van Nuys ... Cal
Vitta Corp Wilton ... Conn
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin ... Pa
Witco Chemical Corp Isocyanate Prods Div New Castle ... Del
Wornow Process Paint Co Los Angeles ... Cal
Zicon Corp Mt Vernon ... N Y

COATINGS—PROTECTIVE, REMOVABLE

KRESSILK PRODUCTS INC ELMSFORD ... N Y
Allied Research Prods Inc Sub The Richardson Co Baltimore ... Md
Alpha Metals Inc Jersey City ... NJ
Aracon Electronics Inc New York ... N Y
Armite Laboratories Los Angeles ... Cal
Barrett Varnish Co Cicero ... Ill
Bel-Ray Co, Inc Farmingdale ... N J
Benco Industries Paramount ... Cal
Biggs Co Santa Monica ... Cal
Biwax Corp Des Plaines ... Ill
Calfonex Inc Englewood ... N J
Carboline Co St Louis ... Mo
Chase & Sons Inc Randolph ... Mass
Chemclean Corp College Point ... N Y
Chemtronics Inc Brooklyn ... NY
Clarkson Labs Inc Camden ... NJ
Columbia Technical Corp Woodside ... N Y
Conap Inc Allegany ... N Y
CRC Chemicals Dresher ... Pa
Daubert Chemical Co Oak Brook ... Ill
Dennis Chemical Co St Louis ... Mo
Dolph Co, John C Monmouth Junction ... N J
Dow Chemical Co Midland ... Mich
Du Pont De Nemours & Co Inc E I Wilmington ... Del
Electrolube Ltd Slough ... England
Electronic Chemical Corp Jersey City ... N J
Emerson & Cuming Inc Canton ... Mass
EPD Industries Inc Long Beach ... Cal
Etchomatic Inc Waltham ... Mass
Everlube Corp of America North Hollywood ... Cal
Fidelity Chemical Products Corp Newark ... N J
General Electric Co Silicone Prods Dept Waterford ... N Y
Goodrich Industrial Prods Co, B F Akron ... Ohio
Humble Oil & Refining Co Houston ... Tex
Hunt Chemical Corp, Philip A Palisades Park ... N J
Industrial Formulations Corp Plainview ... N Y
Isochem Resins Co Lincoln ... RI
Kano Labs, Inc Nashville ... Tenn
Kester Solder Co Chicago ... Ill
Koppers Co Inc Pittsburgh ... Pa
Kressilk Products Inc Elmsford ... N Y
Laser Optics Inc Danbury ... Conn
Lithoid Corp Lima ... Pa
London Chemical Co Inc Bensenville ... Ill
Mann Co, Henry Cornwell Heights ... Pa
Marblette Co Div Allied Prods Corp Long Island City ... N Y
Markal Co Chicago ... Ill
Mereco Prods Inc, Div Metachem Resins Corp Cranston ... RI
3M Company St Paul ... Minn
Oakite Products Inc Berkeley Heights ... N J
Optics Electronics Corp Dallas ... Tex
Pennsylvania Industrial Chemical Corp Clairton ... Pa
Product Techniques, Inc Downey ... Cal
Scherr Tumico Inc St James ... Minn
Semi-Alloys Inc Mt Vernon ... N Y
Sperex Corp Los Angeles ... Cal
Stauffer Wacker Silicone Corp New York ... N Y
Stevenson Bro & Co Inc Philadelphia ... Pa
Universal Shellac & Supply Co Inc Brooklyn ... N Y
Vacuum Metallizing Van Nuys ... Cal
Wornow Process Paint Co Los Angeles ... Cal
Zeva Electric Corp Hanover ... N J

COATINGS—SALT SPRAY RESISTANT

KRESSILK PRODUCTS INC ELMSFORD ... N Y
Acheson Colloids Co Port Huron ... Mich
Allaco Products Braintree ... Mass
Allied Research Prods Inc Sub The Richardson Co Baltimore ... Md
Amatom Electronic Hardware New Rochelle ... N Y
Aracon Electronics Inc New York ... N Y
Armite Laboratories Los Angeles ... Cal
Armstrong Products Co Inc Warsaw ... Ind
Bel-Ray Co, Inc Farmingdale ... N J
Benco Industries Paramount ... Cal
Biggs Co Santa Monica ... Cal
Broomer Research Corp Plainview ... N Y
Calfonex Inc Englewood ... N J
Camie Co Inc St Louis ... Mo
Carboline Co St Louis ... Mo
Castall Research Lab Inc Brockton ... Mass
Chase & Sons Inc Randolph ... Mass
Chemtronics Inc Brooklyn ... NY
Clean Room Products Inc Farmingdale ... N Y
Columbia Research Corp Gaithersburg ... Md
Columbia Technical Corp Woodside ... N Y
Conap Inc Allegany ... N Y
Coors Porcelain Co Golden ... Colo
CRC Chemicals Dresher ... Pa
Devcon Corp Danvers ... Mass
Dilectrix Corp Farmingdale ... N Y
Dolph Co, John C Monmouth Junction ... N J
Dow Corning Corp Midland ... Mich
Electrolube Ltd Slough ... England
Electronic Chemical Corp Jersey City ... N J
Emerson & Cuming Inc Canton ... Mass
EPD Industries Inc Long Beach ... Cal
Epoxylite Corp South El Monte ... Cal
Everlube Corp of America North Hollywood ... Cal
Franklin Fibre-Lamitex Corp Wilmington ... Del
Fuller Co, H B St Paul ... Minn
Furane Plastics Inc Los Angeles ... Cal
General Compounds Co, Div Kai R Kuhl Co Los Angeles ... Cal
General Electric Co Silicone Prods Dept Waterford ... N Y
General Plastics Corp Bloomfield ... N J
Hardman Incorporated Belleville ... N J
Hightemp Resins Inc Stamford ... Conn
Hi-Lo Mfg Corp Chicago ... Ill
Hopwood Retinning Corp Malden ... Mass
Hughson Chemical Co Div Lord Corp Erie ... Pa
Humble Oil & Refining Co Houston ... Tex
Hysol Div, The Dexter Corp Olean ... N Y
Industrial Optics Div Yardney Razdow Labs Newark ... N J
International Electronic Research Corp Burbank ... Cal
Isochem Resins Co Lincoln ... RI
Koppers Co Inc Pittsburgh ... Pa
Kressilk Products Inc Elmsford ... N Y
Laser Optics Inc Danbury ... Conn
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ... Pa
Lithoid Corp Lima ... Pa
Mann Co, Henry Cornwell Heights ... Pa

Markal Co Chicago Ill
Mereco Prods Inc, Div Metachem Resins Corp Cranston . . . . RI
Micro-Circuits Co New Buffalo . . . . . Mich
Miller-Stephenson Chemical Co Inc Danbury . . . . . Conn
3M Company St Paul . . . . . Minn
Oakite Products Inc Berkeley Heights . . . . . N J
Optics Electronics Corp Dallas . . . . . Tex
Pennsylvania Industrial Chemical Corp Clairton . . . . . Pa
Perfectaire Equipment Co Cambridge . . . . . Mass
Photo Chemical Products Inc Santa Monica . . . . . Cal
Polymer Corp Reading . . . . . Pa
Preco Chemical Corp Plainview . . . . . N Y
Product Techniques, Inc Downey . . . . . Cal
R F Systems Inc Cohasset . . . . . Mass
Roberts & Associates Inc, E V Culver City . . . . . Cal
Saunders Corp Los Angeles . . . . . Cal
Semi-Alloys Inc Mt Vernon . . . . . N Y
Shamban & Co, W S Los Angeles . . . . . Cal
Spectrum Systems, Inc Waltham . . . . . Mass
Sperex Corp Los Angeles . . . . . Cal
Standard Polymer Inc Van Nuys . . . . . Cal
Sterling Div. Reichhold Chemicals Inc. Sewickley . . . . . Pa
Stevenson Bro & Co Inc Philadelphia . . . . . Pa
Tra-Con, Inc Medford . . . . . Mass
Tricraft Products Corp Chicago Ill
Tri-Point Industries Inc Commack . . . . . NY
Vacuum Metallizing Van Nuys . . . . . Cal
Vitro Labs Div Vitro Corp of America W Orange . . . . . N J
Wornow Process Paint Co Los Angeles . . . . . Cal

COATINGS—VACUUM METALIZED

INTERELECTRONICS CORP CONGERS . . . . . N Y
Alcatel Paris 8eme . . . . . France
Allen-Jones Electronics Div WEMS Inc Gardena . . . . . Cal
American Optical Corp Tech Prods Gr Laser Prods Dept Southbridge . . . . . Mass
Angstrom Technology Inc Rochester . . . . . NY
Associated Engineering & Mfg Corp Glen Ridge . . . . . N J
Bausch & Lomb Inc Rochester . . . . . N Y
Broomer Research Corp Plainview . . . . . N Y
Coors Porcelain Co Golden . . . . . Colo
Denton Vacuum Inc Cherry Hill . . . . . N J
Edwards High Vacuum Inc Grand Island . . . . . N Y
Edwards High Vacuum (Canada) Ltd Oakville . . . . . Ont
Eimac Div, Varian Associates San Carlos . . . . . Cal
Ferranti, Ltd Lancashire . . . . . England
Film Components Div Reon Resister Corp Yonkers . . . . . N Y
Film Microelectronics, Inc Burlington . . . . . Mass
Fish-Schurman Corp New Rochelle . . . . . N Y
Franklin Fibre-Lamitex Corp Wilmington . . . . . Del
General Electrodynamics Corp Garland . . . . . Tex
General Optics Inc Bloomfield . . . . . N J
Green Rectifier Corp Fair Lawn . . . . . N J
Grimes Mfg Co Urbana . . . . . Ohio
High Vacuum Equipment Corp Hingham . . . . . Mass
Hi-Shear Corp Torrance . . . . . Cal
Howmet Corp Misco Div Muskegon . . . . . Mich
Industrial Optics Div Yardney Razdow Labs Newark . . . . . N J
Infrared Industries Inc Santa Barbara . . . . . Cal
Interelectronics Corp Congers . . . . . N Y
Isomet Corp Palisades Park . . . . . N J
Jarrell-Ash Co Waltham . . . . . Mass
Kinney Vacuum Co Boston . . . . . Mass
Laser Optics Inc Danbury . . . . . Conn
Lek-Trol, Inc Grapevine . . . . . Tex
Leybold-Heraeus, Inc. Monroeville . . . . . Pa
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge . . . Pa
Lundy Electronics & Systems Inc Glen Head . . . . . N Y
Materials Research Corp Orangeburg . . . . . N Y
Mati Elgeet Div Rochester . . . . . NY
Meller Co, Adolf Providence . . . . . R I
Metal Ceram Inc Mount Vernon . . . . . N Y
Metavac Inc Flushing . . . . . N Y
New York Testing Labs Inc Westbury . . . . . N Y
Nuclear Materials & Equipment Corp Apollo . . . . . Pa
Optical Coating Lab Inc Santa Rosa . . . . . Cal
Optics Technology Inc Palo Alto . . . . . Cal
Oriel-Optics Corp Stamford . . . . . Conn
O & S Research Inc Riverton . . . . . N J
Pacific Universal Products Corp Pasadena . . . . . Cal
Perkin-Elmer Corp, Optical Group Norwalk . . . . . Conn
Ransom Labs, John H Los Angeles . . . . . Cal
Reon Resistor Corp Yonkers . . . . . N Y
Schjeldahl Co, G T Northfield . . . . . Minn
Semi-Alloys Inc Mt Vernon . . . . . N Y
Semicon Associates Inc Lexington . . . . . Ky
Sigmatron Inc Goleta . . . . . Cal
Silver Glo Picture Tubes Ltd Edmonton . . . . . Alb
Solitron/Microwave Long Island City . . . . . N Y
Spectrum Systems, Inc Waltham . . . . . Mass
Tek-Wave Inc Princeton . . . . . N J
Tenvac, Inc Pembroke . . . . . Mass
Thermionics Lab Inc Hayward . . . . . Cal
Towne Labs Inc Somerville . . . . . N J
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . . England
Ulvac Corp Tokyo . . . . . Japan
United Mineral & Chemical Corp New York . . . . . N Y
Universal Shellac & Supply Co Inc Brooklyn . . . . . N Y
Vac-Ohm Electronics Co Haddonfield . . . . . N J
Vacuum Industries Inc Sub GCA Corp Somerville . . . . . Mass
Vacuum Metallizing Van Nuys . . . . . Cal
Veeco Andar Sub Veeco Palo Alto . . . . . Cal
Zenith Optical Laboratory Dobbs Ferry . . . . . N Y

COAXIAL ATTENUATORS

***See* Attenuators—Microwave**

COAXIAL CABLES

***See* Cables—Coaxial**

COAXIAL FILTERS

***See* Filters**

COAXIAL PLUGS

***See* Plugs—Coaxial**

COBALT

Aceto Chemical Co, Inc Flushing . . . . . NY
Active Alloys, Inc Elizabeth . . . . . N J
Anchor Alloys Inc Brooklyn . . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . . N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . . N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights . . . . . NY
Bram Metallurgical Chemical Co Philadelphia . . . . . Pa
Cerac Inc Butler . . . . . Wis
City Chemical Corp New York . . . . . N Y
Cross Co, H Weehawken . . . . . N J
Electronic Space Products Inc Los Angeles . . . . . Cal
Elgiloy Co Elgin Ill
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . . . Pa
Koch Light Labs Ltd Colnbrook, Bucks . . . . . England
Lockheed-Georgia Co Marietta . . . . . Ga
Mackay Inc, A D New York . . . . . N Y
Materials Research Corp Orangeburg . . . . . N Y
NPC Electronics Canoga Park . . . . . Cal
Nuclear Equipment Chemical Corp Farmingdale . . . . . N Y
Pfizer Minerals, Pigments & Metals Div New York . . . . . NY
Roosevelt Metal Co Inc Brooklyn . . . . . N Y
Semi-Alloys Inc Mt Vernon . . . . . N Y
Semi-Elements Inc Saxonburg . . . . . Pa
United American Metals Div Brooklyn . . . . . N Y
United Mineral & Chemical Corp New York . . . . . N Y
Var-Lac-Oid Chemical Co Elizabeth . . . . . N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa

CODE CONVERTERS

***See* Converters—Signal**

CODERS—COMPUTERS

***See* Encoders**

CODING EQUIPMENT

***See* Keyers**

COEFFICIENT METALS (TEMPERATURE-EXPANSION)

American Silver Co Div Flushing . . . . . N Y
Bram Metallurgical Chemical Co Philadelphia . . . . . Pa
Carpenter Technology Corp Reading . . . . . Pa
Cerro Corp New York . . . . . NY
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark . . . . . N J
Driver-Harris Co Harrison . . . . . N J
Hamilton Precision Metals Div Hamilton Watch Co Lancaster . . . . . Pa
Inter-Technical Group Inc Irvington-on-Hudson . . . . . N Y
Metal Ceram Inc Mount Vernon . . . . . N Y
Rodney Metals A Teledyne Co New Bedford . . . . . Mass
Semi-Alloys Inc Mt Vernon . . . . . N Y
Spectra-Mat Inc Watsonville . . . . . Cal
Thermo-Physics Corp Cambridge . . . . . Mass
Var-Lac-Oid Chemical Co Elizabeth . . . . . N J

COIL BOBBINS

***See* Bobbins**

COIL FORMS

***See* Forms—Coil**

COILS—CHOKE, A-F

ALLEN AVIONICS INC,DIV A K ALLEN CO INC MINEOLA . . . . . N Y
CAPTOR CORP TIPP CITY . . . . . OHIO
DALE ELECTRONICS INC COLUMBUS . . . . . NEB
DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK . . . . . ADV PG 138
DECOURSEY ENGINEERING LAB CULVER CITY . . . . . CAL
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA N Y . . . . . ADV PG 139
ENDICOTT COIL CO INC BINGHAMTON . . . . . N Y
HISONIC INC OLATHE . . . . . KAN
K G S ELECTRONICS INC PASADENA . . . . . CAL
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN . . ADV PG 98
NORTH HILLS ELECTRONICS INC GLEN COVE . . . . . N Y
NOTHELFER WINDING LABS INC TRENTON . . . . . N J
PCA ELECTRONICS INC SEPULVEDA . . . . . CAL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y . . . . . ADV PG 471
TOROTEL, INC GRANDVIEW MO . . . . . ADV PG 136
TORWICO ELECTRONICS, INC LAKEWOOD N J . ADV PG 140
UNITED TRANSFORMER CO DIV TRW INC NEW YORK . . N Y
ACDC Electronics, Inc Burbank . . . . . Cal
AC Electronics Co Los Angeles . . . . . Cal
ADC Products Minneapolis . . . . . Minn
Aetna Electronics Corp North Branch . . . . . N J
Aikow Shoji Kaisha Ltd Osaka . . . . . Japan
Allen Avionics Inc,Div A K Allen Co Inc Mineola . . . . . N Y
American Trans-Coil Corp Richmond Hill . . . . . NY
Amk Electronics Co Inc Edison . . . . . N J
Atlas Coil Corp Ansonia . . . . . Conn
Avco Electronics Div Cincinnati . . . . . Ohio
Barker & Williamson Div Sunshine Mining Co Bristol . . . . . Pa
Barwood Electronics, Inc Glendale . . . . . Cal
Basler Electric Co Highland Ill
Bayly Engineering Ltd Ajax . . . . . Ont
Bourns Pacific Magnetic Corp Romoland . . . . . Cal
Brown Engineering-A Teledyne Co Huntsville . . . . . Ala
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . . . . N Y
Canadian Marconi Co Montreal 16 . . . . . Quebec
Captor Corp Tipp City . . . . . Ohio
Carol Electronics Div Weeco Inc Martinsburg . . . . . W Va
CBC Industries Inc Philadelphia . . . . . Pa
Central Coil Co Inc Martinsville . . . . . Ind
Central Transformer Co Chicago Ill
Chu Associates Inc Littleton . . . . . Mass
Coast Coil Co Los Angeles . . . . . Cal
Coil Co of America Inc Northvale . . . . . N J
Components Corp Chicago Ill
Component Specialties Corp Temple City . . . . . Cal
Computer Components Inc Jamaica . . . . . N Y
CP Electronics Inc Columbus . . . . . Ind
Cycle Transformer Corp West Orange . . . . . N J
Dale Electronics Inc Columbus . . . . . Neb
Dale Electronics Inc, Sioux Div Yankton . . . . . S Dak
DeCoursey Engineering Lab Culver City . . . . . Cal
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Diamond Coils Inc Union City . . . . . N J
Dietz Design Inc Belton . . . . . Mo
Dinion Coil Co Inc Caledonia . . . . . N Y
Dormeyer Industries Chicago Ill
Douglas Randall Inc Westerly . . . . . R I
Dresser Systems, Inc Houston . . . . . Tex
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electrical Windings Inc Chicago Ill
Electronic Transformer Corp Paterson . . . . . N J
Electro Winders Co Inc Covina . . . . . Cal
Elgin Electronics Inc Erie . . . . . Pa
Endicott Coil Co Inc Binghamton . . . . . N Y
Epco Products Inc Wallkill . . . . . N Y
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Florida Transformer Co, Transitron Sub De Leon Springs . . Fla
Forest Electric Co Melrose Park Ill
Freed Transformer Co Inc Brooklyn . . . . . N Y
Fugle-Miller Labs Inc Kenilworth . . . . . N J
Fullmer Electronics Inc Northridge . . . . . Cal
General Coil Products Corp Brooklyn . . . . . N Y
Genisco Technology Corp Components, Genistron Divs Compton . . . . . Cal
Geo Space Corp Houston . . . . . Tex
Grafix Inc Albuquerque . . . . . N Mex
Grand Transformers Inc Grand Haven . . . . . Mich
G T Research Inc Imlaystown . . . . . N J
Hammond Mfg Co Ltd Guelph . . . . . Ont
Hisonic Inc Olathe . . . . . Kan
Inductor Engineering Inc Lewes . . . . . Del
JB Electronic Transformers Inc Chicago Ill
Kapitol Magnetic Corp Chicago Ill
K G S Electronics Inc Pasadena . . . . . Cal
Kidde & Co Inc, Walter Belleville . . . . . N J
Lake Engineering Co Ltd Scarborough . . . . . Ont
LaPointe Industries, Inc Rockville . . . . . Conn
Larago Electronics Mfgrs Inc Melbourne . . . . . Fla
Laselco Pacific Palo Alto . . . . . Cal
LTV-Electrosystems Inc Memcor Div Huntington . . . . . Ind
Magnetic Circuit Elements Inc Monterey . . . . . Cal
Magnetic Devices Inc Lemon Grove . . . . . Cal
Magnetic Engineering Corp Danbury . . . . . Conn
Magnetico Inc East Northport . . . . . N Y
Magnetika Inc Venice . . . . . Cal
Merit Coil & Transformer Corp Hollywood . . . . . Fla
Merrimack Magnetics Corp Lowell . . . . . Mass
Microtran Co Inc Valley Stream . . . . . N Y
National Coil Co Inc Douglas . . . . . Ariz
Neshaminy Electronic Corp Furlong . . . . . Pa
New York Coil Co Inc Phoenixville . . . . . Pa
Nippon Ferrite Industrial Co Ltd Tokyo . . . . . Japan
North Hills Electronics Inc Glen Cove . . . . . N Y
Nothelfer Winding Labs Inc Trenton . . . . . N J
Novatronics Inc Pompano Beach . . . . . Fla
Nytronics of Canada Ltd Trenton . . . . . Ont
Orega Electronique & Mecanique Vincennes, Seine . . . . France
Otis Radio & Electric Corp Hawarden . . . . . Iowa
PCA Electronics Inc Sepulveda . . . . . Cal
Phoenix Transformer Co Phoenix . . . . . Ariz
Plessey Co Ltd Ilford Essex . . . . . England
Polyphase Instrument Co Bridgeport . . . . . Pa
Precision Coil Mfg Co Santa Monica . . . . . Cal
Precision Electronics Corp Marshfield . . . . . Mass
Precision Inc Minneapolis . . . . . Minn
Profile Electronics Inc Concord . . . . . N H
Prototype Transformer Corp East Orange . . . . . NJ
Ratel Inc Goleta . . . . . Cal
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Sangamo Electric Co Springfield Ill
Sanyo Electric Co Ltd Osaka . . . . . Japan
Schott Co Inc, Oscar A Minneapolis . . . . . Minn
Scott Electronics Corp Orlando . . . . . Fla
Seg Electronics Corp Brooklyn . . . . . NY
Shallco Inc Smithfield . . . . . N C
Shigoto Industries Ltd New York . . . . . N Y
S K G Associates Inc Boston . . . . . Mass
Skyway Magnetics Inglewood . . . . . Cal
Solid State Electronics Corp Sepulveda . . . . . Cal
Southern Electronics Co Inc Greeneville . . . . . Tenn
Sparton Electronics, Div Sparton Corp Jackson . . . . . Mich
Standard Industries Buena Park . . . . . Cal
Standard Winding Co Div Ovitron Corp Newburgh . . . . . N Y
Sterling Transformer Corp Brooklyn . . . . . N Y
Stoddart Components Div Tamar Electronics Inc Gardena . Cal
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo . . . . . Japan
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn . . . . . N Y
Tele Coil Co Inc Camden . . . . . N J
TencoElectronics Div AndersonPower Prods Brighton . . . Mass
Tilton Electronics Corp Winnisquam . . . . . N H
Torelco Inc Irvington . . . . . N J
Toroid-Trans Electronics Co Inc Danbury . . . . . Conn
Torotel, Inc Grandview . . . . . Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y

Torwico Electronics, Inc Lakewood .... N J
Tranex Inc Mountain View .... Cal
Transformer Design Inc of Milwaukee Milwaukee .... Wis
Transformer Manufacturers Inc Chicago Ill
Transformer Technicians Inc Chicago Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia .. Pa
Triad Distributor Div Litton Industries Huntington .... Ind
Triad Transformer Corp Venice .... Cal
Triwec Transformer Co Chicago Ill
United Transformer Co Div TRW Inc New York .... N Y
Universal Toroid Coil Winding Inc Irvington .... NJ
Virginia Electronics Co Inc Falls Church .... Va
Vitra Instrument & Electronics Corp Syosset .... N Y
Wabash Magnetics Inc Electro Magnetic Prods Div Wabash .... Ind
Wescoil Co Inc Tinley Park Ill
Woodward-Schumacher Electric Corp Chicago Ill
Workman Electronic Products Inc Sarasota .... Fla
Y T & T Corp Roslyn Heights .... NY
Zaring Industries Inc Carmel .... Ind

COILS—CHOKE, POWER FREQUENCY

CAPTOR CORP TIPP CITY .... OHIO
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA N Y .... ADV PG 139
DRESSEN-BARNES ELECTRONICS CORP PASADENA ... CAL
ENDICOTT COIL CO INC BINGHAMTON .... N Y
K G S ELECTRONICS INC PASADENA .... CAL
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN .. ADV PG 98
NOTHELFER WINDING LABS INC TRENTON .... N J
PCA ELECTRONICS INC SEPULVEDA .... CAL
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX . N Y
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y .... ADV PG 471
TOROTEL, INC GRANDVIEW .... MO
TORWICO ELECTRONICS, INC LAKEWOOD N J . ADV PG 140
UNITED TRANSFORMER CO DIV TRW INC NEW YORK N Y .... ADV PG 135
ACDC Electronics, Inc Burbank .... Cal
AC Electronics Co Los Angeles .... Cal
ADC Products Minneapolis .... Minn
Aetna Electronics Corp North Branch .... N J
Aikow Shoji Kaisha Ltd Osaka .... Japan
ALA Industries Inc Harrison .... NY
American Trans-Coil Corp Richmond Hill .... NY
Andover Corp Lafayette .... Ind
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Atlas Coil Corp Ansonia .... Conn
Avco Electronics Div Cincinnati .... Ohio
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Barwood Electronics, Inc Glendale .... Cal
Basler Electric Co Highland Ill
B & B Magnetics Co La Habra .... Cal
Bicron Electronics Co Canaan .... Conn
Bourns Pacific Magnetic Corp Romoland .... Cal
Brown Engineering-A Teledyne Co Huntsville .... Ala
Caddell-Burns Mfg Co Inc Mineola .... N Y
Caledonia Elctns & Transformer Div Connrex Corp Caledonia .... N Y
Canadian Marconi Co Montreal 16 .... Quebec
Captor Corp Tipp City .... Ohio
Carol Electronics Div Weeco Inc Martinsburg .... W Va
CBC Industries Inc Philadelphia .... Pa
Central Coil Co Inc Martinsville .... Ind
Central Transformer Co Chicago Ill
Chu Associates Inc Littleton .... Mass
Coast Coil Co Los Angeles .... Cal
Coil Co of America Inc Northvale .... N J
Coiltronics Inc Buena Park .... Cal
Components Corp Chicago Ill
Computer Components Inc Jamaica .... N Y
Continental X-Ray Corp Chicago Ill
Custom Coil Co Zanesville .... Ohio
Cycle Transformer Corp West Orange .... N J
Daytron Inc Mountain View .... Cal
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Diamond Coils Inc Union City .... N J
Dietz Design Inc Belton .... Mo
Dinion Coil Co Inc Caledonia .... N Y
Dormeyer Industries Chicago Ill
Dressen-Barnes Electronics Corp Pasadena .... Cal
Dresser Systems, Inc Houston .... Tex
Electrical Windings Inc Chicago Ill
Electronic Transformer Corp Paterson .... N J
Electro-Pacific Inc Goleta .... Cal
Elgin Electronics Inc Erie .... Pa
EMP Electronics Inc Tempe .... Ariz
Endicott Coil Co Inc Binghamton .... N Y
Epco Products Inc Wallkill .... N Y
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Field Electronics Inc Chatham .... N J
Filtron Co Inc Sub Liquidonics Ind Inc Flushing .... N Y
Florida Transformer Co, Transitron Sub De Leon Springs .. Fla
Forbes & Wagner Inc Silver Creek .... N Y
Forest Electric Co Melrose Park Ill
Freed Transformer Co Inc Brooklyn .... N Y
Fugle-Miller Labs Inc Kenilworth .... N J
Genisco Technology Corp Compton .... Cal
Genisco Technology Corp Components, Genistron Divs Compton .... Cal
Geo Space Corp Houston .... Tex
Grafix Inc Albuquerque .... N Mex
Grand Transformers Inc Grand Haven .... Mich
Hammond Mfg Co Ltd Guelph .... Ont
Icore Electro-Plastics Sunnyvale .... Cal
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa .... Japan
Inductor Engineering Inc Lewes .... Del
Kapitol Magnetic Corp Chicago Ill
K G S Electronics Inc Pasadena .... Cal
Kidde & Co Inc, Walter Belleville .... N J
Lake Engineering Co Ltd Scarborough .... Ont
LaPointe Industries, Inc Rockville .... Conn
Larago Electronics Mfgrs Inc Melbourne .... Fla
Magnetic Circuit Elements Inc Monterey .... Cal
Magnetic Devices Inc Lemon Grove .... Cal
Magnetic Engineering Corp Danbury .... Conn
Magnetico Inc East Northport .... N Y
Magnetic Specialties Inc Trenton .... N J
Merit Coil & Transformer Corp Hollywood .... Fla
Merrimack Magnetics Corp Lowell .... Mass
Meteor Transformer Mfg Co Detroit .... Mich
Microtran Co Inc Valley Stream .... N Y
National Coil Co Inc Douglas .... Ariz
Neshaminy Electronic Corp Furlong .... Pa
New York Coil Co Inc Phoenixville .... Pa
Nippon Ferrite Industrial Co Ltd Tokyo .... Japan
North Electric Co Galion .... Ohio
Nothelfer Winding Labs Inc Trenton .... N J
Novatronics Inc Pompano Beach .... Fla
Orega Electronique & Mecanique Vincennes, Seine .... France
Osborne Electric Co, Ltd Toronto 18 .... Ont
Otis Radio & Electric Corp Hawarden .... Iowa
PCA Electronics Inc Sepulveda .... Cal
Phoenix Transformer Co Phoenix .... Ariz
Precision Electronics Corp Marshfield .... Mass
Profile Electronics Inc Concord .... N H
Prototype Transformer Corp East Orange .... NJ
Ratel Inc Goleta .... Cal
Raytheon Co, Microwave & Power Tube Div Waltham ... Mass
Re-Al Electronics Co Waterbury .... Conn
Sag Harbor Industries,Inc Sag Harbor .... N Y
Sanyo Electric Co Ltd Osaka .... Japan
Schott Co Inc, Oscar A Minneapolis .... Minn
Scott Electronics Corp Orlando .... Fla
S K G Associates Inc Boston .... Mass
Skyway Magnetics Inglewood .... Cal
Sparton Electronics, Div Sparton Corp Jackson .... Mich
Spellman High Voltage Electronics Corp Bronx .... N Y
Standard Industries Buena Park .... Cal
Sterling Transformer Corp Brooklyn .... N Y
Stoddart Components Div Tamar Electronics Inc Gardena . Cal
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Tele Coil Co Inc Camden .... N J
Tilton Electronics Corp Winnisquam .... N H
Toroid-Trans Electronics Co Inc Danbury .... Conn
Torotel, Inc Grandview .... Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
Torwico Electronics, Inc Lakewood .... N J
Tranex Inc Mountain View .... Cal
Transformer Design Inc of Milwaukee Milwaukee .... Wis
Transformer Manufacturers Inc Chicago Ill
Transformer Technicians Inc Chicago Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia .. Pa
Triad Distributor Div Litton Industries Huntington .... Ind
Triad Transformer Corp Venice .... Cal
Triwec Transformer Co Chicago Ill
United Transformer Co Div TRW Inc New York .... N Y
Universal Toroid Coil Winding Inc Irvington .... NJ
Virginia Electronics Co Inc Falls Church .... Va
Vitra Instrument & Electronics Corp Syosset .... N Y
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COILS—CHOKE, R-F (INCL. SLUG ADJUSTED SINGLE TV CENTERING, LINEARITY, PEAKING WIDTH CONTROL COILS)

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DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA N Y .... ADV PG 139
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN .. ADV PG 98
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NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO ... JAPAN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y .... ADV PG 471
TOROTEL, INC GRANDVIEW MO .... ADV PG 136
UNITED TRANSFORMER CO DIV TRW INC NEW YORK .. N Y
VARI-L CO INC STAMFORD CONN .... ADV PG 135
Abilities Inc Albertson .... N Y
Ace Coil & Electronics Corp. Metuchen .... N J
AC Electronics Co Los Angeles .... Cal
Aikow Shoji Kaisha Ltd Osaka .... Japan
Airco Speer Electronic Components Dubois .... Pa
Aladdin Electronics Div Aladdin Industries, Inc Nashville .. Tenn
ALA Industries Inc Harrison .... NY
Allmetal Screw Products Co Inc Garden City .... N Y
American Trans-Coil Corp Richmond Hill .... NY
Amk Electronics Co Inc Edison .... N J
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Ark Electronics Corp Willow Grove .... Pa
Astro-Space Labs Inc Huntsville .... Ala
Atlas Coil Corp Ansonia .... Conn
Automatic Coil Co Div Designatronics, Inc Mineola .... N Y
Avco Electronics Div Cincinnati .... Ohio
Avionics, Inc South Bend .... Ind
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Bel-Tronics Corp Addison Ill
Bicron Electronics Co Canaan .... Conn
Caddell-Burns Mfg Co Inc Mineola .... N Y
Cambridge Thermionic Corp Cambridge .... Mass
Captor Corp Tipp City .... Ohio
CBC Industries Inc Philadelphia .... Pa
Central Coil Co Inc Martinsville .... Ind
Clippard Instrument Inc Cincinnati .... Ohio
Coil Co of America Inc Northvale .... N J
Coilcraft Inc Cary Ill
Components Corp Chicago Ill
CP Electronics Inc Columbus .... Ind
Dale Electronics Inc Columbus .... Neb
Dale Electronics Inc, Sioux Div Yankton .... S Dak
DB Products Inc Pasadena .... Cal
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Denki Kogyo Co Ltd Tokyo .... Japan

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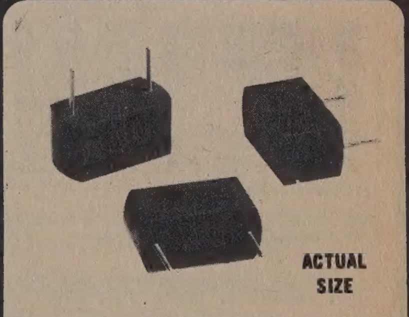

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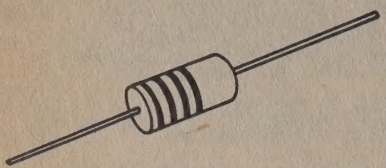

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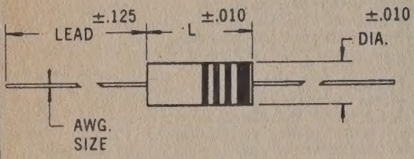

Series	Inductance Range (nh)	Power Rating (W)	D	L	AWG Size
RA	.15-1000	.17	.095	.250	24
RB	.15-240	.25	.155	.375	22
*SB	.10-100000	.25	.157	.395 ±.020	22
RC	270-1000	.25	.190	.440	22
RD	1100-3600	.40	.215	.560	22
RF	3900-10000	.45	.240	.740	20
RG	47-150	.30	.250	.560	22
RH	1.2-120	.33	.280	.900	21
RJ	180-390	.40	.310	.560	21
RK	470-1000	.45	.375	.625	21
RL	1500-10000	.55	.468	.687	21

*SHIELDED INDUCTOR

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Diamond Coils Inc Union City . . . . . N J
Dietz Design Inc Belton . . . . . Mo
Dinion Coil Co Inc Caledonia . . . . . N Y
Electro Assemblies Inc Chicago Ill
Electronic Coil Co Burbank . . . . . Cal
Electro Winders Co Inc Covina . . . . . Cal
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Fisher Engineering Inc Huntington . . . . . Ind
Fivre Dept Fabbrica Ital Mag Marelli Pavia . . . . . Italy
Forbes & Wagner Inc Silver Creek . . . . . N Y
Fugle-Miller Labs Inc Kenilworth . . . . . N J
General Coil Products Corp Brooklyn . . . . . N Y
General Instrument Corp Automatic Mfg Div Newark . . . . . N J
General Instrument Corp F W Sickles Div Chicopee . . . . . Mass
General Instrument of Canada Ltd Waterloo . . . . . Ont
Genisco Technology Corp Components, Genistron Divs
Compton . . . . . Cal
Hammond Mfg Co Ltd Guelph . . . . . Ont
Helix Spring Corp Long Island City . . . . . NY
Houlihan Co, T J Chicago Ill
Hydro Molding Co Inc Plattsburgh . . . . . N Y
Icore Electro-Plastics Sunnyvale . . . . . Cal
Inductor Engineering Inc Lewes . . . . . Del
Lake Engineering Co Ltd Scarborough . . . . . Ont
LaPointe Industries, Inc Rockville . . . . . Conn
La Radiotechnique Compelec Paris 11e . . . . . France
Laselco Pacific Palo Alto . . . . . Cal
Lenox-Fugle Electronics Inc South Plainfield . . . . . N J
LTV-Electrosystems Inc Memcor Div Huntington . . . . . Ind
Magnetic Circuit Elements Inc Monterey . . . . . Cal
Magnetic Devices Inc Lemon Grove . . . . . Cal
Merit Coil & Transformer Corp Hollywood . . . . . Fla
Millen Mfg Co Inc, James Malden . . . . . Mass
Miller Co, J W Compton . . . . . Cal
Mitsumi Electric Co Ltd Tokyo . . . . . Japan
National Coil Co Inc Douglas . . . . . Ariz
National Radio Co Inc Melrose . . . . . Mass
Nippon Ferrite Industrial Co Ltd Tokyo . . . . . Japan
North Hills Electronics Inc Glen Cove . . . . . N Y
Novatronics Inc Pompano Beach . . . . . Fla
Nytronics Inc Berkeley Heights . . . . . N J
Nytronics of Canada Ltd Trenton . . . . . Ont
Ohmite Mfg Co Skokie Ill
Orega Electronique & Mecanique Vincennes, Seine . . . . . France
Otis Radio & Electric Corp Hawarden . . . . . Iowa
Plessey Co Ltd Ilford Essex . . . . . England
Precision Coil Mfg Co Santa Monica . . . . . Cal
Profile Electronics Inc Concord . . . . . N H
Radio Television Products Corp Scottsburg . . . . . Ind
Ratel Inc Goleta . . . . . Cal
Redman Electronics Corp Thompsonville . . . . . Conn
Rem-Tronics Inc Silver Creek . . . . . N Y
Renco Electronics Inc Hicksville . . . . . N Y
Sanyo Electric Co Ltd Osaka . . . . . Japan
Schwalm Electronics Inc Highland Park Ill
Seacor Inc Norwood . . . . . NJ
Shallcross A Cutler-Hammer Co Selma . . . . . N C
Smallwood Ltd, S G Kitchener . . . . . Ont
Southern Electronics Co Inc Greeneville . . . . . Tenn
Standard Winding Co Div Ovitron Corp Newburgh . . . . . N Y
Stanwyck Winding Div San Fernando Elec Mfg Co Inc
Newburgh . . . . . N Y
Stoddart Components Div Tamar Electronics Inc Gardena . Cal
Struthers Electronics Corp Sub Struthers-Wells
Mamaroneck . . . . . N Y
Summit Engineering Corp Bozeman . . . . . Mont
Swanson Electronics Co Chicago Ill
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo . . . . . Japan
TDK Electronics Co Ltd Chiyoda-ku, Tokyo . . . . . Japan
Technical Apparatus Builders Div Power Alternating Direct
Corp Brooklyn . . . . . N Y
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City . . . . . Japan
Tele Coil Co Inc Camden . . . . . N J
Torotel, Inc Grandview . . . . . Mo
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
United Transformer Co Div TRW Inc New York . . . . . N Y
Vanguard Electronics Co Inglewood . . . . . Cal
Vari-L Co Inc Stamford . . . . . Conn
Virginia Electronics Co Inc Falls Church . . . . . Va
Vitra Instrument & Electronics Corp Syosset . . . . . N Y
Warsaw Coil Co Inc Warsaw . . . . . Ind
Weecoil Inc Sub Wells Electronics South Bend . . . . . Ind
Whitewater Electronics Inc Whitewater . . . . . Wis
Wilco Corp Indianapolis . . . . . Ind
Wilcox Electric Co Kansas City . . . . . Mo
Workman Electronic Products Inc Sarasota . . . . . Fla
Y T & T Corp Roslyn Heights . . . . . NY

COILS—DEFLECTION

SYNTRONIC INSTRUMENTS INC ADDISON ILL
Advance Ross Electronics Corp Chicago Ill
Amperex Electronic Corp, Component Div Hauppauge . . . . N Y
Arco S P A Milano . . . . . Italy
Atlas Coil Corp Ansonia . . . . . Conn
Bel-Tronics Corp Addison Ill
Carol Electronics Div Weeco Inc Martinsburg . . . . . W Va
CELCO Mahwah . . . . . N J
Centroid Inc Garden City Park . . . . . N Y
Cleveland Electronics Inc Deflection Components Div
Twinsburg . . . . . Ohio
Coil Co of America Inc Northvale . . . . . N J
Energy Beams Inc Haskell . . . . . N J
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Fivre Dept Fabbrica Ital Mag Marelli Pavia . . . . . Italy
General Instrument Corp F W Sickles Div Chicopee . . . . . Mass
General Instrument Europe SPA Milano . . . . . Italy
General Instrument of Canada Ltd Waterloo . . . . . Ont
ITT Aerospace Optical Div Aerospace Oper San Fernando . Cal
ITT Europe Inc Components Gp Brussels 1 . . . . . Belgium
Lake Engineering Co Ltd Scarborough . . . . . Ont
La Radiotechnique Compelec Paris 11e . . . . . France
Merit Coil & Transformer Corp Hollywood . . . . . Fla
Orega Electronique & Mecanique Vincennes, Seine . . . . France
Penn Transformer Co Bellefonte . . . . . PA
Plessey Co Ltd Ilford Essex . . . . . England
Plessey Electronics Corp Farmingdale . . . . . N Y
Sanyo Electric Co Ltd Osaka . . . . . Japan
Syntronic Instruments Inc Addison Ill
Tele Coil Co Inc Camden . . . . . N J
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Y T & T Corp Roslyn Heights . . . . . NY

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UNITED TRANSFORMER CO DIV TRW INC NEW YORK . . N Y
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AC Electronics Co Los Angeles . . . . . Cal
Advanced Kinetics, Inc Costa Mesa . . . . . Cal
Aetna Electronics Corp North Branch . . . . . N J
ALA Industries Inc Harrison . . . . . NY
Atlas Coil Corp Ansonia . . . . . Conn
B & B Magnetics Co La Habra . . . . . Cal
Bel-Tronics Corp Addison Ill
Carol Electronics Div Weeco Inc Martinsburg . . . . . W Va
Central Coil Co Inc Martinsville . . . . . Ind
Chu Associates Inc Littleton . . . . . Mass
Coil Co of America Inc Northvale . . . . . N J
Computer Components Inc Jamaica . . . . . N Y
Dale Electronics Inc, Sioux Div Yankton . . . . . S Dak
Daytron Inc Mountain View . . . . . Cal
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
G C Electronics Div, Hydrometals Inc Rockford Ill
Hammond Mfg Co Ltd Guelph . . . . . Ont
Hirst Electric Industries Ltd Crawley, Sussex . . . . . England
Merit Coil & Transformer Corp Hollywood . . . . . Fla
Microtran Co Inc Valley Stream . . . . . N Y
Penn Transformer Co Bellefonte . . . . . PA
Precision Coil Mfg Co Santa Monica . . . . . Cal
Rawson-Lush Instrument Co Inc Acton . . . . . Mass
Sanyo Electric Co Ltd Osaka . . . . . Japan
Schott Co Inc, Oscar A Minneapolis . . . . . Minn
Smallwood Ltd, S G Kitchener . . . . . Ont
Southern Electronics Co Inc Greeneville . . . . . Tenn
Tele Coil Co Inc Camden . . . . . N J
Transformer Manufacturers Inc Chicago Ill
United Transformer Co Div TRW Inc New York . . . . . N Y
Universal Toroid Coil Winding Inc Irvington . . . . . NJ
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Wescoil Co Inc Tinley Park Ill
Whitewater Electronics Inc Whitewater . . . . . Wis
Wilco Corp Indianapolis . . . . . Ind
Woodward-Schumacher Electric Corp Chicago Ill

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CELCO Mahwah . . . . . N J
Central Coil Co Inc Martinsville . . . . . Ind
Cleveland Electronics Inc Deflection Components Div
Twinsburg . . . . . Ohio
Coil Co of America Inc Northvale . . . . . N J
Coilcraft Inc Cary Ill
Conrac Corp New York . . . . . N Y
Electro Winders Co Inc Covina . . . . . Cal
General Instrument Europe SPA Milano . . . . . Italy
Houlihan Co, T J Chicago Ill
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa . . . . . Japan
ITT Aerospace Optical Div Aerospace Oper San Fernando . Cal
ITT Europe Inc Components Gp Brussels 1 . . . . . Belgium
Lake Engineering Co Ltd Scarborough . . . . . Ont
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Otis Radio & Electric Corp Hawarden . . . . . Iowa
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Plessey Co Ltd Ilford Essex . . . . . England
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Smallwood Ltd, S G Kitchener . . . . . Ont
Southern Electronics Co Inc Greeneville . . . . . Tenn
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Wilco Corp Indianapolis . . . . . Ind
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ADC Products Minneapolis . . . . . Minn
Alpha Scientific Labs Inc Oakland . . . . . Ca
Arnold Engineering Co Marengo Il
Atlas Coil Corp Ansonia . . . . . Con
Ballastran Corp Fort Wayne . . . . . In
Basler Electric Co Highland Il
Bel-Tronics Corp Addison Il
Brown Engineering-A Teledyne Co Huntsville . . . . . Al
Captor Corp Tipp City . . . . . Ohi
Carol Electronics Div Weeco Inc Martinsburg . . . . . W V
Central Transformer Co Chicago I
Chu Associates Inc Littleton . . . . . Mas
Coil Co of America Inc Northvale . . . . . N
Continental X-Ray Corp Chicago I
Dinion Coil Co Inc Caledonia . . . . . N
Electronic Corp of America Los Angeles C
Elgin Electronics Inc Erie . . . . . P
Energy Beams Inc Haskell . . . . . N

Fisher Engineering Inc Huntington	Ind
Forest Electric Co Melrose Park	Ill
Hammond Mfg Co Ltd Guelph	Ont
ITT Telecommunications New York	N Y
JB Electronic Transformers Inc Chicago	Ill
Kapitol Magnetic Corp Chicago	Ill
Larago Electronics Mfgrs Inc Melbourne	Fla
Merit Coil & Transformer Corp Hollywood	Fla
Metal Ceram Inc Mount Vernon	N Y
Mid-Eastern Industries Inc Scotch Plains	N J
Nothelfer Winding Labs Inc Trenton	N J
Ogallala Electronics Mfg Inc Ogallala	Nebr
Permaluster Inc Burbank	Cal
Precision Electronics Corp Marshfield	Mass
Prototype Transformer Corp East Orange	NJ
Qutronic Transformer Corp Oneonta	N Y
Reynolds Metals Co Richmond	Va
Sag Harbor Industries,Inc Sag Harbor	N Y
Sanyo Electric Co Ltd Osaka	Japan
Scott Electronics Corp Orlando	Fla
Skyway Magnetics Inglewood	Cal
Sparton Electronics, Div Sparton Corp Jackson	Mich
Sterling Transformer Corp Brooklyn	N Y
Tapecon Inc Rochester	N Y
Torotel, Inc Grandview	Mo
Tranex Inc Mountain View	Cal
Transformer Design Inc of Milwaukee Milwaukee	Wis
Transformer Technicians Inc Chicago	Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia	Pa
United Transformer Co Div TRW Inc New York	N Y
Universal Toroid Coil Winding Inc Irvington	NJ
Ventron Instruments Corp Magnion Div Burlington	Mass
Waldom Electronics Inc Chicago	Ill

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ENDICOTT COIL CO INC BINGHAMTON	**N Y**
K G S ELECTRONICS INC PASADENA	**CAL**
NORTH HILLS ELECTRONICS INC GLEN COVE	**N Y**
TOROTEL, INC GRANDVIEW	**MO**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
AC Electronics Co Los Angeles	Cal
ALA Industries Inc Harrison	NY
Andover Corp Lafayette	Ind
A P W Co Inc Rockaway	N J
Arnold Engineering Co Marengo	Ill
Atlas Coil Corp Ansonia	Conn
Avionics, Inc South Bend	Ind
Ballastran Corp Fort Wayne	Ind
Barwood Electronics, Inc Glendale	Cal
Basler Electric Co Highland	Ill
Bourns Pacific Magnetic Corp Romoland	Cal
Brown Engineering-A Teledyne Co Huntsville	Ala
Caddell-Burns Mfg Co Inc Mineola	N Y
Carol Electronics Div Weeco Inc Martinsburg	W Va
C M Mfg Co Bloomfield	N J
Coil Co of America Inc Northvale	N J
Component Specialties Corp Temple City	Cal
Computer Components Inc Jamaica	N Y
Connecticut Coil Corp Bridgeport	Conn
Coto-Coil Co Inc Providence	R I
Cycle Transformer Corp West Orange	N J
Dale Electronics Inc, Sioux Div Yankton	S Dak
Dano Electric Co Winsted	Conn
Daylen Co South Gate	Cal
Daytron Inc Mountain View	Cal
DB Products Inc Pasadena	Cal
Diamond Coils Inc Union City	N J
Dixon Corp Bristol	R I
Douglas Randall Inc Westerly	R I
Electro Winders Co Inc Covina	Cal
Endicott Coil Co Inc Binghamton	N Y
Energy Beams Inc Haskell	N J
Fisher Engineering Inc Huntington	Ind
Flow Technology Inc Tempe	Ariz
Forest Electric Co Melrose Park	Ill
General Laboratory Assoc Inc Norwich	N Y
Houlihan Co, T J Chicago	Ill
Icore Electro-Plastics Sunnyvale	Cal
Industrial Coils Inc Baraboo	Wisc
JB Electronic Transformers Inc Chicago	Ill
Kapitol Magnetic Corp Chicago	Ill
K G S Electronics Inc Pasadena	Cal
Kidde & Co Inc, Walter Belleville	N J
Lisk Co Inc, G W Clifton Springs	N Y
Merit Coil & Transformer Corp Hollywood	Fla
Merrimack Magnetics Corp Lowell	Mass
Metal Ceram Inc Mount Vernon	N Y
Meteor Transformer Mfg Co Detroit	Mich
National Coil Co Inc Douglas	Ariz
New York Coil Co Inc Phoenixville	Pa
North Hills Electronics Inc Glen Cove	N Y
Ogallala Electronics Mfg Inc Ogallala	Nebr
Permaluster Inc Burbank	Cal
Precision Electronics Inc Amityville	N Y
Profile Electronics Inc Concord	N H
Prototype Transformer Corp East Orange	NJ
Qutronic Transformer Corp Oneonta	N Y
Raytheon Co, Microwave & Power Tube Div Waltham	Mass
Rem-Tronics Inc Silver Creek	N Y
Renco Electronics Inc Hicksville	N Y
Rodon Electronics Corp Gardena	Cal
Sag Harbor Industries,Inc Sag Harbor	N Y
Sanyo Electric Co Ltd Osaka	Japan
Schott Co Inc, Oscar A Minneapolis	Minn
Standard Industries Buena Park	Cal
Sterling Transformer Corp Brooklyn	N Y
Subminiature Instruments Corp Riverside	Cal
Tele Coil Co Inc Camden	N J
Topper Mfg Co Inc Great Neck	NY
Torotel, Inc Grandview	Mo
Transformer Design Inc of Milwaukee Milwaukee	Wis
Transformer Technicians Inc Chicago	Ill
Tur-Bo Jet Products Co Inc Rosemead	Cal
U S Electronics Corp Lyndhurst	N J

United Transformer Co Div TRW Inc New York	N Y
Vitra Instrument & Electronics Corp Syosset	N Y
Wabash Magnetics Inc Electro Magnetic Prods Div Wabash	Ind
Warsaw Coil Co Inc Warsaw	Ind
Winatic Corp Vestal	N Y
Y T & T Corp Roslyn Heights	NY

COILS—METALIZED GLASS

Coil Co of America Inc Northvale	N J
Culbertson Products Inc Bernardsville	N J
Fredericks Co Huntingdon Valley	Pa
Metal Ceram Inc Mount Vernon	N Y
Mindrum Precision Products Cucamonga	Cal
Sag Harbor Industries/Inc Sag Harbor	N Y
Syncor Products Co, Inc Malden	Mass
Wabash Magnetics Inc Electro Magnetic Prods Div Wabash	Ind

COILS—MOTOR & GENERATOR FIELD

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Atlas Coil Corp Ansonia	Conn
Avionics, Inc South Bend	Ind
Coil Co of America Inc Northvale	N J
Computer Components Inc Jamaica	N Y
Connecticut Coil Corp Bridgeport	Conn
Consolidated Electric Corp Seattle	Wash
DeSoto Electrical Products DeSoto	Mo
Everson Electric Co Allentown	Pa
General Electric Co, ECSO Schenectady	N Y
Houlihan Co, T J Chicago	Ill
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Osborne Electric Co, Ltd Toronto 18	Ont
Pico Products Inc Ronkonkoma	NY
Sag Harbor Industries,Inc Sag Harbor	N Y
Sanyo Electric Co Ltd Osaka	Japan
Singer Co, Diehl Div Somerville	N J
Southern Electronics Co Inc Greeneville	Tenn
U S Electronics Corp Lyndhurst	N J

COILS—PICKUP, PROXIMITY (DETECT METAL PARTS)

DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK	**ADV PG 138**
ENDICOTT COIL CO INC BINGHAMTON	**N Y**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
PCA ELECTRONICS INC SEPULVEDA	**CAL**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
Abilities Inc Albertson	N Y
ALA Industries Inc Harrison	NY
A P W Co Inc Rockaway	N J
Atlas Coil Corp Ansonia	Conn
Avionics, Inc South Bend	Ind
Bionic Instruments Inc Bala Cynwyd	Pa
Coil Co of America Inc Northvale	N J
Coilcraft Inc Cary	Ill
Component Specialties Corp Temple City	Cal
Computer Components Inc Jamaica	N Y
Connecticut Coil Corp Bridgeport	Conn
Dale Electronics Inc, Sioux Div Yankton	S Dak
Douglas Randall Inc Westerly	R I
Ebauches SA Dept Oscilloquartz 2001 Neuchatel	Switz
Electro Products Labs Inc Transducer Div Chicago	Ill
Electro Winders Co Inc Covina	Cal
Endicott Coil Co Inc Binghamton	N Y
General Electric Co, ECSO Schenectady	N Y
Houlihan Co, T J Chicago	Ill
Ikor, Inc Burlington	Mass
International Electro-Magnetics Inc Palatine	Ill
Kapitol Magnetic Corp Chicago	Ill
Life Instrument Co Inc Franklin	Mass
Microtran Co Inc Valley Stream	N Y
PCA Electronics Inc Sepulveda	Cal
Pickering & Co Inc Plainview	N Y
Precision Coil Mfg Co Santa Monica	Cal
Precision Inc Minneapolis	Minn
Rawson-Lush Instrument Co Inc Acton	Mass
Regdon Corp Brookfield	Ill
Sensor Corp Greenwich	Conn
Subminiature Instruments Corp Riverside	Cal
Tele Coil Co Inc Camden	N J
Tri-Dex Co Visalia	Cal
Tur-Bo Jet Products Co Inc Rosemead	Cal
United Transformer Co Div TRW Inc New York	N Y
VP Co Pasadena	Cal

COILS—Q STANDARD

HEWLETT-PACKARD PALO ALTO	**CAL**
TOROTEL, INC GRANDVIEW	**MO**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
American Trans-Coil Corp Richmond Hill	NY
Atlas Coil Corp Ansonia	Conn
Brown Engineering-A Teledyne Co Huntsville	Ala
Hewlett-Packard Palo Alto	Cal
Kapitol Magnetic Corp Chicago	Ill
Magnetic Engineering Corp Danbury	Conn
National Coil Co Inc Douglas	Ariz
Nytronics of Canada Ltd Trenton	Ont
Tele Coil Co Inc Camden	N J
Torotel, Inc Grandview	Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck	N Y
United Transformer Co Div TRW Inc New York	N Y
Wescoil Co Inc Tinley Park	Ill

COILS—R-F WORK, INDUCTION HEATING

ALLEN AVIONICS INC,DIV A K ALLEN CO INC MINEOLA	**N Y**
MITSUMI ELECTRIC CO LTD TOKYO JAPAN	**ADV PG 692**
NORTH HILLS ELECTRONICS INC GLEN COVE	**N Y**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
Allen Avionics Inc,Div A K Allen Co Inc Mineola	N Y
American Trans-Coil Corp Richmond Hill	NY
Atlas Coil Corp Ansonia	Conn
Brown Engineering-A Teledyne Co Huntsville	Ala
Clevepak Corp New York	NY
Computer Components Inc Jamaica	N Y
Cycle-Dyne, Inc Jamaica	N Y
Denki Kogyo Co Ltd Tokyo	Japan
Electro Winders Co Inc Covina	Cal
Fisher Engineering Inc Huntington	Ind
Forway Industries Inc Woodbury	N J
General Coil Products Corp Brooklyn	N Y
Griffiths Electronics Inc Linden	N J
Houlihan Co, T J Chicago	Ill
Industron Corp Needham Heights	Mass
Johnson Co, E F Waseca	Minn
Kokusai Electric Co Ltd Tokyo-105	Japan
Larago Electronics Mfgrs Inc Melbourne	Fla
Lepel High Frequency Labs, Inc Maspeth	N Y
Meteor Transformer Mfg Co Detroit	Mich
Miller Co, L C Monterey Park	Cal
Mitsumi Electric Co Ltd Tokyo	Japan
Modelectric Products Corp Asbury Park	N J
National Coil Co Inc Douglas	Ariz
North Hills Electronics Inc Glen Cove	N Y
Nytronics of Canada Ltd Trenton	Ont
Ogallala Electronics Mfg Inc Ogallala	Nebr
Precision Coil Mfg Co Santa Monica	Cal
Reaction Research Labs of America Groton	Conn
Reeve Electronics Inc Chicago	Ill
R F L Industries Inc Components Div Brandon	Vt
Standard Industries Buena Park	Cal
Taylor-Winfield Corp Warren	Ohio
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japan
Tocco Div Park-Ohio Ind Inc Cleveland	Ohio
United Transformer Co Div TRW Inc New York	N Y
Whitewater Electronics Inc Whitewater	Wis

COILS—SPEAKER VOICE COIL

Action Systems Co Div Conn Consolidated Inds Inc Meriden	Conn
Altec Lansing Div LTV Ling Altec Inc Anaheim	Cal
Atlas Sound Div Amer Trading & Prod Corp Parsippany	N J
B & B Magnetics Co La Habra	Cal
Coiltronics Inc Buena Park	Cal
Connecticut Coil Corp Bridgeport	Conn
Forest Electric Co Melrose Park	Ill
General Coil Products Corp Brooklyn	N Y
G T Research Inc Imlaystown	N J
Houlihan Co, T J Chicago	Ill
ITT Telecommunications New York	N Y
Kapitol Magnetic Corp Chicago	Ill
Keiser's Industries Inc Mt Holly Springs	Pa
Kidde & Co Inc, Walter Belleville	N J
New York Coil Co Inc Phoenixville	Pa
Ogallala Electronics Mfg Inc Ogallala	Nebr
Permaluster Inc Burbank	Cal
Plessey Co Ltd Ilford Essex	England
Precision Coil Mfg Co Santa Monica	Cal
Profile Electronics Inc Concord	N H
Prototype Transformer Corp East Orange	NJ
R F L Industries Inc Components Div Brandon	Vt
Sanyo Electric Co Ltd Osaka	Japan
Shigoto Industries Ltd New York	N Y
Tele Coil Co Inc Camden	N J
Toroid-Trans Electronics Co Inc Danbury	Conn
Toyo Cone Paper Co Ltd Osaka	Japan
Transformer Technicians Inc Chicago	Ill
Waldom Electronics Inc Chicago	Ill

COILS—SUPERCONDUCTING

ARNOLD ENGINEERING CO MARENGO	**ILL**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
Advanced Kinetics, Inc Costa Mesa	Cal
Andonian Associates, Inc Waltham	Mass
Arnold Engineering Co Marengo	Ill
Computer Components Inc Jamaica	N Y
Kawecki Berylco Industries Inc New York	N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Ogallala Electronics Mfg Inc Ogallala	Nebr
United Transformer Co Div TRW Inc New York	N Y
Varian Palo Alto	Cal
Ventron Instruments Corp Magnion Div Burlington	Mass
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh	Pa

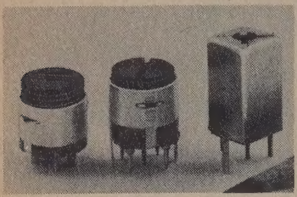
COILS—TELEPHONE PICKUP

DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK	**ADV PG 138**
ENDICOTT COIL CO INC BINGHAMTON	**N Y**
K G S ELECTRONICS INC PASADENA	**CAL**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
TORWICO ELECTRONICS, INC LAKEWOOD N J	**ADV PG 140**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
Abilities Inc Albertson	N Y
ADC Products Minneapolis	Minn
Aiwa Co Ltd Tokyo	Japan
ALA Industries Inc Harrison	NY
A P W Co Inc Rockaway	N J
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside	N Y

DALE® SIOUX DIVISION

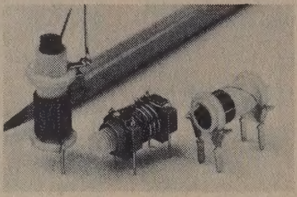
PRECISION INDUCTIVE COMPONENTS

RF & IF INDUCTORS/TRANSFORMERS



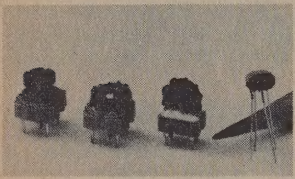
Miniature Shielded Tunable

Two basic models.
3/8″ round, 1/4″ square.
Meet MIL-C-15305C, Grade 2, Class O.



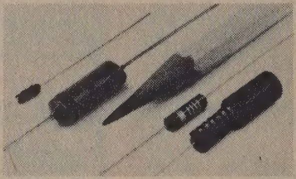
Miniature Unshielded Tunable

Meet MIL-C-15305C.
Vertically tuned model = Grade 2, Class B; horizontally tuned model = Grade 2, Class O (phenolic); Grade 2, Class B (ceramic).



Miniature Unshielded Fixed

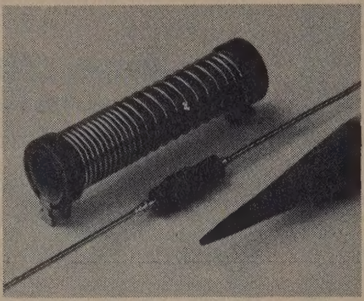
Toroidal and bobbin versions meet MIL-C-15305C, Grade 2, Class O.



RF Chokes

Four versions meet MIL-C-15305C. Molded = Grade 2, Class B; Varnished = Grade 3, Class B; Epoxy Coated = Grade 1, Class B; Shielded = Grade 1, Class B.

SPECIAL DESIGN RF & IF COILS/TRANSFORMERS



Series Resonant Trap

Combines electrical characteristics of an inductor and a capacitor in series. Can be designed for any resonant frequency from .4 MHz to 50 MHz. Readily available in 455 kHz, 10.7, 12, 14, 18 MHz models.

Variable Pitch Coils

For permeability-tuned circuits. Minimum space, excellent environmental protection.

TRANSFORMER/ INDUCTORS

Hermetically Sealed

Meet MIL-T-27B.
Available in Grades 1 and 4, Class Q, R, S, V.

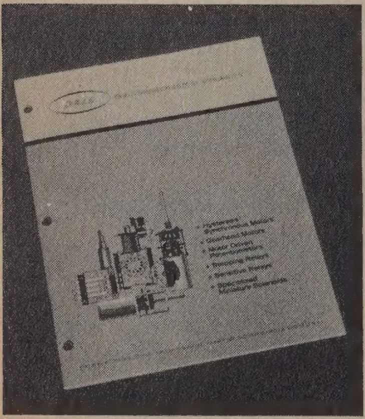
Encapsulated

Meet MIL-T-27B.
Available in Grades 2 and 5, Class Q, R, S, V.

Industrial and Commercial Bobbin Coils

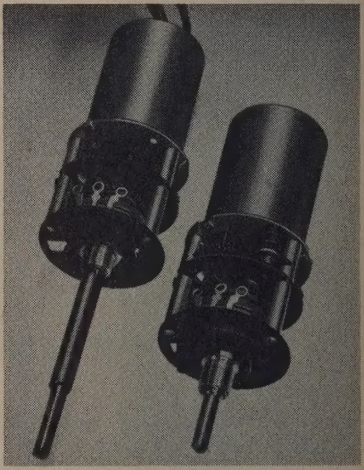
Produced to your specification at low cost on our automated equipment.

ELECTROMECHANICAL PRODUCTS



Write for new catalog describing:

- **Reversible AC Motor Driven Potentiometers** for home entertainment appliances, instrumentation, control systems.
- **Reversible AC Gearhead Motors** for switches, potentiometers, light industrial and consumer product controls.
- **Reversible AC Hysteresis Synchronous Motors** for low power driving mechanisms, entertainment appliances, control circuits.
- **AC & DC Stepping Relays.** Unidirectional or bidirectional for control circuits and entertainment appliances.



AC & DC SURGE ARRESTERS for AIRCRAFT/CIRCUITS/COMPONENTS

- Patented design. Much more efficient than conventional spark gap arresters. Will bypass repeated overvoltages without significant change in breakdown levels.
- **New AC Arrester** provides most reliable low cost protection yet available for industrial uses.
Write for catalog or contact factory for special design assistance.

SUBMIT YOUR SPECIFICATIONS TO:
Prototypes will be promptly designed and submitted for tests and evaluation.

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SIOUX DIVISION
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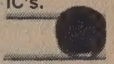
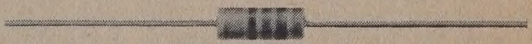
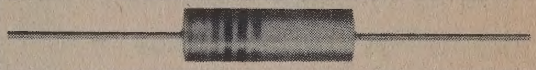
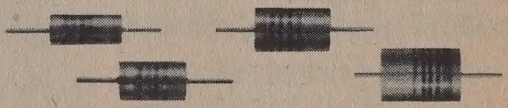
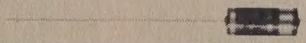
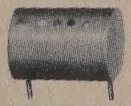
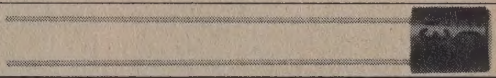
DELEVAN

COILS

Delevan Series Parts	Nominal Size (Inches) Dia. - Length	Inductance Range UH	Number Values Available	Q Minimum Range	Military Designation	
MICRO I ™						
100	.065 x .100 sq.	.015 - 10.0	30	35 - 40	——	Designed to fit inside or outside IC's.
150	.065 x .150 sq.	12.0 - 100	12	45	——	.100″ Square .150″ Square  .250″ Square
250	.065 x .250 sq.	120 - 1000	12	35 - 45	——	
FIXED SERIES						
1025	.095 x .250	.10 - 1000.0	49	25 - 50	——	
1537	.155 x .375	.15 - 240.0	51	33 - 75	18130 90538	
1840	.185 x .437	.15 - 27.0	25	35 - 65	75008	
2150	.215 x .560	.47 - 39.0	26	35 - 70	90542	
2500	.190 x .440	270 - 1000	16	60 - 65	90539	
	.215 x .560	1000 - 3600	14	60 - 70	90540	
	.240 x .740	3900 - 10,000	12	80	90541	
2890	.280 x .900	1.2 - 120.0	25	40 - 95	91189	
3500	.250 x .560	47 - 150	7	18 - 75	75052	
	.310 x .560	180 - 390	5	75 - 80	75053	
	.375 x .625	470 - 1000	5	70 - 80	75054	
	.468 x .687	1500 - 10,000	8	70 - 85	75055	
	.375 x .687	10,000	1	70	——	
SHIELDED						
2307	.157 x .395	.10 - 10,000	61	39 - 67	90537	
PLUG IN						
4500	.235 x .725	.47 - 39.0	20	35 - 60	——	
	.282 x .625	47 - 150	7	15 - 60	——	
	.375 x .625	180 - 390	5	55 - 60	18100	
	.437 x .625	470 - 1000	5	35 - 50	——	
	.500 x .825	1500 - 10,000	8	40 - 55	——	
2534	.250 x .345	100 - 150,000	39	< 10 - 80	——	
VARIABLE						
4000/4100	.400 x .952	.18 - 70,000	62	20 - 110	90543 - 46	For chassis or AC mounting, crimp on terminals.
4450	.330 x .750	.10 - 1000	48	30 - 50	LT 4K	Fine tuning — 80 threads per inch.
DSV 405	.380 x .500	.10 - 10,000	31	38 - 110	——	
DSH 406	.375 x .500	.10 - 10,000	31	38 - 110	——	

DSV
405
DSH
406

Delevan coils offer the designer a wide choice of characteristics for specific applications. Standard coils are listed above. For information on custom designed coils, contact your nearest Delevan Representative . . . he's listed in the back of this book . . . or, call Delevan Electronics direct.

To obtain factory prices in quantities over 2,500, contact the Delevan Distributor listed in the back of this book. To order, indicate series number and inductance desired. Many items are available from Distributor inventories.

Delevan Electronics
Division

AMERICAN
PRECISION
INDUSTRIES INC.

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TEL. 716 — 652-3600 Telex 091-293

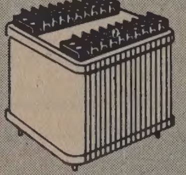
TORWICO

TORODIAL INDUCTORS

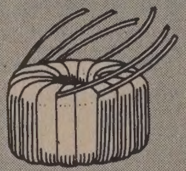
Torwico Electronics offers a complete line of toroidal inductors for use in commercial or military applications. The standard inductance values range from 1 MH to 50 HY and can be supplied in any of the following configurations:

- Open Construction (MIL-T-27B, Grade 6)
- Epoxy Encapsulated (MIL-T-27B, Grade 5)
- Encapsulated for P.C. Mounting (MIL-T-27B, Grade 5)
- Steel Cased (MIL-T-27B, Grade 4)

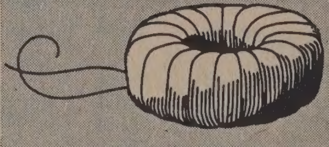
Please phone or write
for prompt quotations



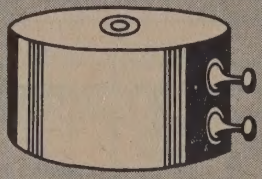
MAGNETIC AMPLIFIERS



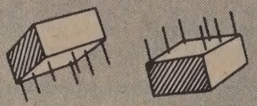
SATURABLE REACTORS



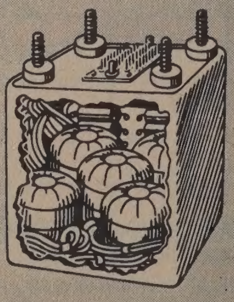
TOROIDAL COILS



TOROIDAL INDUCTORS



MINIATURE INDUCTORS AND TRANSFORMERS



MAGNETIC AMPLIFIER CONTROL ASSEMBLIES

TORODIAL COILS

Specialist in the design and manufacture of toroidal magnetic components since 1951 with an engineering team devoted to creating the practical component for your application . . . whether one, or ten thousand.

Torwico's engineering staff stands ready to assist you in the solution of your particular application problem or to provide custom design service in accordance with your specifications.

. . . Fast Delivery on prototype quantities. Performance Guaranteed.

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Coiltronics Inc Buena Park .... Cal
Components Specialties Inc Freeport .... N Y
Computer Components Inc Jamaica .... N Y
Dale Electronics Inc, Sioux Div Yankton .... S Dak
Dresser Systems, Inc Houston .... Tex
Electro Winders Co Inc Covina .... Cal
Endicott Coil Co Inc Binghamton .... N Y
Fen-Tone Corp New York .... N Y
Houlihan Co, T J Chicago Ill
ITT Telecommunications New York .... N Y
James Electronics Inc Chicago Ill
JB Electronic Transformers Inc Chicago Ill
Kapitol Magnetic Corp Chicago Ill
Kessler Co, Inc, Frank Long Island City .... N Y
K G S Electronics Inc Pasadena .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Microtran Co Inc Valley Stream .... N Y
New York Coil Co Inc Phoenixville .... Pa
Nippon Electric Co Ltd Tokyo .... Japan
North Electric Co Galion .... Ohio
Precision Coil Mfg Co Santa Monica .... Cal
Precision Inc Minneapolis .... Minn
Prototype Transformer Corp East Orange .... NJ
R F L Industries Inc Components Div Brandon .... Vt
Robins Industries Corp Flushing .... N Y
Sag Harbor Industries,Inc Sag Harbor .... N Y
Sanyo Electric Co Ltd Osaka .... Japan
Superscope Inc Sun Valley .... Cal
Swanson Electronics Co Chicago Ill
Tele Coil Co Inc Camden .... N J
Toroid-Trans Electronics Co Inc Danbury .... Conn
Torwico Electronics, Inc Lakewood .... N J
Tur-Bo Jet Products Co Inc Rosemead .... Cal
U S Electronics Corp Lyndhurst .... N J
United Transformer Co Div TRW Inc New York .... N Y
Wabash Magnetics Inc Electro Magnetic Prods Div
  Wabash .... Ind
Y T & T Corp Roslyn Heights .... NY

COILS—TOROID

See **Toroids**

COILS—TRAVELING WAVE TUBE FOCUSING

ARNOLD ENGINEERING CO MARENGO ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Arnold Engineering Co Marengo Ill
Carter Co, J C, Electronics Div Costa Mesa .... Cal
Energy Beams Inc Haskell .... N J
Litton Industries, Electron Tube Div San Carlos .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
Ogallala Electronics Mfg Inc Ogallala .... Nebr
Varian Palo Alto .... Cal
Y T & T Corp Roslyn Heights .... NY

COILS—WINDINGS, ONLY

ALLEN AVIONICS INC,DIV A K ALLEN CO INC
  MINEOLA .... N Y
CAPTOR CORP TIPP CITY .... OHIO
DALE ELECTRONICS INC, SIOUX DIV YANKTON
  S DAK .... ADV PG 138
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC
  EAST AURORA N Y .... ADV PG 139
ENDICOTT COIL CO INC BINGHAMTON N Y .... ADV PG 141
LAPOINTE INDUSTRIES, INC ROCKVILLE CONN .... ADV PG 98
MITSUMI ELECTRIC CO LTD TOKYO .... JAPAN
PCA ELECTRONICS INC SEPULVEDA .... CAL
TOROTEL, INC GRANDVIEW .... MO
TORWICO ELECTRONICS, INC LAKEWOOD N J .... ADV PG 140
Ace Coil & Electronics Corp. Metuchen .... N J
AC Electronics Co Los Angeles .... Cal
ADC Products Minneapolis .... Minn
Advance Ross Electronics Corp Chicago Ill
Aetna Electronics Corp North Branch .... N J
ALA Industries Inc Harrison .... NY
Allen Avionics Inc,Div A K Allen Co Inc Mineola .... N Y
Alpha Scientific Labs Inc Oakland .... Cal
American Trans-Coil Corp Richmond Hill .... NY
Andover Corp Lafayette .... Ind
Applied Electro Mechanics Inc Alexandria .... Va
Applied Magnetics Corp Drum & Disc Head Div Goleta .... Cal
A P W Co Inc Rockaway .... N J
Arco S P A Milano .... Italy
Atlas Coil Corp Ansonia .... Conn
Ault, Inc Minneapolis .... Minn
Automatic Coil Co Div Designatronics, Inc Mineola .... N Y
Avionics, Inc South Bend .... Ind
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Barwood Electronics, Inc Glendale .... Cal
Basler Electric Co Highland Ill
Bicron Electronics Co Canaan .... Conn
Bradford Components Inc Salamanca .... N Y
Brown Engineering-A Teledyne Co Huntsville .... Ala
Brys Instrument Corp Brooklyn .... N Y
Bulova Watch Co Inc Elctns Div Frequency Control Prods
  Woodside .... N Y
Caddell-Burns Mfg Co Inc Mineola .... N Y
Cambridge Thermionic Corp Cambridge .... Mass
Captor Corp Tipp City .... Ohio
Carol Electronics Div Weeco Inc Martinsburg .... W Va
CBC Industries Inc Philadelphia .... Pa
Central Coil Co Inc Martinsville .... Ind
Chet Engineering Co Sepulveda .... Cal
Climco Inc Morrison Ill
Coil Co of America Inc Northvale .... N J
Coilcraft Inc Cary Ill
Coiltronics Inc Buena Park .... Cal
Component Specialties Corp Temple City .... Cal
Computer Components Inc Jamaica .... N Y
Connecticut Coil Corp Bridgeport .... Conn
Connor Spring Mfg Co Div Sloss & Britain San Jose .... Cal
Continental X-Ray Corp Chicago Ill
Coto-Coil Co Inc Providence .... R I
Custom Coil Co Zanesville .... Ohio
Cycle Transformer Corp West Orange .... N J
Dale Electronics Inc, Sioux Div Yankton .... S Dak
Dano Electric Co Winsted .... Conn
Data Delay Devices Clifton .... N J
DB Products Inc Pasadena .... Cal
Delevan Electronics Div Amer Prec Indus Inc East Aurora .... N Y
DeSoto Electrical Products DeSoto .... Mo
Diamond Coils Inc Union City .... N J
Dietz Design Inc Belton .... Mo
Dinion Coil Co Inc Caledonia .... N Y
Dormeyer Industries Chicago Ill
Douglas Randall Inc Westerly .... R I
Eastern Specialty Co Philadelphia .... Pa
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electrical Windings Inc Chicago Ill
Electro Assemblies Inc Chicago Ill
Electronic Coils Inc Springfield .... Mass
Electronic Transformer Corp Paterson .... N J
Electro Technic Products Chicago Ill
Electro Winders Co Inc Covina .... Cal
Electro Windings & Components Inc Kenilworth .... N J
EMP Electronics Inc Tempe .... Ariz
Endicott Coil Co Inc Binghamton .... N Y
Filtron Co Inc Sub Liquidonics Ind Inc Flushing .... N Y
Fisher Engineering Inc Huntington .... Ind
Fleishman Elec Co Div of Signal Trans Co, Inc Brooklyn .... NY
Forest Electric Co Melrose Park Ill
Forney Industries Inc Fort Collins .... Colo
Fullmer Electronics Inc Northridge .... Cal
General Instrument of Canada Ltd Waterloo .... Ont
Geo Space Corp Houston .... Tex
Gorman Machine Corp Randolph .... Mass
Grand Transformers Inc Grand Haven .... Mich
Gyrotron Corp Waterbury .... Conn
Hammond Mfg Co Ltd Guelph .... Ont
Helix Spring Corp Long Island City .... NY
Houlihan Co, T J Chicago Ill
Hydro Molding Co Inc Plattsburgh .... N Y
Impectron Inc New York .... N Y
Inductor Engineering Inc Lewes .... Del
Industra Products Inc Fort Wayne .... Ind
Industrial Coils Inc Baraboo .... Wisc
Industrial Winding Machinery Corp River Edge .... N J
InResCo Inc Brick Town .... NJ
Jovil Mfg Co Inc Danbury .... Conn
Kidde & Co Inc, Walter Belleville .... N J
LaPointe Industries, Inc Rockville .... Conn
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Magnetic Engineering Corp Danbury .... Conn
Magnetika Inc Venice .... Cal
Merit Coil & Transformer Corp Hollywood .... Fla
Meteor Transformer Mfg Co Detroit .... Mich
Miller Co, J W Compton .... Cal
Mitsumi Electric Co Ltd Tokyo .... Japan
Molecular Research Inc Palm Beach Gardens .... Fla
Multronics Inc Rockville .... Md
National Coil Co Inc Douglas .... Ariz
New York Coil Co Inc Phoenixville .... Pa
Northern Engineering Div Baraboo .... Wis
Ogallala Electronics Mfg Inc Ogallala .... Nebr
Ohmite Mfg Co Skokie Ill
Orega Electronique & Mecanique Vincennes, Seine .... France
Osborne Electric Co, Ltd Toronto 18 .... Ont
Pacific Electric Motor Co Oakland .... Cal
Pacific Instrument Co Oakland .... cal
Paraplegics Mfg Co Inc Bensenville Ill
Parker-Shelly Mfg. Inc Fort Lauderdale .... Fla
PCA Electronics Inc Sepulveda .... Cal
Photron Instrument Co Cleveland .... Ohio
Pico Products Inc Ronkonkoma .... NY
Plessey Co Ltd Ilford Essex .... England
Precision Coil Mfg Co Santa Monica .... Cal
Precision Electronics Corp Marshfield .... Mass
Precision Inc Minneapolis .... Minn
Profile Electronics Inc Concord .... N H
Qutronic Transformer Corp Oneonta .... N Y
Radio Television Products Corp Scottsburg .... Ind
Redman Electronics Corp Thompsonville .... Conn
Regdon Corp Brookfield Ill
Regency Electronics Inc Indianapolis .... Ind
Rem-Tronics Inc Silver Creek .... N Y
Renco Electronics Inc Hicksville .... N Y
Reynolds Metals Co Richmond .... Va
Rodon Electronics Corp Gardena .... Cal
Sag Harbor Industries,Inc Sag Harbor .... N Y
Sangamo Electric Co Springfield Ill
Sartron Inc Newberg .... Ore
Schott Co Inc, Oscar A Minneapolis .... Minn
Silicone Seals Inc Chicago Ill
S K G Associates Inc Boston .... Mass
Slocum Industries Reseda .... Cal
Smallwood Ltd, S G Kitchener .... Ont
Southern Electronics Co Inc Greeneville .... Tenn
Sparton Electronics, Div Sparton Corp Jackson .... Mich
Standard Industries Buena Park .... Cal
Stanwyck Winding Div San Fernando Elec Mfg Co Inc
  Newburgh .... N Y
Sterling Transformer Corp Brooklyn .... N Y
Subminiature Instruments Corp Riverside .... Cal
Swanson Electronics Co Chicago Ill
Tech-Ohm Electronics Inc Long Island City .... N Y
Tele Coil Co Inc Camden .... N J
Tilton Electronics Corp Winnisquam .... N H
Torelco Inc Irvington .... N J
Toroidal Components Co Pasadena .... Cal
Toroid-Trans Electronics Co Inc Danbury .... Conn
Torotel, Inc Grandview .... Mo
Torwico Electronics, Inc Lakewood .... N J
Tranex Inc Mountain View .... Cal
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia .... Pa
Tri-Dex Co Visalia .... Cal
Triwec Transformer Co Chicago Ill
Tur-Bo Jet Products Co Inc Rosemead .... Cal
United Standard Industries Inc Glenview Ill
U S Electronics Corp Lyndhurst .... N J
Universal Toroid Coil Winding Inc Irvington .... NJ
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Waldom Electronics Inc Chicago Ill
Warsaw Coil Co Inc Warsaw .... Ind
Weecoil Inc Sub Wells Electronics South Bend .... Ind
Wescoil Co Inc Tinley Park Ill
Whitewater Electronics Inc Whitewater .... Wis
Winatic Corp Vestal .... N Y
Wintron Co Inc S El Monte .... Cal
Woodward-Schumacher Electric Corp Chicago Ill
Workman Electronic Products Inc Sarasota .... Fla
Y T & T Corp Roslyn Heights .... NY
Zaring Industries Inc Carmel .... Ind

COILS—VARIABLE

***See* Inductances—Variable**

COIL WINDERS

***See* Machines Coil-Winding**

COINCIDENCE ANALYZERS

***See* Analyzers**

COLLECTOR RINGS

***See* Rings—Collector**

COLLIMATORS

AMERICANA X-RAY CO ENGLEWOOD .... N J
Americana X-Ray Co Englewood .... N J
American Optical Corp Tech Prods Gr Laser Prods Dept Southbridge .... Mass
Barnes Engineering Co Def & Space Div Stamford .... Conn
Buhl Optical Co Pittsburgh .... Pa
Canoga Industries Los Angeles .... Cal
Davidson Optronics Inc West Covina .... Cal
DoAll Co Des Plaines Ill
Ealing Corp Cambridge .... Mass
Engis Equipment Co Morton Grove Ill
Fairchild Space & Defense Sys Div Fairchild Cam & Inst Corp El Segundo .... Cal
Farrand Optical Co Inc Bronx .... N Y
Gaertner Scientific Corp Chicago Ill
General Electrodynamics Corp Garland .... Tex
Goerz Optical Co Inc Inwood .... N Y
H H Controls Co Inc Arlington .... Mass
Hycon Monrovia .... Cal
Infrared Industries Inc Santa Barbara .... Cal
International Laser Systems Inc Orlando .... Fla
Keleket-CGR Corp Waltham .... Mass
Keuffel & Esser Co Morristown .... N J
Kollsman Instrument Corp Syosset .... N Y
Laser Optics Inc Danbury .... Conn
National Cine Equipment Inc New York .... N Y
National Instrument Labs Inc Rockville .... Md
Optics Electronics Corp Dallas .... Tex
Optomechanisms Inc Plainview .... N Y
Opto-Metric Tools Inc New York .... N Y
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Ransom Labs, John H Los Angeles .... Cal
Razdow Labs Inc Newark .... N J
Schoeffel Instrument Corp Westwood .... NJ
Spectra-Physics Mountain View .... Cal
Te Company Santa Barbara .... Cal
Thomson-CSF 78 Versailles .... France
Tropel Inc Fairport .... N Y
TRW Systems Group Redondo Beach .... Cal
Zeiss Inc, Carl New York .... N Y

COLORIMETERS (COLOR ANALYZERS)

American Instrument Co, Inc Silver Spring .... Md
Automated Specialties A Teledyne Co Charlottesville .... Va
Bausch & Lomb Inc Rochester .... N Y
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Canadian Research Institute Don Mills .... Ont
Central Scientific Co Chicago Ill
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Gardner Lab Inc Bethesda .... Md
Grace Electronics Inc Cleveland .... Ohio
H H Controls Co Inc Arlington .... Mass
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Instrument Development Labs Div Kollmorgen Corp Attleboro .... Mass
Jarrell-Ash Co Waltham .... Mass
Lektra Labs Inc Div Kriser Corp College Point .... N Y
Manufacturers Eng & Equip Corp Warrington .... Pa
Milletron, Inc Pittsburgh .... Pa
Milton Roy Co St Petersburg .... Fla
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Phoenix Precision Instrument Co, Inc Philadelphia .... Pa
Schoeffel Instrument Corp Westwood .... NJ
Sencore Inc Addison Ill
Technical Operations Inc Burlington .... Mass
Technicon Corp Tarrytown .... N Y
Zeiss Inc, Carl New York .... N Y

COLUMBIUM

***See* Niobium**

COMBUSTION CONTROLS

***See* Controls—Combustion**

COMMUNICATION RECEIVERS

***See* Receivers—Radio Communication**

COMMUNICATION SYSTEMS—AIRCRAFT

LEACH CORP SOUTH PASADENA .... CAL
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
VEGA PRECISION LABS VIENNA .... VA
Admiral Systems Corp Chicago Ill
Advanced Energy Conversion Menlo Park .... Cal
Aerocom Miami .... Fla
Aircraft Components Inc Benton Harbor .... Mich
Aircraft Radio Corp Boonton .... N J
Allen Aircraft Radio Inc Elk Grove Village Ill
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Avco Electronics Div Cincinnati .... Ohio
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Bendix Corp, Communications Div Towson .... Md
Brelonix Inc Seattle .... Wash
Broadcast Electronics Inc Silver Spring .... Md
C C A Electronics Corp Gloucester .... NJ
Collins Radio Co Dallas .... Tex
Communications Co Coral Gables .... Fla
Dorsett Electronics Inc Tulsa .... Okla
Dynair Electronics Inc San Diego .... Cal
Dynamco Ltd Chertsey Surrey .... Eng
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .... Fla
Electronic Communications Inc Div NCR St Petersburg .... Fla
Emcee Electronics Inc New Castle .... Del
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown .... Md
Fairchild Industrial Products Plainview .... N Y
Ferranti, Ltd Lancashire .... England
General Aviation Electronics Inc Indianapolis .... Ind
General Devices Inc, Instrumentation Div Princeton .... N J
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville .... N Y
Genisco Technology Corp Compton .... Cal
Goodyear Aerospace Corp Akron .... Ohio
Harris-Intertype Corp Cleveland .... Ohio
Honeywell Inc, Computer Control Div Framingham .... Mass
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lane Industries, Electronics Div North Hollywood .... Cal
Leach Corp South Pasadena .... Cal
Linear Systems Inc Watsonville .... Cal
Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
Melabs Palo Alto .... Cal
Mitsubishi Electric Corp Tokyo .... Japan
Motorola, Govt Electronics Div Scottsdale .... Ariz
Narco Avionics Div Narco Scientific Indus Fort Washington .... Pa
North Electric Co Galion .... Ohio
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Prod-El, Prodotti Elettronici Spa 20132 Milan .... Italy
Radiation Systems Inc McLean .... Va
Randam Electronics Inc Cincinnati .... Ohio
RCA, Defense Electronic Products Moorestown .... N J
Reflectone. Inc, Englewood Cliffs .... N J
Resdel Engineering Corp Pasadena .... Cal
R F Communications Inc Rochester .... N Y
Robins Electronics La Mesa .... Cal
Sanders Associates, Inc Nashua .... N H
Schjeldahl Co, G T Northfield .... Minn
Sierra Research Corp Buffalo .... N Y
Sonoma Engineering & Rsch Inc Santa Rosa .... Cal
Sparton Electronics, Div Sparton Corp Jackson .... Mich
Standard Telephones & Cables Ltd London WC 2 .... England
SunAir Electronics Inc Ft Lauderdale .... Fla
Sylvania Electronic Systems Waltham .... Mass
Technical Materiel Corp Mamaroneck .... N Y
Telephonics Div, Instrument Systems Corp Huntington .... NY
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Thomson-CSF 78 Versailles .... France
Toyo Communication Equipment Co Ltd Minato-ku Tokyo .... Japan
Ultra Electronics Ltd London, W 3 .... England
Vega Precision Labs Vienna .... Va
VP Co Pasadena .... Cal
Westinghouse Electric Corp, Aerospace Div Baltimore .... Md
Wickes Industries Inc Camden .... N J
Wilcox Electric Co Kansas City .... Mo

COMMUNICATION SYSTEMS—AIRPORT TRAFFIC CONTROL

COMMUNICATION ASSOCIATES INC NEW HYDE PARK .... N Y
LEACH CORP SOUTH PASADENA .... CAL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL
Admiral Systems Corp Chicago Ill
Aerocom Miami .... Fla
Aircraft Components Inc Benton Harbor .... Mich
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
C C A Electronics Corp Gloucester .... NJ
Cognitronics Corp Mount Kisco .... NY
Communication Associates Inc New Hyde Park .... N Y
Communications Co Coral Gables .... Fla
Crouse-Hinds Co Syracuse .... N Y
Dynair Electronics Inc San Diego .... Cal
Dynamco Ltd Chertsey Surrey .... Eng
Ferranti, Ltd Lancashire .... England
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
General Aviation Electronics Inc Indianapolis .... Ind
General Instrument Corp Electronics Sys Div. Hicksville .... N Y
GPL Television The Singer Co Pleasantville .... N Y
Harris-Intertype Corp Cleveland .... Ohio
IBM Corp White Plains .... N Y
Kaar Electronics Corp Rahway .... N J
Kameco Electronics Ltd. Montreal .... Que
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Leach Corp South Pasadena .... Cal
LFE Electronics Waltham .... Mass
Marconi Co Ltd Chelmsford .... England
Melabs Palo Alto .... Cal
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Philco-Ford Corp Washington .... D C
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .... Ont
Plessey Co Ltd Ilford Essex .... England
Quindar Electronics Inc, Controls Div Springfield .... NJ
Racal Electronics Ltd Bracknell Berks .... England
Radiation Systems Inc McLean .... Va
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
Reflectone. Inc, Englewood Cliffs .... N J
Resdel Engineering Corp Pasadena .... Cal
Robins Electronics La Mesa .... Cal
Sanders Associates, Inc Nashua .... N H
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Siemens America Inc New York .... N Y
Sierra Research Corp Buffalo .... N Y
Siltronics Inc Oakmont .... Pa
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ariz
Standard Telephones & Cables Ltd London WC 2 .... England
Superior Continental Corp Hickory .... N C
Tasker Industries Los Angeles .... Cal
Tasker Industries, Radar Div Van Nuys .... Cal
Technical Materiel Corp Mamaroneck .... N Y
Telautograph Corp Los Angeles .... Cal
Thomson-CSF 78 Versailles .... France
Topping Electronics Ltd Scarborough .... Ont
Toyo Communication Equipment Co Ltd Minato-ku Tokyo .... Japan
Transcom Electronics Inc La Mesa .... Cal
Trepac Corp of America Englewood .... N J
Victor Comptometer Corp, Business Mach Group Chicago Ill
Virginia Electronics Co Inc Falls Church .... Va
Watkins-Johnson Co Palo Alto .... Cal
Wickes Industries Inc Camden .... N J
Wilcox Electric Co Kansas City .... Mo

COMMUNICATION SYSTEMS—AMATEUR RADIO

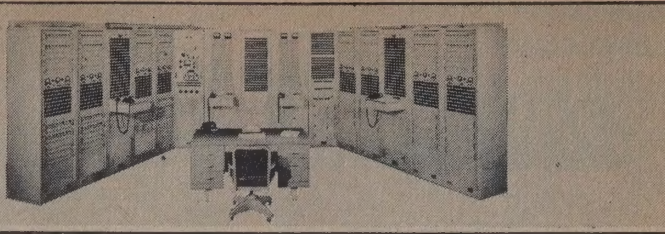
HEATH CO BENTON HARBOR .... MICH
American Geloso Electronics Inc New York .... N Y
Automatic Radio Sales Inc Melrose .... Mass
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Collins Radio Co Dallas .... Tex
Delta Electronics Ltd Rexdale .... Ont
Destron Co Rolling Hills Estate .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Applications Co Pine Brook .... N J
Frederick Electronics Corp Frederick .... Md
Galaxy Electronics Inc Council Bluffs .... Iowa
Hammarlund Mfg Co Inc, The Mars Hill .... N C
Harris-Intertype Corp Cleveland .... Ohio
Heath Co Benton Harbor .... Mich
Johnson Co, E F Waseca .... Minn
Lafayette Radio Electronics Syosset .... NY
Linear Systems Inc Watsonville .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
McElroy Electronics Corp Shirley .... Mass
Multronics Inc Rockville .... Md
National Radio Co Inc Melrose .... Mass
Watkins-Johnson Co Palo Alto .... Cal
Weitermann Electronics Milwaukee .... Wis

COMMUNICATION SYSTEMS—CITIZENS' BAND

HEATH CO BENTON HARBOR .... MICH
INTERNATIONAL CRYSTAL MFG CO INC OKLAHOMA CITY .... OKLA
Aircraft Components Inc Benton Harbor .... Mich
Autronics Corp Pasadena .... Cal
B & K Mfg Co Div Dynascan Corp Chicago Ill
Claricon Products Elizabeth .... N J
Courier Communications Inc Sub Whittaker Corp Newark .... N J
Dowa Trading Co Ltd Kobe .... Japan
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Applications Co Pine Brook .... N J
Electronic Homes Co New York .... N Y
Fanon Electronic Industries Div Courier Commun Inc Newark .... N J
Fujitsu Ltd Tokyo .... Japan
Heath Co Benton Harbor .... Mich
International Crystal Mfg Co Inc Oklahoma City .... Okla
Johnson Co, E F Waseca .... Minn
Kaar Electronics Corp Rahway .... N J
Lafayette Radio Electronics Syosset .... NY
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Melabs Palo Alto .... Cal
Mobil Electronics Inc Anderson .... Ind
Pace Communications Corp Harbor City .... Cal
Pearce-Simpson Inc Div Gladding Corp Miami .... Fla
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Raytheon Co, Marine Products Operation S San Francisco .... Cal
Realtone Electronics Div Soundesign Corp Jersey City .... NJ
Round Hill Assoc Inc New York .... NY
Sanyo Electric Co Ltd Osaka .... Japan
Squires-Sanders Inc Liberty Corner .... N J
States Electronics Corp, Bludworth Marine Div Linden .... N J
Trott Electronics Inc Rochester .... N Y

COMMUNICATION SYSTEMS—DATA TRANSMISSION

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE .... MD
CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS .... N Y
LEACH CORP SOUTH PASADENA .... CAL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY N Y .... ADV PG 143
THETA INSTRUMENT CORP FAIRFIELD .... N J
TUCK ELECTRONICS NEW CUMBERLAND .... PA
VEGA PRECISION LABS VIENNA .... VA
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL
AC Electronics Co Los Angeles .... Cal
Acton Laboratories Inc Acton .... Mass
Advanced Communications Inc Sub Conductron Corp Chatsworth .... Cal
Advanced Space Age Products Inc Alexandria .... Va
Aeroscience Div Elpac Inc Atlanta .... Ga
Aerospace Research, Inc Boston .... Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park .... N Y
Alden Electronic & Impulse Recording Equip Co Inc Westboro .... Mass
Alto Scientific Co, Inc Palo Alto .... Cal
AMBAC Industries Inc Garden City .... N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Anderson-Jacobson Inc Mountain View .... Cal
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Applied Peripheral Systems Inc Houston .... Tex
Astrodata Inc Anaheim .... Cal
Automated Business Systems Div Litton Indus Carlstadt .... N J
Automation Management, Inc Westboro .... Mass
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Avco Electronics Div Cincinnati .... Ohio
Babcock Electronic Corp Costa Mesa .... Cal
Badger Meter Mfg Co Milwaukee .... Wis
Ball Brothers Research Corp Boulder .... Colo
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Beckman Instruments Inc Fullerton, ... Cal
Bell Aerosystems Co Buffalo .... N Y
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Bendix Corp, Communications Div Towson .... Md
Bendix Corp Environmental Science Div Baltimore .... Md
Beukers Labs Inc Hauppauge .... NY
Biocom, Inc Culver City .... Cal
Bionic Instruments Inc Bala Cynwyd .... Pa
Bristol Div, American Chain & Cable Co Waterbury .... Conn
Brown Engineering-A Teledyne Co Huntsville .... Ala
Burroughs Corp Component Sales Dept Los Angeles .... Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
Canadian Motorola Electronics Ltd Willowdale 425 .... Ont
Canberra Industries Meriden .... Conn
Canoga Industries Los Angeles .... Cal
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
Cognitronics Corp Mount Kisco .... NY
Cohu Electronics Inc San Diego .... Cal
Collins Radio Co Dallas .... Tex
Colorado Instruments Inc Broomfield .... Colo
Columbia Research Labs Inc Woodlyn .... Pa
Communitype Corp New York .... N Y
Compudyne Corp Hatboro .... Pa
Concord Electronics Corp Los Angeles .... Cal
Conic Corp San Diego .... Cal
Connecticut Technical Corp Hartford .... Conn
Control Logic Inc Natick .... Mass
Control Science Corp Alexandria .... Va
Cunningham Corp Sub Gleason Wks Honeoye Falls .... N Y
Dasa Corp Andover .... Mass
Data Access Systems Inc Landing .... N J
Data-Control Systems Inc Danbury .... Conn
Data Mark Inc Westbury .... N Y
Data Products Corp Woodland Hills .... Cal
Data Trends Inc Mountain Lakes .... NJ
Data Vox Div Data Technology Corp Palo Alto .... Cal
Da-Tel Research Co Montrose .... Colo
Defense Electronics Div DEI Industries Rockville .... Md
Diamond Repeater Co Madison .... N J
Digi-Data Corp Bladensburg .... Md
Digital Products Corp Fort Lauderdale .... Fla
Digitech Inc Ridgefield .... Conn
Digitronics Corp Albertson .... N Y
Dorsett Electronics Inc Tulsa .... Okla
Dresser Controls Houston .... Texas
Dynamco Ltd Chertsey Surrey .... Eng
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .... Fla
E G & G Inc, Systems Group Bedford .... Mass
Electrac Inc Anaheim .... Cal
Electronic Communications Inc Div NCR St Petersburg .... Fla
Electronics Communications Div Atlantic Research Corp Alexandria .... Va
EMR Div Weston Instruments Inc Princeton .... N J
Energy Systems Inc Palo Alto .... Cal
Epsco Inc Westwood .... Mass
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown .... Md
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp Paramus .... N J
Ferranti, Ltd Lancashire .... England
Fisher-Akin Co Manhattan Beach .... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
Frederick Electronics Corp Frederick .... Md
Friden Div Singer Co San Leandro .... Cal
Fujitsu Ltd Tokyo .... Japan
General Atronics Corp, Military Elctns Div Philadelphia .... Pa
General Devices Inc, Instrumentation Div Princeton .... N J
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co Communication Products Dept Lynchburg .... Va
General Electric Co, Information Devices Dept. Oklahoma City .... Okla
General Electric Co Info Sys Equip Div Phoenix .... Ariz



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GPL Television The Singer Co Pleasantville .... N Y
Ground/data Corp Fort Lauderdale .... Fla
Gulton Industries Inc Metuchen .... N J
Harris-Intertype Corp Cleveland .... Ohio
Hathaway Pacific Palo Alto .... Cal
H B Engineering Corp Silver Spring .... Md
Honeywell EDP Div Wellesley Hills .... Mass
Honeywell Inc, Computer Control Div Framingham .... Mass
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
Infomax Palo Alto .... Cal
International Communications Corp Miami .... Fla
International Scanatron Systems Corp Wyandanch .... N Y
Invac Corp Div Digitronics Corp Waltham .... Mass
ITT Decca Marine Inc New York .... NY
ITT Defense Communications Div Nutley .... N J
Kameco Electronics Ltd. Montreal .... Que
Karkar Electronics Inc San Francisco .... Cal
Kleinschmidt, Div SCM Corp Deerfield Ill
Landis & Gyr AG Zug .... Switzerland
Leach Corp South Pasadena .... Cal
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim .... Cal
Lenkurt Electric Co Inc San Carlos .... Cal
Link Div Singer Co Binghamton .... N Y
Logic Corp Haddonfield .... N J
Loral Electronic Systems, Div Loral Corp New York .... NY
LTV Electrosystems Inc, Garland Div Dallas .... Tex
Lynch Communication Systems San Francisco .... Cal
Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
Marin Controls Co Div FRL Inc Belmont .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Melabs Palo Alto .... Cal
Meteorology Research Inc Altadena .... Cal
Microwave Associates Inc Burlington .... Mass
Mid-West Metal Products Inc Kansas City .... Kans
Milgo Electronic Corp Miami .... Fla
Mitsubishi Electric Corp Tokyo .... Japan
Molecular Research Inc Palm Beach Gardens .... Fla
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Moore Associates Div Rucker Co San Carlos .... Cal
Moseley Associates Inc Goleta .... Cal
Motorola, Govt Electronics Div Scottsdale .... Ariz
Muirhead Instruments Inc Mountainside .... N J
National Cash Register Co Dayton .... Ohio
Navcor Inc Div KDI Corp Norristown .... Pa
Nippon Electric Co Ltd Tokyo .... Japan
Noller Control Systems Richmond .... Cal
North Electric Co Galion .... Ohio
Northern Radio Co Inc New York .... N Y
Oki Electric Industry Co Ltd Tokyo .... Japan
Omnitec Corp Phoenix .... Ariz
Pacific Data & Controls San Carlos .... Cal
Philco-Ford Corp Washington .... D C
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .... Ont
Pioneer Electric & Research Corp Forest Park Ill
Plessey Co Ltd Ilford Essex .... England
Potter Instrument Co, Inc Plainview .... N Y
Pulse Communications Inc Falls Church .... Va
Quindar Electronics Inc, Controls Div Springfield .... NJ
Racal Communications Inc Silver Spring .... Md
Racal Electronics Ltd Bracknell Berks .... England
Radio Engineering Labs, Div DCA Long Island City .... N Y
Raytheon Co, Communications & Data Processing Oper Norwood .... Mass
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
RC-95 Inc New York .... N Y
Reflectone. Inc, Englewood Cliffs .... N J
Resdel Engineering Corp Pasadena .... Cal
RFL Industries Inc, Communications Div Boonton .... N J
Rixon Electronics Inc Silver Spring .... Md
Sanders Associates, Inc Nashua .... N H
Sanders Associates Inc, Data Systems Div Nashua .... N H
Sanders Assoc Inc, Geospace Elctns Div Plainview .... N Y
Sanders Assoc Inc, Intl Ground Sys Div Reston .... Va
Sangamo Electric Co Springfield Ill
Schjeldahl Co, G T Northfield .... Minn
Scientific Data Systems Inc El Segundo .... Cal
Sci-Tek Computer Center Inc Wilmington .... Del
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Sesco Inc Friday Harbor .... Wash
Siemens America Inc New York .... N Y
Sierra Research Corp Buffalo .... N Y
Sonex Inc Philadelphia .... Pa
Soroban, Inc. Melbourne .... Fla
Squires-Sanders Inc Liberty Corner .... N J
Standard Telephones & Cables Ltd London WC 2 .... England
Stelma Inc Stamford .... Conn
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Superior Continental Corp Hickory .... N C
Surface Conduction Inc New York .... N Y
Sylvania Electronic Systems Waltham .... Mass
Symetrics Engineering Corp Satellite Beach .... Fla
Tally Corp Seattle .... Wash
Tally Corp, Business Systems Seattle .... Wash
Technical Materiel Corp Mamaroneck .... N Y
Telautograph Corp Los Angeles .... Cal
Telecontrol Div Vogue Instrument Corp Plainview .... NY
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia .... Pa
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Teletype Corp Skokie Ill
Texas Instruments Incorporated Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
Theta Instrument Corp Fairfield .... N J
Thomson-CSF 78 Versailles .... France
Towson Labs, Dept E Baltimore .... Md
Transcom Electronics Inc La Mesa .... Cal
Transistor Electronics Corp Minneapolis .... Minn
Trepac Corp of America Englewood .... N J
TRW Systems Group Redondo Beach .... Cal
Tuck Electronics New Cumberland .... Pa
Univac Div, Sperry Rand Corp Philadelphia .... Pa
Utility Communication Systems Inc West Chester .... Pa
Varian Data Machines Irvine .... Cal
Vega Precision Labs Vienna .... Va
Vernitron Corp Precision Comp Group Farmingdale .... N Y
Viatron Computer Systems Corp Bedford .... Mass
Victor Comptometer Corp, Business Mach Group Chicago Ill
Vidar Corp Mountain View .... Cal
Video Research Corp Rockville .... Md
Vitro Labs Div Sub Automation Ind Inc Silver Spring .... Md
Vitro Labs Div Vitro Corp of America W Orange .... N J
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham .... England
Wilcox Electric Co Kansas City .... Mo
Wiltek, Inc Wilton .... Conn
Zehntel, Inc Berkeley .... Cal

COMMUNICATION SYSTEMS—FACSIMILE

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE .... MD
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Alden Electronic & Impulse Recording Equip Co Inc Westboro .... Mass
Anritsu Electric Co Ltd Tokyo .... Japan
Automation Management, Inc Westboro .... Mass
Bendix Corp Environmental Science Div Baltimore .... Md
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Concord Electronics Corp Los Angeles .... Cal
Data Access Systems Inc Landing .... N J
Decitron Communication Systems Inc Brooklyn .... N Y
Dynamco Ltd Chertsey Surrey .... Eng
E G & G Inc, Systems Group Bedford .... Mass
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
Goodyear Aerospace Corp Akron .... Ohio
Infomax Palo Alto .... Cal
International Scanatron Systems Corp Wyandanch .... N Y
ITT Defense Communications Div Nutley .... N J
Karkar Electronics Inc San Francisco .... Cal
Lenkurt Electric Co Inc San Carlos .... Cal
Metox Paris 20 .... France
Microwave Associates Inc Burlington .... Mass
3M Company St Paul .... Minn
Muirhead Instruments Inc Mountainside .... N J
Nippon Electric Co Ltd Tokyo .... Japan
Northern Radio Co Inc New York .... N Y
Philco-Ford Corp Washington .... D C
Racal Electronics Ltd Bracknell Berks .... England
Raytheon Co, Communications & Data Processing Oper Norwood .... Mass
Raytheon Co, Government Marketing Lexington .... Mass
Resdel Engineering Corp Pasadena .... Cal
R F Communications Inc Rochester .... N Y
Technical Materiel Corp Mamaroneck .... N Y
Telautograph Corp Los Angeles .... Cal
Telectro Systems Corp Corona .... N Y
Topping Electronics Ltd Scarborough .... Ont
Trepac Corp of America Englewood .... N J
Xerox Corp Rochester .... N Y

COMMUNICATION SYSTEMS—FREQUENCY SHIFT

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . N Y
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL
AC Electronics Co Los Angeles . . . . Cal
Acton Laboratories Inc Acton . . . . Mass
Advanced Communications Inc Sub Conductron Corp Chatsworth . . . . Cal
Advanced Technology Corp Chambersburg . . . . Pa
Aerocom Miami . . . . Fla
Aerospace Research, Inc Boston . . . . Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . . N Y
American Astrionics Inc Palo Alto . . . . Cal
Anritsu Electric Co Ltd Tokyo . . . . Japan
Applied Peripheral Systems Inc Houston . . . . Tex
Aquadyne Inc East Falmouth . . . . Mass
Audio Instrument Co Inc Union City . . . . N J
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Barker & Williamson Div Sunshine Mining Co Bristol . . . . . . Pa
Bramco Controls Div Ledex Inc Piqua . . . . Ohio
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Cardion Electronics Div Gen Signal Corp Woodbury . . . . . . N Y
Cie De Signaux Et D'Entreprises Electriques Paris 17eme . . . . France
Collins Radio Co Dallas . . . . Tex
Communication Associates Inc New Hyde Park . . . . N Y
Dorsett Electronics Inc Tulsa . . . . Okla
Electrac Inc Anaheim . . . . Cal
Electronic Communications Inc Div NCR St Petersburg . . . Fla
Energy Systems Inc Palo Alto . . . . Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Frederick Electronics Corp Frederick . . . . Md
Fujitsu Ltd Tokyo . . . . Japan
Gates Radio Co Quincy Ill
General Atronics Corp, Military Elctns Div Philadelphia . . . . Pa
General Dynamics, Electronics Div Rochester . . . . N Y
General Electric Co Communication Products Dept Lynchburg . . . . Va
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Ground/data Corp Fort Lauderdale . . . . Fla
Hammarlund Mfg Co Inc, The Mars Hill . . . . N C
Hathaway Pacific Palo Alto . . . . Cal
Infomax Palo Alto . . . . Cal
International Communications Corp Miami . . . . Fla
International Scanatron Systems Corp Wyandanch . . . . . . N Y
Karkar Electronics Inc San Francisco . . . . Cal
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Landis & Gyr AG Zug . . . . Switzerland
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . Cal
Lenkurt Electric Co Inc San Carlos . . . . Cal
Loral Electronic Systems, Div Loral Corp New York . . . . . . NY
Lynch Communication Systems San Francisco . . . . Cal
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Microwave Associates Inc Burlington . . . . Mass
Milgo Electronic Corp Miami . . . . Fla
Moore Associates Div Rucker Co San Carlos . . . . Cal
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Nippon Electric Co Ltd Tokyo . . . . Japan
Noller Control Systems Richmond . . . . Cal
Northern Radio Co Inc New York . . . . N Y
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Philco-Ford Corp Washington . . . . D C
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . . Ont
Plessey Co Ltd Ilford Essex . . . . England
Quindar Electronics Inc, Controls Div Springfield . . . . NJ
Racal Communications Inc Silver Spring . . . . Md
Racal Electronics Ltd Bracknell Berks . . . . England
RCA, Defense Electronic Products Moorestown . . . . N J
Resdel Engineering Corp Pasadena . . . . Cal
RFL Industries Inc, Communications Div Boonton . . . . N J
Rixon Electronics Inc Silver Spring . . . . Md
Selenia - Industrie Elettroniche Assoc Rome . . . . Italy
Siemens America Inc New York . . . . N Y
Sierra Research Corp Buffalo . . . . N Y
Sonex Inc Philadelphia . . . . Pa
Stelma Inc Stamford . . . . Conn
Stromberg-Carlson Sub Gen Dynamics Rochester . . . . N Y
Technical Materiel Corp Mamaroneck . . . . N Y
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia . . . . Pa
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Topping Electronics Ltd Scarborough . . . . Ont
Trepac Corp of America Englewood . . . . N J
Utility Communication Systems Inc West Chester . . . . Pa
Victor Comptometer Corp, Business Mach Group Chicago . . Ill
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham . . . . England
Wilcox Electric Co Kansas City . . . . Mo

COMMUNICATION SYSTEMS—LAND MOBILE

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . N Y
TUCK ELECTRONICS NEW CUMBERLAND . . . . PA
Aircraft Components Inc Benton Harbor . . . . Mich
Anritsu Electric Co Ltd Tokyo . . . . Japan
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Autronics Corp Pasadena . . . . Cal
Avco Electronics Div Cincinnati . . . . Ohio
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Biocom, Inc Culver City . . . . Cal
B & K Mfg Co Div Dynascan Corp Chicago Ill
Brelonix Inc Seattle . . . . Wash
Canadian Marconi Co Montreal 16 . . . . Quebec
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Canoga Industries Los Angeles . . . . Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme . . . . France
Claricon Products Elizabeth . . . . N J
Cober Electronics Inc Stamford . . . . Conn
Communication Associates Inc New Hyde Park . . . . N Y
Communications Co Coral Gables . . . . Fla
Cosmos Industries Inc Brooklyn . . . . N Y
Courier Communications Inc Sub Whittaker Corp Newark . N J
Dayton Electronics Products Co Dayton . . . . Ohio
Defense Electronics Div DEI Industries Rockville . . . . Md
Dumont Mobile Commun Div Hammarlund Anaheim . . . . . . Cal
Dynamco Ltd Chertsey Surrey . . . . Eng
Electronic Communications Inc Div NCR St Petersburg . . . Fla
Electrospace Corp Westbury . . . . NY
Energy Systems Inc Palo Alto . . . . Cal
Ferranti, Ltd Lancashire . . . . England
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Fujitsu Ltd Tokyo . . . . Japan
Galaxy Electronics Inc Council Bluffs . . . . Iowa
General Dynamics, Electronics Div Rochester . . . . N Y
General Electric Co, Mobile Radio Dept Lynchburg . . . . Va
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Goodyear Aerospace Corp Akron . . . . Ohio
Ground/data Corp Fort Lauderdale . . . . Fla
Hammarlund Mfg Co Inc, The Mars Hill . . . . N C
Harris-Intertype Corp Cleveland . . . . Ohio
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa . . . . Japan
Infomax Palo Alto . . . . Cal
International Scanatron Systems Corp Wyandanch . . . . . . N Y
ITT Defense Communications Div Nutley . . . . N J
Johnson Co, E F Waseca . . . . Minn
Kaar Electronics Corp Rahway . . . . N J
Kleinschmidt, Div SCM Corp Deerfield Ill
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Linear Systems Inc Watsonville . . . . Cal
Marconi Co Ltd Chelmsford . . . . England
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Marti Electronics Cleburne . . . . Tex
Matsushita Communication Industrial Co Ltd Yokohama . . . . Japan
Melabs Palo Alto . . . . Cal
Memcor Div LTV Electrosystems Inc Huntington . . . . Ind
Micro Communications Co Denver . . . . Colo
Microwave Associates Inc Burlington . . . . Mass
Mitsubishi Electric Corp Tokyo . . . . Japan
Mobil Electronics Inc Anderson . . . . Ind
Moseley Associates Inc Goleta . . . . Cal
Motorola Communications & Electronics Div Schaumburg . . Ill
Motorola Communications & Electronics Inc Chicago Ill
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Pace Communications Corp Harbor City . . . . Cal
Pearce-Simpson Inc Div Gladding Corp Miami . . . . Fla
Plessey Co Ltd Ilford Essex . . . . England
Racal Communications Inc Silver Spring . . . . Md
Racal Electronics Ltd Bracknell Berks . . . . England
Radiation Systems Inc McLean . . . . Va
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Radio Engineering Labs, Div DCA Long Island City . . . . . . N Y
Raytheon Co, Communications & Data Processing Oper Norwood . . . . Mass
Raytheon Co, Government Marketing Lexington . . . . Mass
RCA, Defense Electronic Products Moorestown . . . . N J
Reeves Instrument Div, DCA Garden City . . . . N Y
Resdel Engineering Corp Pasadena . . . . Cal
R F Communications Inc Rochester . . . . N Y
Robins Electronics La Mesa . . . . Cal
Selenia - Industrie Elettroniche Assoc Rome . . . . Italy
Siemens America Inc New York . . . . N Y
Sierra Research Corp Buffalo . . . . N Y
Standard Telephones & Cables Ltd London WC 2 . . . . England
Stelma Inc Stamford . . . . Conn
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck . . . . N Y
SunAir Electronics Inc Ft Lauderdale . . . . Fla
Surface Conduction Inc New York . . . . N Y
Symetrics Engineering Corp Satellite Beach . . . . Fla
Systems Engineering Ltd Grouse Creek . . . . Utah
Technical Materiel Corp Mamaroneck . . . . N Y
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Thomson-CSF 78 Versailles . . . . France
T M C Systems & Power Corp Springfield . . . . Va
Toyo Communication Equipment Co Ltd Minato-ku Tokyo . . . . Japan
Transcom Electronics Inc La Mesa . . . . Cal
Tuck Electronics New Cumberland . . . . Pa
Ultra Electronics Ltd London, W 3 . . . . England
Union Switch & Signal Div Westinghouse Air Brake Co Pittsburgh . . . . Pa
VP Co Pasadena . . . . Cal
Watkins-Johnson Co Palo Alto . . . . Cal
Wickes Industries Inc Camden . . . . N J
Wilcox Electric Co Kansas City . . . . Mo

COMMUNICATION SYSTEMS—MARINE RADIOTELEPHONE

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
HEATH CO BENTON HARBOR . . . . MICH
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Aeromarine Electronics, Inc San Diego . . . . Cal
Anritsu Electric Co Ltd Tokyo . . . . Japan
Atlantic Instruments & Electronics, Inc Watertown . . . . . Mass
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Brelonix Inc Seattle . . . . Wash
Canadian Marconi Co Montreal 16 . . . . Quebec
Canoga Industries Los Angeles . . . . Cal
CEC-Benmar Santa Ana . . . . Cal
Cober Electronics Inc Stamford . . . . Conn
Communication Associates Inc New Hyde Park . . . . N Y
Communications Co Coral Gables . . . . Fla
Dynamco Ltd Chertsey Surrey . . . . Eng
Gates Radio Co Quincy Ill
General Coil Products Corp Brooklyn . . . . N Y
Hammarlund Mfg Co Inc, The Mars Hill . . . . N C
Harris-Intertype Corp Cleveland . . . . Ohio
Heath Co Benton Harbor . . . . Mich
Hydro Products Div Dillingham Corp San Diego . . . . Cal
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa . . . . Japan
International Scanatron Systems Corp Wyandanch . . . . . . N Y
Jetronic Industries Inc Philadelphia . . . . Pa
Kaar Electronics Corp Rahway . . . . N J
Kidde & Co Inc, Walter Belleville . . . . N J
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Konigsberg Electronics Inc So San Francisco . . . . Cal
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Linear Systems Inc Watsonville . . . . Cal
Marconi Div, English Electric Corp New York . . . . N Y
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Motorola Communications & Electronics Div Schaumburg . . Ill
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Pace Communications Corp Harbor City . . . . Cal
Pearce-Simpson Inc Div Gladding Corp Miami . . . . Fla
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . . Ont
Prod-El, Prodotti Elettronici Spa 20132 Milan . . . . Italy
Racal Communications Inc Silver Spring . . . . Md
Racal Electronics Ltd Bracknell Berks . . . . England
Radiomarine Corp Red Bank . . . . N J
Raytheon Co, Marine Products Operation S San Francisco . Cal
RCA, Defense Electronic Products Moorestown . . . . N J
R F Communications Inc Rochester . . . . N Y
Robins Electronics La Mesa . . . . Cal
Rowe Co, L L Boston . . . . Mass
Servo-Tek Products Co, Marine Div Hawthorne . . . . N J
Servo-Tek Products Co Hawthorne . . . . N J
Simpson Electronics, Inc Miami . . . . Fla
Standard Telephones & Cables Ltd London WC 2 . . . . England
States Electronics Corp, Bludworth Marine Div Linden . . . . N J
SunAir Electronics Inc Ft Lauderdale . . . . Fla
Technical Materiel Corp Mamaroneck . . . . N Y
Thomson-CSF 78 Versailles . . . . France
T M C Systems & Power Corp Springfield . . . . Va
Topping Electronics Ltd Scarborough . . . . Ont
Transcom Electronics Inc La Mesa . . . . Cal
Watkins-Johnson Co Palo Alto . . . . Cal

COMMUNICATION SYSTEMS—MICROWAVE

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON . . . . MASS
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
R H G ELECTRONICS LAB INC FARMINGDALE . . . . N Y
SCIENTIFIC-ATLANTA INC ATLANTA . . . . GA
SERVO CORP OF AMERICA HICKSVILLE . . . . N Y
SIEMENS AMERICA INC NEW YORK . . . . N Y
VEGA PRECISION LABS VIENNA . . . . VA
ZETA LABORATORIES INC MOUNTAIN VIEW . . . . CAL
Aertech Industries Sunnyvale . . . . Cal
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . . N Y
Aircom Inc Union . . . . N H
Alto Scientific Co, Inc Palo Alto . . . . Cal
American Electronic Labs Inc Lansdale . . . . Pa
Andrew Corp Orland Park Ill
Anzac-Waltham, Div Adams-Russell Waltham . . . . Mass
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Canadian Marconi Co Montreal 16 . . . . Quebec
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Canoga Industries Los Angeles . . . . Cal
Cardion Communications Woodbury . . . . N Y
Cardion Electronics Div Gen Signal Corp Woodbury . . . . . . N Y
Cober Electronics Inc Stamford . . . . Conn
Collins Radio Co Dallas . . . . Tex
Conic Corp San Diego . . . . Cal
Control Data Corp. Boston Sp & Def Sys Div East Boston . . . . Mass
Cosmos Industries Inc Brooklyn . . . . N Y
Costelow Co Inc Topeka . . . . Kans
Data-Design Labs Cucamonga . . . . Cal
Dewey Corp, G C New York . . . . N Y
Electronic Resources Inc Tasker Indus Los Angeles . . . . . . Cal
Energy Systems Inc Palo Alto . . . . Cal
Epsco Inc Westwood . . . . Mass
Ewen-Knight Corp East Natick . . . . Mass
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Farinon Electric San Carlos . . . . Cal
Ferranti Electric Inc Plainview . . . . N Y
Ferranti, Ltd Lancashire . . . . England
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Fujitsu Ltd Tokyo . . . . Japan
General Atronics Corp, Military Elctns Div Philadelphia . . . . Pa
General Dynamics, Electronics Div Rochester . . . . N Y
General Electric Co Communication Products Dept Lynchburg . . . . Va
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Goodyear Aerospace Corp Akron . . . . Ohio
Granger Associates Palo Alto . . . . Cal
Harris-Intertype Corp Cleveland . . . . Ohio
Hickok Teaching Systems Inc Woburn . . . . Mass
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa . . . . Japan
Infomax Palo Alto . . . . Cal
Intelect Inc Honolulu . . . . Hawaii
International Microwave Corp Cos Cob . . . . Conn
ITT Defense Communications Div Nutley . . . . N J
Jerrold Electronics Corp Philadelphia . . . . Pa
Karkar Electronics Inc San Francisco . . . . Cal
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis . . . . France
Lake Systems Corp Newton . . . . Mass
Lenkurt Electric Co Inc San Carlos . . . . Cal
Loral Electronic Systems, Div Loral Corp New York . . . . . . NY

Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
Marti Electronics Cleburne .... Tex
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Melabs Palo Alto .... Cal
Micro Communications Co Denver .... Colo
Micronetics Div Teledyne Systems Co San Diego .... Cal
Micro State Electronics Oper Raytheon Co Murray Hill ... N J
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Mitsubishi Electric Corp Tokyo .... Japan
Moseley Associates Inc Goleta .... Cal
Motorola Communications & Electronics Div Schaumburg .. Ill
Motorola Communications & Electronics Inc Chicago Ill
Motorola, Govt Electronics Div Scottsdale .... Ariz
Narda Microwave Corp Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Philco-Ford Corp Washington .... D C
Quindar Electronics Inc, Controls Div Springfield .... NJ
Radiation Systems Inc McLean .... Va
Radio Corp of America, Comml Elctn Prods Div Camden .. N J
Radio Engineering Labs, Div DCA Long Island City ...... N Y
Ramcor Inc Huntington .... NY
Raven Electronics Inc Burbank .... Cal
Raytheon Co, Communications & Data Processing Oper Norwood .... Mass
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Resdel Engineering Corp Pasadena .... Cal
R H G Electronics Lab Inc Farmingdale .... N Y
Sanders Assoc Inc, Microwave Div Nashua .... N H
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington.... Ind
Scientific-Atlanta Inc Atlanta .... Ga
Sedco Systems Inc Farmingdale .... N Y
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Servo Corp of America Hicksville .... N Y
Siemens America Inc New York .... N Y
Sierra Research Corp Buffalo .... N Y
Standard Telephones & Cables Ltd London WC 2 .... England
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Surface Conduction Inc New York .... N Y
Sylvania Electronic Systems Waltham .... Mass
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia .... Pa
Telefunken Sales Corp Garden City .... N Y
Thomson-CSF 78 Versailles .... France
TRF Inc Springfield .... Va
TRW Systems Group Redondo Beach .... Cal
Varian Palo Alto .... Cal
Vega Precision Labs Vienna .... Va
Watkins-Johnson Co Palo Alto .... Cal
Wickes Industries Inc Camden .... N J
Zeta Laboratories Inc Mountain View .... Cal

COMMUNICATION SYSTEMS—MULTIPLEX RADIO CARRIER

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ..... N Y
Advanced Communications Inc Sub Conductron Corp Chatsworth .... Cal
Aerospace Research, Inc Boston .... Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park .... N Y
Anritsu Electric Co Ltd Tokyo .... Japan
A R F Products, Inc Raton .... N M
Ark Electronics Corp Willow Grove .... Pa
Astrodata Inc Anaheim .... Cal
Barker & Williamson Div Sunshine Mining Co Bristol ...... Pa
Belar Electronics Lab Inc Upper Darby .... Pa
Canadian Motorola Electronics Ltd Willowdale 425 ...... Ont
Cardion Communications Woodbury .... N Y
Cardion Electronics Div Gen Signal Corp Woodbury ...... N Y
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
Collins Radio Co Dallas .... Tex
Data Access Systems Inc Landing .... N J
Dayton Electronics Products Co Dayton .... Ohio
Dorsett Electronics Inc Tulsa .... Okla
Dynamco Ltd Chertsey Surrey .... Eng
Electronic Communications Inc Div NCR St Petersburg ... Fla
Energy Systems Inc Palo Alto .... Cal
Epsco Inc Westwood .... Mass
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Farinon Electric San Carlos .... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Fujitsu Ltd Tokyo .... Japan
Gates Radio Co Quincy Ill
General Devices Inc, Instrumentation Div Princeton ...... N J
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co Communication Products Dept Lynchburg .... Va
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Gulton Industries Inc Metuchen .... N J
Harris-Intertype Corp Cleveland .... Ohio
Hathaway Pacific Palo Alto .... Cal
Infomax Palo Alto .... Cal
Intelect Inc Honolulu .... Hawaii
Karg Labs Inc South Norwalk .... Conn
Karkar Electronics Inc San Francisco .... Cal
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Lenkurt Electric Co Inc San Carlos .... Cal
Lynch Communication Systems San Francisco .... Cal
Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
Marin Controls Co Div FRL Inc Belmont .... Cal

Matsushita Communication Industrial Co Ltd Yokohama .... Japan
Moseley Associates Inc Goleta .... Cal
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Racal Electronics Ltd Bracknell Berks .... England
Radio Corp of America, Comml Elctn Prods Div Camden .. N J
Radio Engineering Labs, Div DCA Long Island City ...... N Y
Raytheon Co, Communications & Data Processing Oper Norwood .... Mass
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
Resdel Engineering Corp Pasadena .... Cal
RFL Industries Inc, Communications Div Boonton .... N J
Sanders Assoc Inc, Intl Ground Sys Div Reston .... Va
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Siemens America Inc New York .... N Y
Sierra Research Corp Buffalo .... N Y
Sonex Inc Philadelphia .... Pa
Standard Telephones & Cables Ltd London WC 2 .... England
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Surface Conduction Inc New York .... N Y
Systems Engineering Ltd Grouse Creek .... Utah
Technical Materiel Corp Mamaroneck .... N Y
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia .... Pa
Telefunken Sales Corp Garden City .... N Y
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Thomson-CSF 78 Versailles .... France
Utility Communication Systems Inc West Chester .... Pa
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham .... England
Wilcox Electric Co Kansas City .... Mo

COMMUNICATION SYSTEMS—MULTIPLEX WIRELINE CARRIER

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ..... N Y
TUCK ELECTRONICS NEW CUMBERLAND .... PA
Alto Scientific Co, Inc Palo Alto .... Cal
Anritsu Electric Co Ltd Tokyo .... Japan
Applied Peripheral Systems Inc Houston .... Tex
Ark Electronics Corp Willow Grove .... Pa
Astrodata Inc Anaheim .... Cal
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Bionic Instruments Inc Bala Cynwyd .... Pa
Canoga Industries Los Angeles .... Cal
Cardion Communications Woodbury .... N Y
Cardion Electronics Div Gen Signal Corp Woodbury ...... N Y
Collins Radio Co Dallas .... Tex
Data Access Systems Inc Landing .... N J
Datametrics Corp Van Nuys .... Cal
Data Products Corp Woodland Hills .... Cal
Data Trends Inc Mountain Lakes .... NJ
Da-Tel Research Co Montrose .... Colo
Defense Electronics Div DEI Industries Rockville .... Md
Dorsett Electronics Inc Tulsa .... Okla
Executive Electronics Inc. Denver .... Colo
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Fujitsu Ltd Tokyo .... Japan
General Devices Inc, Instrumentation Div Princeton ...... N J
General Dynamics, Electronics Div Rochester .... N Y
Gulton Industries Inc Metuchen .... N J
Hamilton Standard Div UAC Elctns Systems Windsor Locks .... Conn
Harris-Intertype Corp Cleveland .... Ohio
Infomax Palo Alto .... Cal
International Communications Corp Miami .... Fla
International Scanatron Systems Corp Wyandanch ...... N Y
Karkar Electronics Inc San Francisco .... Cal
Landis & Gyr AG Zug .... Switzerland
Lenkurt Electric Co Inc San Carlos .... Cal
Lynch Communication Systems San Francisco .... Cal
Marconi Co Ltd Chelmsford .... England
Marin Controls Co Div FRL Inc Belmont .... Cal
Milgo Electronic Corp Miami .... Fla
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Philco-Ford Corp Washington .... D C
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .. Ont
Plessey Co Ltd Ilford Essex .... England
Quindar Electronics Inc, Controls Div Springfield .... NJ
RCA, Defense Electronic Products Moorestown .... N J
RFL Industries Inc, Communications Div Boonton .... N J
Rixon Electronics Inc Silver Spring .... Md
Rockland Labs Inc Blauvelt .... N Y
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Siemens America Inc New York .... N Y
Sonex Inc Philadelphia .... Pa
Standard Telephones & Cables Ltd London WC 2 .... England
Stelma Inc Stamford .... Conn
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Superior Continental Corp Hickory .... N C
Surface Conduction Inc New York .... N Y
Systems Engineering Ltd Grouse Creek .... Utah
Teledata Inc Queens Village .... N Y
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Tuck Electronics New Cumberland .... Pa
Utility Communication Systems Inc West Chester .... Pa
Vidar Corp Mountain View .... Cal
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham .... England

COMMUNICATION SYSTEMS—OPTICAL

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
American Optical Corp Tech Prods Gr Laser Prods Dept Southbridge .... Mass
Anritsu Electric Co Ltd Tokyo .... Japan
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Bausch & Lomb Inc Rochester .... N Y
Broomer Research Corp Plainview .... N Y
Canoga Industries Los Angeles .... Cal
Cohu Electronics Inc San Diego .... Cal
Crystalab Products Corp Rochelle Park .... N J
Data Access Systems Inc Landing .... N J
Decitron Communication Systems Inc Brooklyn .... N Y
Electro-Data Inc Garland .... Tex
Executive Electronics Inc. Denver .... Colo
General Laser Corp Natick .... Mass
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa .... Japan
Infrared Industries Inc Santa Barbara .... Cal
Isomet Corp Palisades Park .... N J
Kollsman Instrument Corp Syosset .... N Y
Motorola Communications & Electronics Div Schaumburg .. Ill
Motorola, Govt Electronics Div Scottsdale .... Ariz
Optomechanisms Inc Plainview .... N Y
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Ransom Labs, John H Los Angeles .... Cal
RCA, Defense Electronic Products Moorestown .... N J
Resalab Scientific Div Resalab Inc Menlo Park .... Cal
Schoeffel Instrument Corp Westwood .... NJ
Seed Electronics Corp Lexington .... Mass
Sensor Precision Industries Inc Medfield .... Mass
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Surface Conduction Inc New York .... N Y
Sylvania Electronic Systems Waltham .... Mass
Thomson-CSF 78 Versailles .... France
TRW Systems Group Redondo Beach .... Cal
Westinghouse Electric Corp, Aerospace Div Baltimore .... Md

COMMUNICATION SYSTEMS—RAILROAD

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON .... MASS
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN .... MO
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL
Anritsu Electric Co Ltd Tokyo .... Japan
Automatic Electric Co Northlake Ill
Bayly Engineering Ltd Ajax .... Ont
Canadian Motorola Electronics Ltd Willowdale 425 ...... Ont
Cardion Electronics Div Gen Signal Corp Woodbury ...... N Y
Compudyne Corp Hatboro .... Pa
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Data Access Systems Inc Landing .... N J
Dumont Mobile Commun Div Hammarlund Anaheim ...... Cal
Dynamco Ltd Chertsey Surrey .... Eng
Eagle-Picher Industries Inc, Electronics Div Joplin .... Mo
Executone Inc Long Island City .... N Y
Farinon Electric San Carlos .... Cal
General Electric Co Communication Products Dept Lynchburg .... Va
Gulton Industries Inc Metuchen .... N J
Harris-Intertype Corp Cleveland .... Ohio
Honeywell Inc, Computer Control Div Framingham ..... Mass
Karkar Electronics Inc San Francisco .... Cal
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Lenkurt Electric Co Inc San Carlos .... Cal
Lynch Communication Systems San Francisco .... Cal
Marquardt Industrial Products Co Chicago Ill
McElroy Electronics Corp Shirley .... Mass
Micro Communications Co Denver .... Colo
Microwave Associates Inc Burlington .... Mass
Mitsubishi Electric Corp Tokyo .... Japan
Motorola Communications & Electronics Div Schaumburg .. Ill
Nippon Electric Co Ltd Tokyo .... Japan
Pace Communications Corp Harbor City .... Cal
Plessey Co Ltd Ilford Essex .... England
Pulse Communications Inc Falls Church .... Va
Rauland-Borg Corp Chicago Ill
Raytheon Co, Communications & Data Processing Oper Norwood .... Mass
Raytheon Co, Government Marketing Lexington .... Mass
RFL Industries Inc, Communications Div Boonton .... N J
Siemens America Inc New York .... N Y
Standard Telephones & Cables Ltd London WC 2 .... England
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Superior Continental Corp Hickory .... N C
Surface Conduction Inc New York .... N Y
Telefunken Sales Corp Garden City .... N Y
Thomson-CSF 78 Versailles .... France
Trepac Corp of America Englewood .... N J
Union Switch & Signal Div Westinghouse Air Brake Co Pittsburgh .... Pa
Victor Comptometer Corp, Business Mach Group Chicago .. Ill
Vitra Instrument & Electronics Corp Syosset .... N Y
Watkins-Johnson Co Palo Alto .... Cal
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham .... England

COMMUNICATION SYSTEMS—SELECTIVE CALLING

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
NELSON-HERSHFIELD ELECTRONICS CO PHOENIX .... ARIZ
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ..... N Y
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL
Allen Aircraft Radio Inc Elk Grove Village Ill
Anritsu Electric Co Ltd Tokyo .... Japan

Applied Peripheral Systems Inc Houston ... Tex
Astrodata Inc Anaheim ... Cal
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Bayly Engineering Ltd Ajax ... Ont
Bogen Communications Div Lear Siegler Inc Paramus ... N J
Bramco Controls Div Ledex Inc Piqua ... Ohio
Cae Industries Ltd, Elctns Div Montreal 3 ... Que
Canadian Marconi Co Montreal 16 ... Quebec
Canadian Motorola Electronics Ltd Willowdale 425 ... Ont
Canoga Industries Los Angeles ... Cal
Cardion Electronics Div Gen Signal Corp Woodbury ... N Y
Cie De Signaux Et D'Entreprises Electriques Paris 17eme ... France
Collins Radio Co Dallas ... Tex
Compudyne Corp Hatboro ... Pa
Continental Electronics Corp Brooklyn ... N Y
Dasa Corp Andover ... Mass
Data Trends Inc Mountain Lakes ... NJ
DuKane Corp St Charles ... Ill
Dumont Mobile Commun Div Hammarlund Anaheim ... Cal
Ericsson Centrum Inc New York ... N Y
Executone Inc Long Island City ... N Y
Faraday Inc Tecumseh ... Mich
Fasco Industries Inc, Electronic Div Fayetteville ... N C
Fisher Berkeley Corp Emeryville ... Cal
Fujitsu Ltd Tokyo ... Japan
General Dynamics, Electronics Div Rochester ... N Y
General Electric Co, Mobile Radio Dept Lynchburg ... Va
Ground/data Corp Fort Lauderdale ... Fla
H B Engineering Corp Silver Spring ... Md
ITT Telecommunications New York ... N Y
ITT Terryphone Corp Harrisburg ... Pa
Johnson Co, E F Waseca ... Minn
Kaar Electronics Corp Rahway ... N J
Lake Systems Corp Newton ... Mass
Lear Siegler Inc Santa Monica ... Cal
Lynch Communication Systems San Francisco ... Cal
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Marin Controls Co Div FRL Inc Belmont ... Cal
Marquardt Industrial Products Co Chicago ... Ill
Matsushita Communication Industrial Co Ltd Yokohama ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Melabs Palo Alto ... Cal
Mobil Electronics Inc Anderson ... Ind
Motorola Communications & Electronics Div Schaumburg ... Ill
Multitone Electronics Inc New York ... N Y
Nelson-Hershfield Electronics Co Phoenix ... Ariz
Nippon Electric Co Ltd Tokyo ... Japan
NIRA NV Emmen ... Holland
North Electric Co Galion ... Ohio
Oki Electric Industry Co Ltd Tokyo ... Japan
Pace Communications Corp Harbor City ... Cal
Pearce-Simpson Inc Div Gladding Corp Miami ... Fla
Philco-Ford Corp Washington ... D C
Plectron Corp Overton ... Nebr
Plessey Co Ltd Ilford Essex ... England
Private Tele Communications Inc Chicago ... Ill
Pulse Communications Inc Falls Church ... Va
Quindar Electronics Inc, Controls Div Springfield ... NJ
Racal Electronics Ltd Bracknell Berks ... England
Rauland-Borg Corp Chicago ... Ill
RCA, Defense Electronic Products Moorestown ... N J
Reach Electronics Inc Lexington ... Neb
Round Hill Assoc Inc New York ... NY
Standard Telephones & Cables Ltd London WC 2 ... England
Stelma Inc Stamford ... Conn
Stromberg-Carlson Sub Gen Dynamics Rochester ... N Y
Talk-A Phone Co Chicago ... Ill
Tele-Signal Corp Sub Singer Co Woodbury ... N Y
Teletype Corp Skokie ... Ill
Thomson-CSF 78 Versailles ... France
Trepac Corp of America Englewood ... N J
Victor Comptometer Corp, Business Mach Group Chicago ... Ill
Watkins-Johnson Co Palo Alto ... Cal
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham ... England
Worner Electronic Devices Rankin ... Ill

COMMUNICATION SYSTEMS—SINGLE SIDEBAND

ANRITSU ELECTRIC CO LTD TOKYO ... JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK N Y ... ADV PG 146
HEATH CO BENTON HARBOR ... MICH
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER ... NY
SIEMENS AMERICA INC NEW YORK ... N Y
Advanced Communications Inc Sub Conductron Corp Chatsworth ... Cal
Aerocom Miami ... Fla
Aeroscience Div Elpac Inc Atlanta ... Ga
Aerospace Research, Inc Boston ... Mass
Allen Aircraft Radio Inc Elk Grove Village ... Ill
Ampar Div Adams-Russell Waltham ... Mass
Anritsu Electric Co Ltd Tokyo ... Japan
Anzac-Waltham, Div Adams-Russell Waltham ... Mass
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Avco Electronics Div Cincinnati ... Ohio
Aviation Electric Ltd St Laurent, Montreal ... Que
Barker & Williamson Div Sunshine Mining Co Bristol ... Pa
Bendix Corp, Communications Div Towson ... Md
Brelonix Inc Seattle ... Wash
Canadian Marconi Co Montreal 16 ... Quebec
Cardion Electronics Div Gen Signal Corp Woodbury ... N Y
CEC-Benmar Santa Ana ... Cal
Collins Radio Co Dallas ... Tex
Communication Associates Inc New Hyde Park ... N Y
Continental Electronics Mfg Co Sub LTV Electrosystems Inc Dallas ... Tex
Cosmos Industries Inc Brooklyn ... N Y
Decitron Electronics Corp Brooklyn ... N Y
Delta Electronics Ltd Rexdale ... Ont
Drake Co, R L Miamisburg ... Ohio
EICO Electronic Instrument Co Inc Brooklyn ... NY

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Electrac Inc Anaheim ... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Fujitsu Ltd Tokyo ... Japan
Galaxy Electronics Inc Council Bluffs ... Iowa
Gates Radio Co Quincy ... Ill
General Atronics Corp, Military Elctns Div Philadelphia ... Pa
General Dynamics, Electronics Div Rochester ... N Y
General Electric Co Communication Products Dept Lynchburg ... Va
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Granger Associates Palo Alto ... Cal
Ground/data Corp Fort Lauderdale ... Fla
Hammarlund Mfg Co Inc, The Mars Hill ... N C
Harris-Intertype Corp Cleveland ... Ohio
Heath Co Benton Harbor ... Mich
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
Infomax Palo Alto ... Cal
International Scanatron Systems Corp Wyandanch ... N Y
Johnson Co, E F Waseca ... Minn
Kaar Electronics Corp Rahway ... N J
Kahn Research Labs Inc Freeport ... N Y
Karkar Electronics Inc San Francisco ... Cal
Kokusai Electric Co Ltd Tokyo-105 ... Japan
Labtron Corp of Amer Div KDI Corp Dayton ... Ohio
Lenkurt Electric Co Inc San Carlos ... Cal
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Marin Controls Co Div FRL Inc Belmont ... Cal
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Nippon Electric Co Ltd Tokyo ... Japan
Oki Electric Industry Co Ltd Tokyo ... Japan
Oki Electronics of America, Inc Fort Lauderdale ... Fla
Plessey Co Ltd Ilford Essex ... England
Premier Microwave Corp Port Chester ... NY
Racal Communications Inc Silver Spring ... Md
Racal Electronics Ltd Bracknell Berks ... England
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
Radiomarine Corp Red Bank ... N J
Raytheon Co, Marine Products Operation S San Francisco ... Cal
RCA, Defense Electronic Products Moorestown ... N J
Reeves Instrument Div, DCA Garden City ... N Y
Reflectone. Inc, Englewood Cliffs ... N J
R F Communications Inc Rochester ... N Y
RFL Industries Inc, Communications Div Boonton ... N J
Robins Electronics La Mesa ... Cal
Siemens America Inc New York ... N Y
SunAir Electronics Inc Ft Lauderdale ... Fla
Superior Continental Corp Hickory ... N C
Sylvania Electronic Systems Waltham ... Mass
Symetrics Engineering Corp Satellite Beach ... Fla
Technical Materiel Corp Mamaroneck ... N Y
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y
T M C Systems & Power Corp Springfield ... Va
Toyo Communication Equipment Co Ltd Minato-ku Tokyo ... Japan
Transcom Electronics Inc La Mesa ... Cal
TRW Systems Group Redondo Beach ... Cal
VP Co Pasadena ... Cal
Watkins-Johnson Co Palo Alto ... Cal
Weitermann Electronics Milwaukee ... Wis
Wickes Industries Inc Camden ... N J
Wilcox Electric Co Kansas City ... Mo

COMMUNICATION SYSTEMS—TELEMETERING

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE ... FLA
ANRITSU ELECTRIC CO LTD TOKYO ... JAPAN
BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE ... MD
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON ... MASS
CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS ... N Y
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ... ILL
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
R H G ELECTRONICS LAB INC FARMINGDALE ... N Y
SIEMENS AMERICA INC NEW YORK ... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ... N Y
VEGA PRECISION LABS VIENNA ... VA
Aeromarine Electronics, Inc San Diego ... Cal
Aeroscience Div Elpac Inc Atlanta ... Ga
Aerospace Research, Inc Boston ... Mass
Aerotherm Corp Mountain View ... Cal
Aertech Industries Sunnyvale ... Cal
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park ... N Y
Airpax Electronics Inc, Cambridge Div Cambridge ... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale ... Fla
Alto Scientific Co, Inc Palo Alto ... Cal
AMBAC Industries Inc Garden City ... N Y
American Electronic Labs Inc Lansdale ... Pa
Andrew Corp Orland Park ... Ill
Anritsu Electric Co Ltd Tokyo ... Japan
Anzac-Waltham, Div Adams-Russell Waltham ... Mass
Applied Peripheral Systems Inc Houston ... Tex
Astrodata Inc Anaheim ... Cal
Autocon Industries, Inc St Paul ... Minn
Avco Electronics Div Cincinnati ... Ohio
Avtel Corp Covina ... Cal
Badger Meter Mfg Co Milwaukee ... Wis
Ball Brothers Research Corp Boulder ... Colo
Bayly Engineering Ltd Ajax ... Ont
Bell & Howell Co, Elctn Instr Grp Pasadena ... Cal
Bendix Corp Electrodynamics Div North Hollywood ... Cal
Bendix Corp Environmental Science Div Baltimore ... Md
Beukers Labs Inc Hauppauge ... NY
B I F Unit General Signal Corp Providence ... R I
Biocom, Inc Culver City ... Cal
Bionic Instruments Inc Bala Cynwyd ... Pa
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica ... Cal
Bradley Ltd G & E London NW 10 ... England
Bramco Controls Div Ledex Inc Piqua ... Ohio
Bristol Div, American Chain & Cable Co Waterbury ... Conn
Cae Industries Ltd, Elctns Div Montreal 3 ... Que
Canadian Motorola Electronics Ltd Willowdale 425 ... Ont
Canoga Industries Los Angeles ... Cal
Cardion Electronics Div Gen Signal Corp Woodbury ... N Y
Chrysler Corp, Missile Div Detroit ... Mich
Cie De Signaux Et D'Entreprises Electriques Paris 17eme ... France
Compudyne Corp Hatboro ... Pa
Conic Corp San Diego ... Cal
Control Data Corp. Boston Sp & Def Sys Div East Boston ... Mass
Control Science Corp Alexandria ... Va
Cunningham Corp Sub Gleason Wks Honeoye Falls ... N Y
Data Access Systems Inc Landing ... N J
Data-Control Systems Inc Danbury ... Conn
Da-Tel Research Co Montrose ... Colo
Defense Electronics Div DEI Industries Rockville ... Md
Destron Co Rolling Hills Estate ... Cal
Dorsett Electronics Inc Tulsa ... Okla
Dresser Controls Houston ... Texas
Dynamco Ltd Chertsey Surrey ... Eng
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando ... Fla
Electrac Inc Anaheim ... Cal
Electronic Resources Inc Tasker Indus Los Angeles ... Cal
Elpac Inc Systems Div Data Irvine ... Cal
EMR Div Weston Instruments Inc Princeton ... N J
EMR Telemetry Sarasota ... Fla
Energy Systems Inc Palo Alto ... Cal
Epsco Inc Westwood ... Mass
Ewen-Knight Corp East Natick ... Mass
Executive Electronics Inc. Denver ... Colo
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown ... Md
Fifth Dimension Inc Princeton ... N J
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Fuji Electric Co Ltd Tokyo ... Japan
Fujitsu Ltd Tokyo ... Japan
Gates Radio Co Quincy ... Ill
GCA Technology Div GCA Corp Bedford ... Mass
General Devices Inc, Instrumentation Div Princeton ... N J
General Dynamics, Electronics Div Rochester ... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
General Railway Signal Co Rochester ... N Y
Genisco Technology Corp Compton ... Cal
Giannini-Voltex-Radex-Irvine Whittier ... Cal
Goodyear Aerospace Corp Akron ... Ohio
Ground/data Corp Fort Lauderdale ... Fla
Gulton Industries Inc Metuchen ... N J
Harris-Intertype Corp Cleveland ... Ohio
Hathaway Pacific Palo Alto ... Cal
H B Engineering Corp Silver Spring ... Md
Hersey-Sparling Meter Co El Monte ... Cal
Industrial Electronetics Corp Satellite Beach ... Fla
Infomax Palo Alto ... Cal
Kameco Electronics Ltd. Montreal ... Que
Karg Labs Inc South Norwalk ... Conn
Karkar Electronics Inc San Francisco ... Cal
Kokusai Electric Co Ltd Tokyo-105 ... Japan
Laben S p A Milan ... Italy

Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Landis & Gyr, Inc New York .... N Y
Landis & Gyr AG Zug .... Switzerland
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . Cal
Lenkurt Electric Co Inc San Carlos .... Cal
Leupold & Stevens Inc Portland .... Ore
Loral Electronic Systems, Div Loral Corp New York .... NY
Lynch Communication Systems San Francisco .... Cal
Marconi Co Ltd Chelmsford .... England
Marin Controls Co Div FRL Inc Belmont .... Cal
Matsushita Communication Industrial Co Ltd Yokohama .... Japan
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Melabs Palo Alto .... Cal
Meteorology Research Inc Altadena .... Cal
Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Mitsubishi Electric Corp Tokyo .... Japan
Molecular Research Inc Palm Beach Gardens .... Fla
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Moore Associates Div Rucker Co San Carlos .... Cal
Motorola Communications & Electronics Div Schaumburg .. Ill
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nichols Co Ltd, R H Downsview .... Ont
Nippon Electric Co Ltd Tokyo .... Japan
Noller Control Systems Richmond .... Cal
North Electric Co Galion .... Ohio
Northern Radio Co Inc New York .... N Y
Oki Electric Industry Co Ltd Tokyo .... Japan
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Quindar Electronics Inc, Controls Div Springfield .... NJ
Radiation Systems Inc McLean .... Va
Ramsay Engineering Co Anaheim .... Cal
Ransom Labs, John H Los Angeles .... Cal
Raven Electronics Inc Burbank .... Cal
Raytheon Co, Communications & Data Processing Oper Norwood .... Mass
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
RC-95 Inc New York .... N Y
Reeves Instrument Div, DCA Garden City .... N Y
Resdel Engineering Corp Pasadena .... Cal
RFL Industries Inc, Communications Div Boonton .... N J
R H G Electronics Lab Inc Farmingdale .... N Y
Rockland Labs Inc Blauvelt .... N Y
Rouge Electronics Co Oklahoma City .... Okla
Sanders Assoc Inc, Intl Ground Sys Div Reston .... Va
Saturn Electronics Corp Garland .... Tex
Schjeldahl Co, G T Northfield .... Minn
Scientific Data Systems Inc El Segundo .... Cal
Scope Inc Reston .... Va
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Siemens America Inc New York .... N Y
Sierra Research Corp Buffalo .... N Y
Solid State Electronics Corp Sepulveda .... Cal
Sonex Inc Philadelphia .... Pa
Space Craft Inc Huntsville .... Ala
Space & Tactical Systems Corp Burlington .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Stellarmetrics Inc Santa Barbara .... Cal
Stoelting Co, C H Chicago Ill
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Superior Continental Corp Hickory .... N C
Surface Conduction Inc New York .... N Y
Sylvania Electronic Systems Waltham .... Mass
Symetrics Engineering Corp Satellite Beach .... Fla
Systems Engineering Ltd Grouse Creek .... Utah
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Technical Materiel Corp Mamaroneck .... N Y
Telectro Systems Corp Corona .... N Y
Teledata Inc Queens Village .... N Y
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia .... Pa
Teledyne Telemetry Co Los Angeles .... Cal
Telemet Co, Video Prods & Airborne Telemetry Amityville . N Y
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Thomson-CSF 78 Versailles .... France
Topping Electronics Ltd Scarborough .... Ont
Towson Labs, Dept E Baltimore .... Md
Trepac Corp of America Englewood .... N J
TRF Inc Springfield .... Va
TRW Systems Group Redondo Beach .... Cal
Utility Communication Systems Inc West Chester .... Pa
Vega Electronics Corp Santa Clara .... Cal
Vega Precision Labs Vienna .... Va
Vidar Corp Mountain View .... Cal
Video Research Corp Rockville .... Md
Washington Technological Assoc Inc Rockville .... Md
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham .... England
Westinghouse Electric Corp, Aerospace Div Baltimore .... Md

COMMUNICATION SYSTEMS— TELEPRINTER

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
TEMPO INSTRUMENT INC IND DIV PLAINVIEW .... N Y
Advanced Space Age Products Inc Alexandria .... Va
Anderson-Jacobson Inc Mountain View .... Cal
Anritsu Electric Co Ltd Tokyo .... Japan
Automatic Electric Co Northlake Ill
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
Century Electronics & Instruments Inc Tulsa .... Okla
Codamite Corp Stanton .... Cal
Compudyne Corp Hatboro .... Pa
Connecticut Technical Corp Hartford .... Conn
Dasa Corp Andover .... Mass
Data Access Systems Inc Landing .... N J
Data Products Corp Woodland Hills .... Cal

EBG – the industry's store.

Your marketplace for products

Data Trends Inc Mountain Lakes .... NJ
Diamond Repeater Co Madison .... N J
Di/An Controls Inc Boston .... Mass
Digitech Inc Ridgefield .... Conn
Frederick Electronics Corp Frederick .... Md
Fujitsu Ltd Tokyo .... Japan
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co, Information Devices Dept. Oklahoma City .... Okla
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Harris-Intertype Corp Cleveland .... Ohio
Infomax Palo Alto .... Cal
Kleinschmidt, Div SCM Corp Deerfield Ill
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Lenkurt Electric Co Inc San Carlos .... Cal
Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
Mite Corp New Haven .... Conn
Motorola Communications & Electronics Div Schaumburg .. Ill
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Omnitec Corp Phoenix .... Ariz
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .. Ont
Plessey Co Ltd Ilford Essex .... England
Pulse Communications Inc Falls Church .... Va
Quindar Electronics Inc, Controls Div Springfield .... NJ
Racal Electronics Ltd Bracknell Berks .... England
RCA, Defense Electronic Products Moorestown .... N J
Recording Designs Ltd Camberley Surrey .... England
Rouge Electronics Co Oklahoma City .... Okla
Sanders Assoc Inc, Geospace Elctns Div Plainview .... N Y
Scientific Data Systems Inc El Segundo .... Cal
Siemens America Inc New York .... N Y
Standard Telephones & Cables Ltd London WC 2 .... England
Stelma Inc Stamford .... Conn
Tally Corp Seattle .... Wash
Teledata Inc Queens Village .... N Y
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Teletype Corp Skokie Ill
Tempo Instrument Inc Ind Div Plainview .... N Y
Texas Instruments Inc Indl Prods Div Houston .... Tex
Topping Electronics Ltd Scarborough .... Ont
Trepac Corp of America Englewood .... N J
Wilcox Electric Co Kansas City .... Mo
Wiltek, Inc Wilton .... Conn

COMMUNICATION SYSTEMS—TONE TELEGRAPH

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
TUCK ELECTRONICS NEW CUMBERLAND .... PA
Advanced Communications Inc Sub Conductron Corp Chatsworth .... Cal
Aeromarine Electronics, Inc San Diego .... Cal
Anritsu Electric Co Ltd Tokyo .... Japan
Autocon Industries, Inc St Paul .... Minn
Bayly Engineering Ltd Ajax .... Ont
Bionic Instruments Inc Bala Cynwyd .... Pa
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Dasa Corp Andover .... Mass
Data Access Systems Inc Landing .... N J
Da-Tel Research Co Montrose .... Colo
Defense Electronics Div DEI Industries Rockville .... Md
Fujitsu Ltd Tokyo .... Japan
General Electric Co Communication Products Dept Lynchburg .... Va
Harris-Intertype Corp Cleveland .... Ohio
Hathaway Pacific Palo Alto .... Cal
Infomax Palo Alto .... Cal
Kameco Electronics Ltd. Montreal .... Que
Karkar Electronics Inc San Francisco .... Cal
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Lake Systems Corp Newton .... Mass
Lenkurt Electric Co Inc San Carlos .... Cal
Lynch Communication Systems San Francisco .... Cal
Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
McElroy Electronics Corp Shirley .... Mass
Motorola, Govt Electronics Div Scottsdale .... Ariz
National Radio Co Inc Melrose .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Noller Control Systems Richmond .... Cal
Northern Radio Co Inc New York .... N Y
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Omnitec Corp Phoenix .... Ariz
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Siemens America Inc New York .... N Y
Stelma Inc Stamford .... Conn
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Teledata Inc Queens Village .... N Y
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Trepac Corp of America Englewood .... N J
Tuck Electronics New Cumberland .... Pa
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Wilcox Electric Co Kansas City .... Mo

COMMUNICATION SYSTEMS— TROPOSCATTER

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON .... MASS
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
Alto Scientific Co, Inc Palo Alto .... Cal
Andrew Corp Orland Park Ill
Ball Brothers Research Corp Boulder .... Colo
Bell Aerosystems Co Buffalo .... N Y
Bendix Corp, Communications Div Towson .... Md
Cober Electronics Inc Stamford .... Conn
Collins Radio Co Dallas .... Tex
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Energy Systems Inc Palo Alto .... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
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General Instrument Corp Electronics Sys Div. Hicksville .... N Y
Harris-Intertype Corp Cleveland .... Ohio
ITT Defense Communications Div Nutley .... N J
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Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
Motorola, Govt Electronics Div Scottsdale .... Ariz
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Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
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Siemens America Inc New York .... N Y
Signatron Inc Lexington .... Mass
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Sylvania Electronic Systems Waltham .... Mass
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Tele-Signal Corp Sub Singer Co Woodbury .... N Y
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Ball Brothers Research Corp Boulder .... Colo
Bendix Corp Electrodynamics Div North Hollywood .... Cal
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Eon Instrumentation Inc Van Nuys ....Cal
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Raytheon Computer Santa Ana......................Cal
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Santa Rita Technology Inc Santa Clara ....Cal
Saturn Electronics Corp Garland ....Tex
Sensor Corp Greenwich............................Conn
Servo Corp of America Hicksville.................N Y
Sierra Research Corp Buffalo.....................N Y
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Stellarmetrics Inc Santa Barbara ....Cal
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Towson Labs, Dept E Baltimore ....Md
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Toledo Commutator Co Owosso......................Mich
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RC-95 Inc New York ....N Y
Saturn Electronics Corp Garland ....Te
Sierra Research Corp Buffalo.....................N
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Vidar Corp Mountain View . . . . Cal
Vitro Labs Div Sub Automation Ind Inc Silver Spring . . . . Md
Vitro Labs Div Vitro Corp of America W Orange . . . . N J
Wang Labs Inc Tewksbury . . . . Mass
Watesta Electronics Ltd Loughton Essex . . . . England
Western Technical Assoc Miraleste . . . . Cal
Zehntel, Inc Berkeley . . . . Cal

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HYBRID SYSTEMS CORP BURLINGTON . . . . MASS
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A & M Instruments Inc Great Neck . . . . N Y
Anaren Microwave Inc Syracuse . . . . N Y
Anzac-Waltham, Div Adams-Russell Waltham . . . . Mass
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Data Device Corp Hicksville . . . . N Y
Digitech Inc Ridgefield . . . . Conn
Dynamic Precision Controls Corp Hagerstown . . . . Ind
Electronic Service Co Verona . . . . N J
E & L Instruments Inc Derby . . . . Conn
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General Microwave Corp Farmingdale . . . . N Y
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Hybrid Systems Corp Burlington . . . . Mass
Jetronic Industries Inc Philadelphia . . . . Pa
Maricopa Controls Scottsdale . . . . Ariz
Measurement Technology Corp Canoga Park . . . . Cal
Motorola Communications & Electronics Inc Chicago Ill
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . . . N Y
Racal Communications Inc Silver Spring . . . . Md
Racal Electronics Ltd Bracknell Berks . . . . England
Radiation Systems Inc McLean . . . . Va
RMS Engineering Inc Atlanta . . . . Ga
Singer Co Instrumentation Div Bridgeport . . . . Conn
Solid State Electronics Corp Sepulveda . . . . Cal
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D M Research Corp Lakewood	Ohio
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Dytronics Co Inc Columbus	Ohio
Freed Transformer Co Inc Brooklyn	N Y
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Buhl Optical Co Pittsburgh	Pa
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Engis Equipment Co Morton Grove	Ill
Ercona Corp Bellmore	NY
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset	NY
Finescale Co Orange	Cal
Gaertner Scientific Corp Chicago	Ill
Gardner Lab Inc Bethesda	Md
Goodyear Aerospace Corp Akron	Ohio
Hydra-Electric Co Burbank	Cal
Lektra Labs Inc Div Kriser Corp College Point	N Y
Mann Co, David W, Div GCA Corp Burlington	Mass
Mann Co, Henry Cornwell Heights	Pa
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Nuclear Research Instruments Berkeley	Cal
Optomechanisms Inc Plainview	N Y
Opto-Metric Tools Inc New York	N Y
Ovitron Corp Industrial Syst Div Cheshire	Conn
Perkin-Elmer Corp, Optical Group Norwalk	Conn
Precision International Corp Bloomfield	Conn
Ragen Precision Industries Inc North Arlington	N J
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Schoeffel Instrument Corp Westwood	NJ
Stocker & Yale Inc Beverly	Mass
Techni-Tool Inc Philadelphia	Pa
TRW Systems Group Redondo Beach	Cal
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DRANETZ ENGINEERING LABS INC PLAINFIELD	**N J**
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NORTH ATLANTIC INDUSTRIES INC PLAINVIEW	**N Y**
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SCIENTIFIC-ATLANTA INC ATLANTA	**GA**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
TRACOR INC AUSTIN TEX	**ADV PG 150**
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Aerospace Research, Inc Boston	Mass
Alford Mfg Co Winchester	Mass
Anaren Microwave Inc Syracuse	N Y
Anzac-Waltham, Div Adams-Russell Waltham	Mass
Aritech Corp Brighton	Mass
Beckman Instruments Inc Fullerton,	Cal
Canoga Industries Los Angeles	Cal
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
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Data Device Corp Hicksville	N Y
Dranetz Engineering Labs Inc Plainfield	N J
Dytronics Co Inc Columbus	Ohio
Eastern Specialty Co Philadelphia	Pa
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Goodyear Aerospace Corp Akron	Ohio
Gopic Designs Co San Diego	Cal
Guardian Electric Mfg Co of Cal Inc Culver City	Cal
Hewlett-Packard Palo Alto	Cal
Industrial Test Equipment Co Port Washington	N Y
Intronics Inc Newton	Mass
Measurement Technology Corp Canoga Park	Cal
Merrimac Research & Development Inc West Caldwell,	N J
Microwave Development Labs Inc Needham Heights	Mass
Natel Electronic Industries Inc. Van Nuys	Cal
North Atlantic Industries Inc Plainview	N Y
North Hills Electronics Inc Glen Cove	N Y
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
Princeton Applied Research Corp Princeton	N J
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Rantec Div Emerson Electric Co Calabasas	Cal
Relcom Mountain View	Cal
RMS Engineering Inc Atlanta	Ga
Rohde & Schwarz Sales Co USA Inc Passaic	N J
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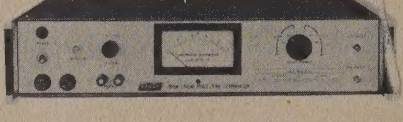
Singer Co Instru Div Gertsch Oper Los Angeles	Cal
Solid State Electronics Corp Sepulveda	Cal
Specific Products Div Dr H L Richter Corp Monrovia	Cal
Symbolic Displays Inc Orange	Cal
Telemet Co, Video Prods & Airborne Telemetry Amityville	N Y
Theta Instrument Corp Fairfield	N J
Tracor Inc Austin	Tex
TRW Systems Group Redondo Beach	Cal
Universal Ad-Yu Electronics Inc Passaic	N J
Varian Palo Alto	Cal
Vibration Instruments Co Anaheim	Cal
Video Research Corp Rockville	Md
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Wiltron Co Palo Alto	Cal



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HEWLETT-PACKARD PALO ALTO	**CAL**
HYBRID SYSTEMS CORP BURLINGTON	**MASS**
KEPCO INC FLUSHING N Y	**ADV PG 4th Cover**
NON-LINEAR SYSTEMS INC DEL MAR	**CAL**
TEKTRONIX INC BEAVERTON	**ORE**
TEMPO INSTRUMENT INC IND DIV PLAINVIEW	**N Y**
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y	**ADV PG 642**
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Airpax Electronics Inc, Cambridge Div Cambridge	Md
Airpax Electronics Inc Seminole Div Fort Lauderdale	Fla
A & M Instruments Inc Great Neck	N Y
Analog Devices Inc Cambridge	Mass
Analogic Corp Wakefield	Mass
Analog Technology Corp Pasadena	Cal
Applied Dynamics, Inc Ann Arbor	Mich
Astrodata Inc Anaheim	Cal
Automation Development Co Culver City	Cal
Automation Dynamics Corp Northvale	N J
Avtron Mfg, Inc Cleveland	Ohio
Beckman Instruments Inc Fullerton,	Cal
Bendix Corp Navigation & Control Div Teterboro,	N J
Burr-Brown Research Corp Tucson	Ariz
B & W Electronic Research Labs Dallas	Tex
California Electronic Mfg Co Inc Alamo	Cal
California Systems Components, Inc Chatsworth	Cal
Canadian Research Institute Don Mills	Ont
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Cohu Electronics Inc San Diego	Cal
Computer Logic Corp Santa Monica	Cal
Consolidated Airborne Systems Carle Place	N Y
Control Data Corp, Magnetic Prods Oper Minneapolis	Minn
Controlomag Labs Roslyn	Pa
Controlotron Corp Farmingdale	N Y
Data Device Corp Hicksville	N Y
DatCon Electronics Corp Mt Vernon	NY
Digital Instruments Co Inc Shawnee-Mission	Kans
Electro Scientific Industries Inc Portland	Ore
E & L Instruments Inc Derby	Conn
Eppley Lab Inc Newport	R I
Epsco Inc Westwood	Mass
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View	Cal
Fisher-Akin Co Manhattan Beach	Cal
General Magnetics Inc Bloomfield	N J
Giannini-Voltex-Radex-Irvine Whittier	Cal
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GPS Instrument Co Inc Framingham	Mass
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Guide Industries Inc Sun Valley	Cal
Guildline Instruments Ltd Smiths Falls	Ont
Hallmark Standards Inc Mount Vernon	N Y
Hartman Systems Co Inc Huntington Station	N Y
Hewlett-Packard Palo Alto	Cal
Holt Instrument Labs Oconto	Wis
Hybrid Systems Corp Burlington	Mass
Information Instruments, Inc Ann Arbor	Mich
J-Omega Co Mountain View	Ca
Julie Research Labs, Inc New York	N Y
Kearfott Div Singer-General Precision Inc Little Falls	N
Kepco Inc Flushing	N Y
Leeds & Northrup Co North Wales	P
Luft Instruments Inc Lincoln	Mas
Massey Dickinson Co Inc Saxonville	Mas
McMahon Electronic Engineering Res & Dev Lab San Pedro	Ca
3M Company St Paul	Min
Natel Electronic Industries Inc. Van Nuys	Ca
National Semiconductor Corp Santa Clara	Ca
Navcor Inc Div KDI Corp Norristown	P
Newport Labs Inc Santa Ana	C
Non-Linear Systems Inc Del Mar	C
Norbatrol Electronics Corp Murrysville	P
Optimized Devices, Inc Pleasantville	N
P P M Inc Cleveland	Oh
Reflectone. Inc, Englewood Cliffs	N
RO Associates Inc Menlo Park	C
Scientific Data Systems Inc El Segundo	C
Silicon General Inc Westminister	C
Singer Co Instrumentation Div Bridgeport	Co
Singer Co Instru Div Gertsch Oper Los Angeles	C
Slaughter Co Ardmore	Ok

Solid State Electronics Corp Sepulveda	Cal
Space Age Microcircuits Chatham	N J
Space Craft Inc Huntsville	Ala
Sprague Electric Co North Adams	Mass
Symbolic Displays Inc Orange	Cal
Takeda Riken Industry Co Ltd Tokyo	Japan
Tektronix Inc Beaverton	Ore
Tempo Instrument Inc Ind Div Plainview	N Y
Tempo Instrument Inc, Military Div Plainview	N Y
Tia Electric Co Princeton	N J
Transmagnetics Inc Flushing	N Y
Trio Laboratories Inc Plainview	N Y
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Vidar Corp Mountain View	Cal
Voltron Products Inc Pasadena	Cal
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Zeltex Inc Sub Redcor Corp Concord	Cal

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***See* Colorimeters**

COMPARATORS—DENSITY

***See* Densitometers**

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Kollsman Instrument Corp Syosset	N Y

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Aircraft Components Inc Benton Harbor	Mich
Allen Aircraft Radio Inc Elk Grove Village	Ill
AMBAC Industries Inc Garden City	N Y
Aviation Instrument Mfg Corp Houston	Tex
Bendix Corp Navigation & Control Div Teterboro,	N J
Conductron Corp St Charles	Mo
Ferranti, Ltd Lancashire	England
General Design Inc Sun Valley	Cal
ITT Decca Marine Inc New York	NY
Kahl Scientific Instrument Corp El Cajon	Cal
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Instrument Div Grand Rapids	Mich
Nortronics Div, Northrop Corp, Prec Prods Dept Norwood	Mass
Reeves Instrument Div, DCA Garden City	N Y
Smiths Industries North America Ltd Jamaica	N Y
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
Standard Precision Div ECI an NCR sub Wichita	Kan
Thomson-CSF 78 Versailles	France
TRW Systems Group Redondo Beach	Cal

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Airguide Instrument Co Chicago	Ill
Allen Aircraft Radio Inc Elk Grove Village	Ill
Dinsmore Instrument Co Flint	Mich
Electro Marine Corp Falmouth	Mass
Fedtro Inc Rockville Centre	N Y
Humphrey Inc San Diego	Cal
Industrial Control Co Farmingdale	N Y
Keuffel & Esser Co Morristown	N J
Larson Aero Development Concord	Cal
Leupold & Stevens Inc Portland	Ore
Research Mfg Corp San Diego	Cal
Smiths Industries North America Ltd Jamaica	N Y
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
U S Gauge Div Ametek Inc Sellersville	Pa

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Airguide Instrument Co Chicago	Ill
Dinsmore Instrument Co Flint	Mich
Dowa Trading Co Ltd Kobe	Japan
Electro Marine Corp Falmouth	Mass
Hardman Incorporated Belleville	N J
Industrial Control Co Farmingdale	N Y
ITT Decca Marine Inc New York	NY
Larson Aero Development Concord	Cal
Research Mfg Corp San Diego	Cal
Shigoto Industries Ltd New York	N Y
States Electronics Corp, Bludworth Marine Div Linden	N J
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y

COMPONENTS—PRINTED-CIRCUIT

***See* Listings For Desired Components**

COMPOUNDS—CLEANING

***See* Solvents**

COMPOUNDS—ENCAPSULATING

***See* Resins—Encapsulating**

COMPOUNDS—POTTING

***See* Resins—Encapsulating**

COMPUTER ASSOCIATED EQUIPMENT

***See* Specific Listing; i.e. Amplifiers—Computer Converters—Analog To Digital; Digital To Analog; Polar To Analog Rectangular; Polar To Analog; Punched Card To Tape; Tape To Punched Cards; Tape To Tape; Boards—Computer (Patch; Plotting; Problem) Cords—Patch; Keysets—Computer Perforators—Computer Printers—Computer; Readers—Computer; Recorders—Graphic; Scanners—Optical; Servos—Analog Computer**

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NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
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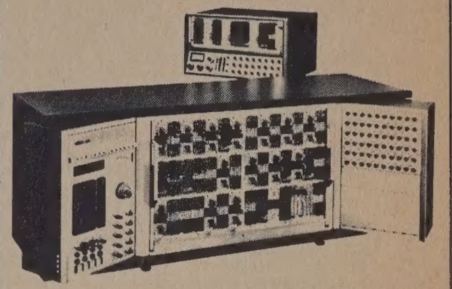
American Hydromath Co New Hyde Park	N Y
Applied Devices Corp College Point	n y
Applied Dynamics, Inc Ann Arbor	Mich
Argonaut Associates, Inc Beaverton	Ore
Astrodata Inc Anaheim	Cal
Astronautics Corp of America Milwaukee	Wis
Automated Specialties A Teledyne Co Charlottesville	Va
Automation Management, Inc Westboro	Mass
Bailey Meter Co Wickliffe	Ohio
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bendix Corp Navigation & Control Div Teterboro,	N J
Bristol Div, American Chain & Cable Co Waterbury	Conn
Burr-Brown Research Corp Tucson	Ariz
Canadian Marconi Co Montreal 16	Quebec
CEA Div Berkleonics Inc Monrovia	Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Conrac Corp New York	N Y
Control Technology Co Inc Long Island City	N Y
Cosmos Industries Inc Brooklyn	N Y
Dalto Electronics Corp Norwood	N J
Data Device Corp Hicksville	N Y
Dewey Corp, G C New York	N Y
Doric Scientific Corp San Diego	Cal
Dowa Trading Co Ltd Kobe	Japan
Dresser Systems, Inc Houston	Tex
Eagle Signal A Gulf & Western Co Davenport	Iowa
Elastronics Labs Tarzana	Cal
Electronic Associates Inc West Long Branch	N J
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City	Utah
Ferranti, Ltd Lancashire	England
Foxboro Co Foxboro	Mass
Gap Instrument Corp Westbury	N Y
General Computers Inc Los Angeles	Cal
General Magnetics Inc Bloomfield	N J
Glentek Inc Santa Monica	Cal
Goodyear Aerospace Corp Akron	Ohio
GPS Instrument Co Inc Framingham	Mass
Hagan Computer Systems Div Westinghouse Pittsburgh	Pa
Hartman Systems Co Inc Huntington Station	N Y
Hayakawa Electric Co Ltd Osaka	Japan
Heath Co Benton Harbor	Mich
Honeywell Industrial Div Fort Washington	Pa
Hybrid Systems Corp Burlington	Mass
Ikor, Inc Burlington	Mass
Instru-Lec Corp Mt Vernon	N Y
Intronics Inc Newton	Mass
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Lear Siegler Inc Santa Monica	Cal
Leeds & Northrup Co North Wales	Pa
Link Div Singer Co Binghamton	N Y
Litton Industries, Guidance & Controls Sys Div Woodland Hills	Cal
Loral Electronic Systems, Div Loral Corp New York	NY
Measurement Systems Inc Norwalk	Conn
Milgo Electronic Corp Miami	Fla
Mitsubishi Electric Corp Tokyo	Japan
Motorola Instrumentation & Control Inc Phoenix	Ariz
M Ten Bosch, Inc Pleasantville	N Y
Nippon Electric Co Ltd Tokyo	Japan
Pastoriza Div Analog Devices Cambridge	Mass
Performance Measurements Co Detroit	Mich
Reeves Instrument Div, DCA Garden City	N Y
Reflectone. Inc, Englewood Cliffs	N J
Reflex Controls Corp Huntington Station	NY
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville	Pa
Signet Controls Inc Tulsa	Okla
Solartron Electronic Group Ltd Farnbrough	England
Sunbeam Electronics Fort Lauderdale	Fla
Systron-Donner Corp Concord	Cal
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Transmagnetics Inc Flushing	N Y
Transystems Electronic Co Fort Lee	N J
Zonic Technical Labs Cincinnati	Ohio



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***See Also* Calculators Electrical & Electronic**

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Automated Business Systems Div Litton Indus Carlstadt	N J
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Data Mate Computer Systems Inc Big Spring	Tex
Digiac Corp Plainview	N Y
Digital Equipment Corp Maynard	Mass
Ferranti, Ltd Lancashire	England
Hewlett-Packard Palo Alto	Cal
IME Sales Corp North Bergen	N J
Interdata Oceanport	N J
Logic Corp Haddonfield	N J
Matsushita Communication Industrial Co Ltd Yokohama	Japan
Motorola Instrumentation & Control Inc Phoenix	Ariz
Nitsuko Ltd Kanagawa-Pref	Japan
Pastoriza Div Analog Devices Cambridge	Mass
Recording Designs Ltd Camberley Surrey	England
Scientific Control Corp Carrollton	Tex
Scientific Data Systems Inc El Segundo	Cal
Zonic Technical Labs Cincinnati	Ohio

COMPUTERS—DIGITAL

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NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
SIEMENS AMERICA INC NEW YORK	**N Y**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO	**ILL**
Adage Inc Boston	Mass
Alcatel Paris 8eme	France
AMBAC Industries Inc Garden City	N Y
American Astrionics Inc Palo Alto	Cal
Ann Arbor Computer Corp Ann Arbor	Mich
Astrodata Inc Anaheim	Cal
Astronautics Corp of America Milwaukee	Wis
Automated Business Systems Div Litton Indus Carlstadt	N J
Automatic Data Processing of Mass Inc Boston	Mass
Automation Management, Inc Westboro	Mass
Autonetics Div North American Rockwell Corp Anaheim	Cal
Bailey Meter Co Wickliffe	Ohio
Beckman Instruments Inc Fullerton,	Cal

Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Bendix Corp Navigation & Control Div Teterboro, ... N J
Bristol Div, American Chain & Cable Co Waterbury ..... Conn
Brown Engineering-A Teledyne Co Huntsville .... Ala
Bunker-Ramo Corp Defense Systems Div Canoga Park .... Cal
Burroughs Corp Component Sales Dept Los Angeles ...... Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Cie Internationale Pour L'Informatique 78 Louveciennes .... France
Clary Corp San Gabriel .... Cal
Collins Radio Co Dallas .... Tex
Computer Central Detroit .... Mich
Computer Signal Processors Inc Burlington .... Mass
Conrac Corp New York .... N Y
Control Logic Inc Natick .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Dalto Electronics Corp Norwood .... N J
Datacraft Corp Fort Lauderdale .... Fla
Data General Corp Southboro .... Mass
Data Mate Computer Systems Inc Big Spring .... Tex
Datametrics Corp Van Nuys .... Cal
Dewey Corp, G C New York .... N Y
Digiac Corp Plainview .... N Y
Digital Equipment Corp Maynard .... Mass
Digital Products Corp Fort Lauderdale .... Fla
Doric Scientific Corp San Diego .... Cal
Dowa Trading Co Ltd Kobe .... Japan
Dresser Systems, Inc Houston .... Tex
Electronic Associates Inc West Long Branch .... N J
Electronic Communications Inc Div NCR St Petersburg ... Fla
Electronic Modules Corp Timonium .... Md
EMR Computer Minneapolis .... Minn
EMR Div Weston Instruments Inc Princeton .... N J
Fabri-Tek Inc Minneapolis .... Minn
Ferranti Electric Inc Plainview .... N Y
Ferranti, Ltd Lancashire .... England
Friden Div Singer Co San Leandro .... Cal
Fujitsu Ltd Tokyo .... Japan
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co, ECSO Schenectady .... N Y
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Goodyear Aerospace Corp Akron .... Ohio
Gulton Industries Inc Metuchen .... N J
Hagan Computer Systems Div Westinghouse Pittsburgh ... Pa
Hamilton Standard Div UAC Elctns Systems Windsor Locks .... Conn
Hartman Systems Co Inc Huntington Station .... N Y
Hayakawa Electric Co Ltd Osaka .... Japan
Hewlett-Packard Palo Alto .... Cal
Hickok Teaching Systems Inc Woburn .... Mass
Honeywell EDP Div Wellesley Hills .... Mass
Honeywell Inc, Computer Control Div Framingham ...... Mass
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
Ikor, Inc Burlington .... Mass
Infotronics Corp Houston .... Tex
Interdata Oceanport .... N J
Intertechnique Plaisir 78 .... France
IRA Systems Inc Waltham .... Mass
Kameco Electronics Ltd. Montreal .... Que
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Keuffel & Esser Co Morristown .... N J
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim .. Cal
Leeds & Northrup Co North Wales .... Pa
Link Div Singer Co Binghamton .... N Y
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Lockheed Electronics Co Plainfield .... N J
Lockheed Electronics Co Data Prods Div Los Angeles ..... Cal
Logic Corp Haddonfield .... N J
Loral Electronic Systems, Div Loral Corp New York ...... NY
Marconi Co Ltd Chelmsford .... England
Melabs Palo Alto .... Cal
Metric Systems Corp Fort Walton Beach .... Fla
Mitsubishi Electric Corp Tokyo .... Japan
Motorola Instrumentation & Control Inc Phoenix .... Ariz
MTI- Mechanical Technology Inc Latham .... NY
NanoFast, Inc Chicago Ill
National Cash Register Co Dayton .... Ohio
Navcor Inc Div KDI Corp Norristown .... Pa
Nihon Kohden Kogyo Co Ltd Tokyo .... 161 Japan
Nippon Electric Co Ltd Tokyo .... Japan
Northrop Corp, Electronics Div Palos Verdes Peninsula .... Cal
Nuclear-Chicago Des Plaines Ill
Nuclear Data Inc Palatine Ill
Oki Electric Industry Co Ltd Tokyo .... Japan
Pennwood Numechron Co Tymeter Electronics Pittsburgh .. Pa
Performance Measurements Co Detroit .... Mich
Perkin-Elmer Corp Norwalk .... Conn
Philco-Ford Corp Washington .... D C
Potter Instrument Co, Inc Plainview .... N Y
Raytheon Co, Government Marketing Lexington .... Mass
Raytheon Computer Santa Ana .... Cal
RCA, Defense Electronic Products Moorestown .... N J
RCA Information Systems Div Camden .... NJ
Recording Designs Ltd Camberley Surrey .... England
Redcor Corp Canoga Park .... Cal
Reflectone. Inc, Englewood Cliffs .... N J
Scientific Control Corp Carrollton .... Tex
Scientific Data Systems Inc El Segundo .... Cal
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville .... Pa
Sci-Tek Computer Center Inc Wilmington .... Del
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Siemens America Inc New York .... N Y
Solartron Electronic Group Ltd Farnbrough .... England
Space Craft Inc Huntsville .... Ala
Space & Tactical Systems Corp Burlington .... Mass
Spear Computers Inc Sub Becton, Dickinson & Co Waltham .... Mass
Sylvania Electronic Systems Waltham .... Mass
Systems Engineering Labs. Ft Lauderdale .... Fla
Techmetric Co Redwood City .... Cal
Technicon Corp Tarrytown .... N Y
Texas Instruments Incorporated Dallas .... Tex
Theta Instrument Corp Fairfield .... N J
Thomson-CSF 78 Versailles .... France
TRW Systems Group Redondo Beach .... Cal

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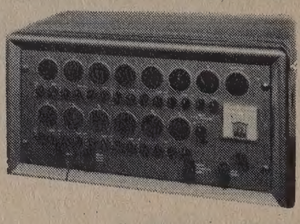

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Victor Comptometer Corp, Business Mach Group Chicago ... Ill
Wang Labs Inc Tewksbury .... Mass
Wyle Laboratories El Segundo .... Cal

COMPUTERS—HYBRID

HYBRID SYSTEMS CORP BURLINGTON .... MASS
INTRONICS INC NEWTON .... MASS
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SYSTRON-DONNER CORP CONCORD .... CAL
Applied Dynamics, Inc Ann Arbor .... Mich
Astrodata Inc Anaheim .... Cal
Astronautics Corp of America Milwaukee .... Wis
Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Bell Aerosystems Co Buffalo .... N Y
Bendix Corp Navigation & Control Div Teterboro, ... N J
Canoga Industries Los Angeles .... Cal
Cie Internationale Pour L'Informatique 78 Louveciennes .... France
Control Logic Inc Natick .... Mass
Doric Scientific Corp San Diego .... Cal
Electro-Med Instruments Inc Houston .... Tex
Electronic Associates Inc West Long Branch .... N J
E & L Instruments Inc Derby .... Conn
Gap Instrument Corp Westbury .... N Y
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Goodyear Aerospace Corp Akron .... Ohio
GPS Instrument Co Inc Framingham .... Mass
Hagan Computer Systems Div Westinghouse Pittsburgh ... Pa
Hybrid Systems Corp Burlington .... Mass
Ikor, Inc Burlington .... Mass
Intronics Inc Newton .... Mass
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lear Siegler Inc Santa Monica .... Cal
Link Div Singer Co Binghamton .... N Y
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Litton Systems (Canada) Ltd Rexdale .... Ont
Micro Metrics Inc Paterson .... N J
Milgo Electronic Corp Miami .... Fla
Motorola Instrumentation & Control Inc Phoenix .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Northrop Corp, Electronics Div Palos Verdes Peninsula .... Cal
Performance Measurements Co Detroit .... Mich
RC-95 Inc New York .... N Y
Reeves Instrument Div, DCA Garden City .... N Y
Reflectone. Inc, Englewood Cliffs .... N J
Scientific Data Systems Inc El Segundo .... Cal
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville .... Pa
Solartron Electronic Group Ltd Farnbrough .... England
Space & Tactical Systems Corp Burlington .... Mass
Spear Computers Inc Sub Becton, Dickinson & Co Waltham .... Mass
Systron-Donner Corp Concord .... Cal
Transystems Electronic Co Fort Lee .... N J
TRW Systems Group Redondo Beach .... Cal
Wyle Laboratories El Segundo .... Cal

COMPUTERS, SPECIAL PURPOSE—FIRE CONTROL

Alcatel Paris 8eme .... France
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American Astrionics Inc Palo Alto .... Cal
American Hydromath Co New Hyde Park .... N Y
Applied Devices Corp College Point .... n y
Astronautics Corp of America Milwaukee .... Wis
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Bell Aerosystems Co Buffalo .... N Y
Bunker-Ramo Corp Defense Systems Div Canoga Park .... Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
Control Logic Inc Natick .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Data General Corp Southboro .... Mass
Electronic Associates Inc West Long Branch .... N J
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Felsenthal Instruments Co Chicago Ill
Ferranti, Ltd Lancashire .... England
Gap Instrument Corp Westbury .... N Y
General Electric Co Ordnance Systems Pittsfield .... Mass
Goodyear Aerospace Corp Akron .... Ohio
Hartman Systems Co Inc Huntington Station .... N Y
Honeywell Inc, Computer Control Div Framingham ..... Mass
IBM Corp White Plains .... N Y
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Lear Siegler Inc Santa Monica .... Cal
Librascope Singer-General Precision Inc Glendale .... Cal
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Litton Systems (Canada) Ltd Rexdale .... Ont
Loral Electronic Systems, Div Loral Corp New York ...... NY
Melabs Palo Alto .... Cal
M Ten Bosch, Inc Pleasantville .... N Y
NanoFast, Inc Chicago Ill
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Reflectone. Inc, Englewood Cliffs .... N J
Reflex Controls Corp Huntington Station .... NY
Rodale Electronics Inc Garden City .... NY
Sedco Systems Inc Farmingdale .... N Y
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Teledyne Systems Control Sys A Teledyne Co El Segundo .. Cal
TRW Systems Group Redondo Beach .... Cal
Westinghouse Electric Corp, Aerospace Div Baltimore .... Md
Weston-Transicoil, Weston Instruments Inc Worcester .... Pa

COMPUTERS, SPECIAL PURPOSE—GUIDANCE

COMPUTER INSTRUMENTS CORP HEMPSTEAD .... N Y
SYSTRON-DONNER CORP CONCORD .... CAL
A C Electronics Div GM Milwaukee .... Wis
AMBAC Industries Inc Garden City .... N Y
American Astrionics Inc Palo Alto .... Cal
Applied Devices Corp College Point .... n y
Astronautics Corp of America Milwaukee .... Wis
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Bell Aerosystems Co Buffalo .... N Y
Bunker-Ramo Corp Defense Systems Div Canoga Park .... Cal
Computer Instruments Corp Hempstead .... N Y
Control Logic Inc Natick .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Data General Corp Southboro .... Mass
Electronic Associates Inc West Long Branch .... N J
Electronic Communications Inc Div NCR St Petersburg ... Fla
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset .... NY
Ferranti, Ltd Lancashire .... England
Goodyear Aerospace Corp Akron .... Ohio
Honeywell Inc, Computer Control Div Framingham ..... Mass
IBM Corp White Plains .... N Y
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Kollsman Instrument Corp Syosset .... N Y
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Litton Systems (Canada) Ltd Rexdale .... Ont
Loral Electronic Systems, Div Loral Corp New York ...... NY
Melabs Palo Alto .... Cal
M Ten Bosch, Inc Pleasantville .... N Y
NanoFast, Inc Chicago Il
Northrop Corp, Electronics Div Palos Verdes Peninsula ... Ca
Raytheon Co, Government Marketing Lexington .... Mas
RCA, Defense Electronic Products Moorestown .... N
RC-95 Inc New York .... N
Reeves Instrument Div, DCA Garden City .... N
Reflectone. Inc, Englewood Cliffs .... N
Sedco Systems Inc Farmingdale .... N
Selenia - Industrie Elettroniche Assoc Rome .... Ital
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .. Englan
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ari
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N
Systron-Donner Corp Concord C
Teledyne Systems Control Sys A Teledyne Co El Segundo .. C
Texas Instruments Incorporated Dallas .... Te
TRW Systems Group Redondo Beach C
Univac Div, Sperry Rand Corp Philadelphia .... P
Westinghouse Electric Corp, Aerospace Div Baltimore .... M

COMPUTERS, SPECIAL PURPOSE— NAVIGATION, AIRCRAFT

BOWMAR INSTRUMENT CORP FORT WAYNE .... IND
COMPUTER INSTRUMENTS CORP HEMPSTEAD .... N Y
TRACOR INC AUSTIN .... TEX
A C Electronics Div GM Milwaukee .... Wis
Aircraft Components Inc Benton Harbor .... Mich
Allen Aircraft Radio Inc Elk Grove Village Ill
AMBAC Industries Inc Garden City .... N Y
Ann Arbor Computer Corp Ann Arbor .... Mich
Applied Devices Corp College Point .... n y
Astronautics Corp of America Milwaukee .... Wis
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Bendix Corp Navigation & Control Div Teterboro, ... N J
Bowmar Instrument Corp Fort Wayne .... Ind
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
Canadian Marconi Co Montreal 16 .... Quebec
Collins Radio Co Dallas .... Tex
Computer Instruments Corp Hempstead .... N Y
Conductron-Missouri St Charles .... Mo
Conrac Corp New York .... N Y
Control Logic Inc Natick .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Data General Corp Southboro .... Mass
Electronic Associates Inc West Long Branch .... N J
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown .... Md
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset .... NY
Felsenthal Instruments Co Chicago Ill
Ferranti, Ltd Lancashire .... England
Gap Instrument Corp Westbury .... N Y
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville .... N Y
General Instrument Corp, Harris ASW Div Westwood .... Mass
Goodyear Aerospace Corp Akron .... Ohio
Hamilton Standard Div UAC Elctns Systems Windsor Locks .... Conn
Hartman Systems Co Inc Huntington Station .... N Y
Honeywell Inc, Computer Control Div Framingham .... Mass
IBM Corp White Plains .... N Y
Instru-Lec Corp Mt Vernon .... N Y
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Kollsman Instrument Corp Syosset .... N Y
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Litton Systems (Canada) Ltd Rexdale .... Ont
Loral Electronic Systems, Div Loral Corp New York .... NY
Marconi Co Ltd Chelmsford .... England
Melabs Palo Alto .... Cal
M Ten Bosch, Inc Pleasantville .... N Y
NanoFast, Inc Chicago Ill
Norden Div, United Aircraft Corp Norwalk .... Conn
Northrop Corp, Electronics Div Palos Verdes Peninsula .... Cal
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
RC-95 Inc New York .... N Y
Reflectone. Inc, Englewood Cliffs .... N J
Sedco Systems Inc Farmingdale .... N Y
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .... England
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ariz
Sperry Gyroscope Div Sperry Rand Corp Great Neck .... N Y
Springer Aircraft-Radio Corp Shelbyville .... Ind
Sunbeam Electronics Fort Lauderdale .... Fla
Sylvania Electronic Systems Waltham .... Mass
Teledyne Systems Control Sys A Teledyne Co El Segundo .... Cal
Texas Instruments Incorporated Dallas .... Tex
Tracor Inc Austin .... Tex
TRW Systems Group Redondo Beach .... Cal
Univac Div, Sperry Rand Corp Philadelphia .... Pa
Weston-Transicoil, Weston Instruments Inc Worcester .... Pa

COMPUTERS, SPECIAL PURPOSE— NAVIGATION, SHIP

TRACOR INC AUSTIN .... TEX
A C Electronics Div GM Milwaukee .... Wis
AMBAC Industries Inc Garden City .... N Y
American Hydromath Co New Hyde Park .... N Y
Ann Arbor Computer Corp Ann Arbor .... Mich
Applied Devices Corp College Point .... n y
Astronautics Corp of America Milwaukee .... Wis
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Bendix Corp Navigation & Control Div Teterboro, ... N J
Bunker-Ramo Corp Defense Systems Div Canoga Park .... Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
Cie Internationale Pour L'Informatique 78 Louveciennes .... France
Control Logic Inc Natick .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Data General Corp Southboro .... Mass
Electronic Associates Inc West Long Branch .... N J
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset .... NY
Felsenthal Instruments Co Chicago Ill
Ferranti, Ltd Lancashire .... England
Gap Instrument Corp Westbury .... N Y
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville .... N Y
General Instrument Corp, Harris ASW Div Westwood .... Mass
Goodyear Aerospace Corp Akron .... Ohio
Hamilton Standard Div UAC Elctns Systems Windsor Locks .... Conn
Hartman Systems Co Inc Huntington Station .... N Y
Honeywell Inc, Computer Control Div Framingham .... Mass
IBM Corp White Plains .... N Y
Industrial Control Co Farmingdale .... N Y
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Loral Electronic Systems, Div Loral Corp New York .... NY
M Ten Bosch, Inc Pleasantville .... N Y
NanoFast, Inc Chicago Ill
Northrop Corp, Electronics Div Palos Verdes Peninsula .... Cal
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Sedco Systems Inc Farmingdale .... N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck .... N Y
Stafford Mfg Co Inc Brooklyn .... N Y
Sylvania Electronic Systems Waltham .... Mass
Tracor Inc Austin .... Tex
Weston-Transicoil, Weston Instruments Inc Worcester .... Pa

COMPUTERS, SPECIAL PURPOSE— NUMERICAL CONTROL PROGRAMMERS & DIRECTORS

THETA INSTRUMENT CORP FAIRFIELD .... N J
Analog Technology Corp Pasadena .... Cal
Data General Corp Southboro .... Mass
Digital Automation Co Pennington .... N J
Digital Instruments Co Inc Shawnee-Mission .... Kans
Digital Products Corp Fort Lauderdale .... Fla
Doric Scientific Corp San Diego .... Cal
E & L Instruments Inc Derby .... Conn
Ferranti, Ltd Lancashire .... England
Fujitsu Ltd Tokyo .... Japan
Hagan Computer Systems Div Westinghouse Pittsburgh .... Pa
Intertechnique Plaisir 78 .... France
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
MTI- Mechanical Technology Inc Latham .... NY
Performance Measurements Co Detroit .... Mich
Recording Designs Ltd Camberley Surrey .... England
Scientific Control Corp Carrollton .... Tex
Signatron Inc Lexington .... Mass
Techmetric Co Redwood City .... Cal
Theta Instrument Corp Fairfield .... N J
Time Zero Corp Torrance .... Cal
Transistor Electronics Corp Minneapolis .... Minn
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan
Zonic Technical Labs Cincinnati .... Ohio

COMPUTERS, SPECIAL PURPOSE— PROCESS CONTROL

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DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .... IND
DISCON CORP FORT LAUDERDALE .... FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
HYBRID SYSTEMS CORP BURLINGTON .... MASS
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
THETA INSTRUMENT CORP FAIRFIELD .... N J
Adage Inc Boston .... Mass
American Astrionics Inc Palo Alto .... Cal
Ann Arbor Computer Corp Ann Arbor .... Mich
Applied Control Co Cedar Grove .... NJ
Applied Dynamics, Inc Ann Arbor .... Mich
Astrodata Inc Anaheim .... Cal
Astronautics Corp of America Milwaukee .... Wis
Audn Corp Hamburg .... N Y
Avco Electronics Div Cincinnati .... Ohio
Bailey Meter Co Wickliffe .... Ohio
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Bionic Instruments Inc Bala Cynwyd .... Pa
Bristol Div, American Chain & Cable Co Waterbury .... Conn
Burr-Brown Research Corp Tucson .... Ariz
Canberra Industries Meriden .... Conn
Canoga Industries Los Angeles .... Cal
Cie Internationale Pour L'Informatique 78 Louveciennes .... France
Compudyne Corp Hatboro .... Pa
Computer Dynamics Inc Torrington .... Conn
Computer Products Inc Fort Lauderdale .... Fla
Control Logic Inc Natick .... Mass
Control Technology Co Inc Long Island City .... N Y
Data Automation Inc Scottsdale .... Ariz
Datacraft Corp Fort Lauderdale .... Fla
Data General Corp Southboro .... Mass
Data Mate Computer Systems Inc Big Spring .... Tex
DatCon Electronics Corp Mt Vernon .... NY
Davidson Electronic Development Co Erie .... Pa
Delco Radio Div General Motors Corp Kokomo .... Ind
Digiac Corp Plainview .... N Y
Digital Products San Pedro .... Cal
Digital Products Corp Fort Lauderdale .... Fla
Dinion Coil Co Inc Caledonia .... N Y
Discon Corp Fort Lauderdale .... Fla
Doric Scientific Corp San Diego .... Cal
Dynapar Corp Sub Louis Allis Co Gurnee Ill
E-H Research Labs Inc Oakland .... Cal
Elastronics Labs Tarzana .... Cal
Electronic Associates Inc West Long Branch .... N J
Electronic Communications Inc Div NCR St Petersburg .... Fla
Electronic Modules Corp Timonium .... Md
E & L Instruments Inc Derby .... Conn
EMR Computer Minneapolis .... Minn
EMR-Hatboro Div Weston Insts Inc Hatboro .... Pa
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown .... Md
Ferranti Electric Inc Plainview .... N Y
Ferranti, Ltd Lancashire .... England
Fischer & Porter Co Warminster .... Pa
Foxboro Co Foxboro .... Mass
Fujitsu Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
Glentek Inc Santa Monica .... Cal
Gulton Industries Inc Metuchen .... N J
Hagan Computer Systems Div Westinghouse Pittsburgh .... Pa
Halmar Electronics Inc Columbus .... Ohio
Heuer Electronics Corp Norwalk .... Conn
Honeywell Inc, Computer Control Div Framingham .... Mass
Honeywell Industrial Div Fort Washington .... Pa
Hugle Industries Sunnyvale .... Cal
Humphrey Electronics Inc Raleigh .... N C
Hybrid Systems Corp Burlington .... Mass
Hyde Park Electronics Inc Dayton .... Ohio
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
Ikor, Inc Burlington .... Mass
Imlac Corp Waltham .... Mass
Industrial Control Co Farmingdale .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
Information Instruments, Inc Ann Arbor .... Mich
Infotronics Corp Houston .... Tex
Instrumentation Technology Corp Northridge .... Cal
Instrument Development Labs Div Kollmorgen Corp Attleboro .... Mass
Interdata Oceanport .... N J
Kaman Nuclear Div Kaman Sciences Corp Colorado Springs .... Colo
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Leeds & Northrup Co North Wales .... Pa
Litton Industries, Guidance & Controls Sys Div Woodland Hills .... Cal
Lockheed Electronics Co Data Prods Div Los Angeles .... Cal
Logic Corp Haddonfield .... N J
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Luft Instruments Inc Lincoln .... Mass
Maricopa Controls Scottsdale .... Ariz
Microdyne Inc Rolling Meadows Ill
Micro Metrics Inc Paterson .... N J
Milgo Electronic Corp Miami .... Fla
Milletron, Inc Pittsburgh .... Pa
Molecular Research Inc Palm Beach Gardens .... Fla
Moore Associates Div Rucker Co San Carlos .... Cal
Motorola Instrumentation & Control Inc Phoenix .... Ariz
M Ten Bosch, Inc Pleasantville .... N Y
NanoFast, Inc Chicago Ill
Navcor Inc Div KDI Corp Norristown .... Pa
Nippon Electric Co Ltd Tokyo .... Japan
Nus Corp Paramus .... N J
Pastoriza Div Analog Devices Cambridge .... Mass
RCA, Defense Electronic Products Moorestown .... N J
RC-95 Inc New York .... N Y
Recording Designs Ltd Camberley Surrey .... England
Reeves Instrument Div, DCA Garden City .... N Y
Reflex Controls Corp Huntington Station .... NY
Research Inc, R-I Controls Div Minneapolis .... Minn
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington .... Ind
Scientific Control Corp Carrollton .... Tex
Scientific Data Systems Inc El Segundo .... Cal
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville .... Pa
Sedco Systems Inc Farmingdale .... N Y
Siemens America Inc New York .... N Y
Signatron Inc Lexington .... Mass
Stern Co Inc M L Charlotte .... N C
Stone Laboratories Inc Boston .... Mass
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur .... Switzerland
Sylvania Electronic Systems Waltham .... Mass
Systems Engineering Labs. Ft Lauderdale .... Fla
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Texas Instruments Inc Indl Prods Div Houston .... Tex
Theta Instrument Corp Fairfield .... N J
Tracerlab, Div Lab for Electronics Inc Waltham .... Mass
Transistor Electronics Corp Minneapolis .... Minn
TRW Systems Group Redondo Beach .... Cal
Varian Data Machines Irvine .... Cal
Veeder-Root Hartford .... Conn
Wang Labs Inc Tewksbury .... Mass
Watesta Electronics Ltd Loughton Essex .... England
Western Technical Assoc Miraleste .... Cal
Wyle Laboratories El Segundo .... Cal
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan
Zehntel, Inc Berkeley .... Cal
Zeltex Inc Sub Redcor Corp Concord .... Cal
Zonic Technical Labs Cincinnati .... Ohio

COMPUTERS, SPECIAL PURPOSE— PROCESS & PIPELINE SIMULATION

Applied Peripheral Systems Inc Houston .... Tex
Bailey Meter Co Wickliffe .... Ohio
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Data General Corp Southboro .... Mass
Data Mate Computer Systems Inc Big Spring .... Tex
Digital Instruments Co Inc Shawnee-Mission .... Kans
Doric Scientific Corp San Diego .... Cal
Link Div Singer Co Binghamton .... N Y

COMPUTERS, SPECIAL PURPOSE— TRAFFIC CONTROL

Cie Internationale Pour L'Informatique 78 Louveciennes .... France
Data General Corp Southboro .... Mass
Data Mate Computer Systems Inc Big Spring .... Tex
Digital Products Corp Fort Lauderdale .... Fla
Intertechnique Plaisir 78 .... France
Link Div Singer Co Binghamton .... N Y
Marconi Co Ltd Chelmsford .... England
Matsushita Communication Industrial Co Ltd Yokohama .... Japan
Tasker Industries Los Angeles .... Cal

COMPUTER SERVICES—DATA PROCESSING

NIHON KOHDEN KOGYO CO LTD TOKYO .... 161 JAPAN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL

Access Systems Inc Paramus .... NJ
Allied Computer Technology Inc Santa Monica .... Cal
Automated Business Systems Div Litton Indus Carlstadt .. N J
Automatic Data Processing of Mass Inc Boston .... Mass
Brown Engineering-A Teledyne Co Huntsville .... Ala
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Cie Internationale Pour L'Informatique
  78 Louveciennes .... France
C & N Electrical Ltd Gosport .... Hampshire Eng
Control Systems Research Inc Pittsburgh .... Pa
Design Automation Inc Lexington .... Mass
Device Development Corp Waltham .... Mass
Electronic Associates Inc West Long Branch .... N J
Electron-Ohio Inc Cleveland .... Ohio
Executive Electronics Inc. Denver .... Colo
Ferranti, Ltd Lancashire .... England
Fischer & Porter Co Warminster .... Pa
Frankel Engineering Labs Inc Reading .... Pa
Fujitsu Ltd Tokyo .... Japan
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Geo Space Corp Houston .... Tex
Gerber Scientific Instrument Co Hartford .... Conn
GPS Instrument Co Inc Framingham .... Mass
Grafix Inc Albuquerque .... N Mex
Gulton Industries Inc Metuchen .... N J
Hayakawa Electric Co Ltd Osaka .... Japan
Honeywell Inc, Computer Control Div Framingham .... Mass
Hydra-Electric Co Burbank .... Cal
IBM Corp White Plains .... N Y
IBM Service Bureau Corp New York .... N Y
Imlac Corp Waltham .... Mass
Information International Inc Boston .... Mass
Kaman Nuclear Div Kaman Sciences Corp
  Colorado Springs .... Colo
Laben S p A Milan .... Italy
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
Leeds & Northrup Co North Wales .... Pa
Logic Corp Haddonfield .... N J
Marconi Co Ltd Chelmsford .... England
MTI- Mechanical Technology Inc Latham .... NY
National Cash Register Co Dayton .... Ohio
Nihon Kohden Kogyo Co Ltd Tokyo .... 161 Japan
Nippon Electric Co Ltd Tokyo .... Japan
Nuclear Technology Corp White Plains .... N Y
Philco-Ford Corp Washington .... D C
RCA, Defense Electronic Products Moorestown .... N J
Scientific Resources Corp Mauchly Computer Tech Gr
  Montgomeryville .... Pa
Sci-Tek Computer Center Inc Wilmington .... Del
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Signatron Inc Lexington .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Systems Research Labs Inc Dayton .... Ohio
Technology Inc Dayton .... Ohio
Technology/Versatronics Inc Yellow Springs .... Ohio
TRW Systems Group Redondo Beach .... Cal
Univac Div, Sperry Rand Corp Philadelphia .... Pa
Viatron Computer Systems Corp Bedford .... Mass
Victor Comptometer Corp, Business Mach Group Chicago .. Ill
Wyle Laboratories El Segundo .... Cal
Zonic Technical Labs Cincinnati .... Ohio

COMPUTER SERVICES—INSTALLATION

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Allied Computer Technology Inc Santa Monica .... Cal
Altron Electronics Co Woodlyn .... Pa
Applied Dynamics, Inc Ann Arbor .... Mich
Automatic Data Processing of Mass Inc Boston .... Mass
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Control Systems Research Inc Pittsburgh .... Pa
Electronic Associates Inc West Long Branch .... N J
Electronic Design Labs Inc Philadelphia .... Pa
Fujitsu Ltd Tokyo .... Japan
General Electric Co Info Sys Equip Div Phoenix .... Ariz
IBM Corp White Plains .... N Y
Logic Corp Haddonfield .... N J
Nippon Electric Co Ltd Tokyo .... Japan
Performance Measurements Co Detroit .... Mich
Philco-Ford Corp Washington .... D C
Sci-Tek Computer Center Inc Wilmington .... Del
Systems Research Labs Inc Dayton .... Ohio
Telecontrol Div Vogue Instrument Corp Plainview .... NY
Univac Div, Sperry Rand Corp Philadelphia .... Pa

COMPUTER SERVICES—MACHINE TIME RENTAL

TUCK ELECTRONICS NEW CUMBERLAND .... PA
Access Systems Inc Paramus .... NJ
Automatic Data Processing of Mass Inc Boston .... Mass
Brown Engineering-A Teledyne Co Huntsville .... Ala
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Electronic Associates Inc West Long Branch .... N J
Faul-Coradi Inc Skaneateles .... N Y
Frankel Engineering Labs Inc Reading .... Pa
Fujitsu Ltd Tokyo .... Japan
Gerber Scientific Instrument Co Hartford .... Conn
GPS Instrument Co Inc Framingham .... Mass
Grafix Inc Albuquerque .... N Mex
Hydra-Electric Co Burbank .... Cal
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
IBM Service Bureau Corp New York .... N Y
Kaman Nuclear Div Kaman Sciences Corp
  Colorado Springs .... Colo
Milgo Electronic Corp Miami .... Fla
MTI- Mechanical Technology Inc Latham .... NY
Philco-Ford Corp Washington .... D C
Reeves Instrument Div, DCA Garden City .... N Y
Scientific Resources Corp Mauchly Computer Tech Gr
  Montgomeryville .... Pa
Sci-Tek Computer Center Inc Wilmington .... Del
Signatron Inc Lexington .... Mass
Stainless Inc North Wales .... Pa
Technology Inc Dayton .... Ohio
TRW Systems Group Redondo Beach .... Cal
Tuck Electronics New Cumberland .... Pa
Univac Div, Sperry Rand Corp Philadelphia .... Pa
Wyle Laboratories El Segundo .... Cal

COMPUTER SERVICES—OPERATION

Access Systems Inc Paramus .... NJ
Allied Computer Technology Inc Santa Monica .... Cal
Applied Dynamics, Inc Ann Arbor .... Mich
Automatic Data Processing of Mass Inc Boston .... Mass
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Control Systems Research Inc Pittsburgh .... Pa
Electronic Associates Inc West Long Branch .... N J
Frankel Engineering Labs Inc Reading .... Pa
Fujitsu Ltd Tokyo .... Japan
General Electric Co Info Sys Equip Div Phoenix .... Ariz
GPS Instrument Co Inc Framingham .... Mass
Harris-Intertype Corp Cleveland .... Ohio
IBM Corp White Plains .... N Y
Kaman Nuclear Div Kaman Sciences Corp
  Colorado Springs .... Colo
Logic Corp Haddonfield .... N J
National Cash Register Co Dayton .... Ohio
Nuclear Technology Corp White Plains .... N Y
Performance Measurements Co Detroit .... Mich
Reeves Instrument Div, DCA Garden City .... N Y
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  Montgomeryville .... Pa
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Bolt Beranek & Newman, Data Equip Div Santa Ana ..... Cal
Brown Engineering-A Teledyne Co Huntsville .... Ala
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Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
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GPS Instrument Co Inc Framingham .... Mass
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Litton Industries Inter-Pak Elctns Div Beverly Hills ...... Cal
Logic Corp Haddonfield .... N J
Marconi Co Ltd Chelmsford .... England
Microwave/Systems Inc East Syracuse .... N Y
MTI- Mechanical Technology Inc Latham .... NY
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Nippon Electric Co Ltd Tokyo .... Japan
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Stainless Inc North Wales .... Pa
Sylvania Electronic Systems Waltham .... Mass
Systems Engineering Labs. Ft Lauderdale .... Fla
Systems Research Labs Inc Dayton .... Ohio
Technology Inc Dayton .... Ohio
Technology/Versatronics Inc Yellow Springs .... Ohio
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Viatron Computer Systems Corp Bedford .... Mass
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Wyle Laboratories El Segundo .... Cal
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AMP Inc, Capitron Div Elizabethtown .... Pa
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Azimuth Electronics Denville .... N J
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Jones Inc, Norman South Merrimack .... N H
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Philmore Mfg Co Inc Richmond Hill .... N Y
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Shigoto Industries Ltd New York .... N Y
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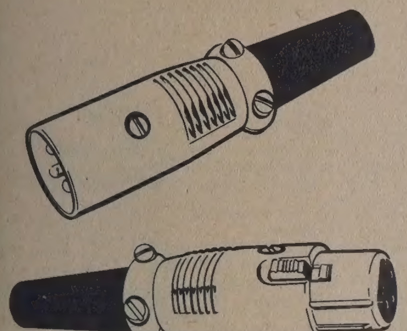

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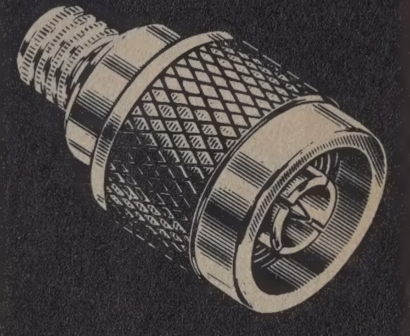

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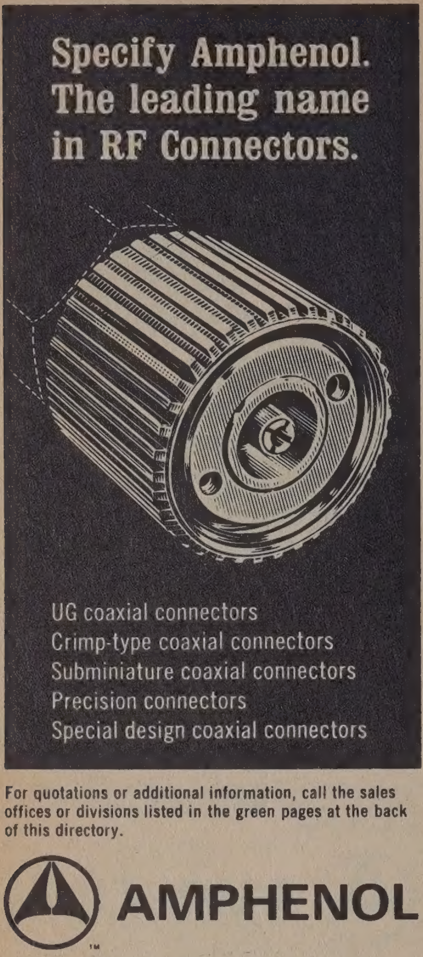

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AMP Incorporated Harrisburg . . . . P
AMP Inc, Capitron Div Elizabethtown . . . . P
Armel Electronics, Inc North Bergen . . . . N
Astrolab Inc Linden . . . . N
Automatic Metal Products Corp Brooklyn . . . . N
Ava Electronics & Machine Corp Upper Darby . . . . P
Aviation Electric Ltd St Laurent, Montreal . . . . Qu
Beckman Instruments Inc Fullerton, ... C
Bendix Corp Electrical Components Div Sidney . . . . N
Burndy Corp Norwalk . . . . Con
Ceramaseal Inc, Sub Lapp Insulator Co Inc
  New Lebanon Center . . . . N
Cinch Mfg Co Elk Grove Village I
Co-Ax Inc Roslyn . . . . N
Communication Dynamics Corp Yonkers . . . . N
Continental Connector Corp Woodside . . . . N
Dage Electric Co Inc Franklin . . . . In
Dale Electronics Inc Columbus . . . . Ne
Deutsch Co, Electronic Components Div Banning C
Eagle Electric Mfg Co Inc Long Island City . . . . N
Ercona Corp Bellmore . . . . N
Estes Engineering Co Gardena C
General Laboratory Assoc Inc Norwich . . . . N

Greenpar Engineering Ltd, Electronics Div Essex . . . . England
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead . . . Cal
Hirose Electric Co Ltd Tokyo . . . . Japan
Hobson Brothers Inc Chicago Ill
Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo . . . . . . Japan
Hughes Connecting Devices Newport Beach . . . . Cal
Indit Corp Albertson . . . . N Y
Industrial Electronic Hardware Corp New York . . . . N Y
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles . . . Cal
Japan Aviation Electronics Industry Ltd Tokyo . . . . Japan
Jettron Products Inc Hanover . . . . N J
Johnson Co, E F Waseca . . . . Minn
Jones Inc, Norman South Merrimack . . . . N H
Kings Electronics Co Inc Tuckahoe . . . . N Y
Lemosa Inc San Francisco . . . . Cal
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Livingston Electronic Div Jettron Prods Inc Hanover . . . . . N J
Millen Mfg Co Inc, James Malden . . . . Mass
Molex Products Co Downers Grove Ill
Permonite Mfg Co Chicago Ill
Phelps Dodge Communications Co North Haven . . . . Conn
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Plastic Capacitors Inc Chicago Ill
Plessey Co Ltd Ilford Essex . . . . England
Porter H K Co Electrical Div Pittsburgh . . . . Pa
Positive Connector Co Derby . . . . Conn
Reynolds Industries Inc Santa Monica . . . . Cal
Ross Engineering Corp Saratoga . . . . Cal
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Smith Inc, Herman H Brooklyn . . . . N Y
Solitron/Microwave Long Island City . . . . N Y
Standard Connector Corp North Haven . . . . Conn
Star Tronics Inc Georgetown . . . . Mass
Technical Materiel Corp Mamaroneck . . . . N Y
Ted Mfg Corp Shawnee Mission . . . . Kans
Transitron Electronic Corp Wakefield . . . . Mass
Tru-Connector Corp Peabody . . . . Mass
U S Terminals Inc Cincinnati . . . . Ohio
Veritron West Inc Chatsworth . . . . Cal
Viking Industries Inc Chatsworth . . . . Cal
Western Int'l Inc., Connector Div. Yonkers . . . . NY
Winchester Electronic Div, Litton Industries Oakville . . . . Conn

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ACCURATE ELECTRONICS CORP ELYRIA . . . . OHIO
AMPHENOL BROADVIEW ILL
AMPHENOL CHICAGO ILL
DALE ELECTRONICS INC COLUMBUS . . . . NEB
ELCO CORP WILLOW GROVE . . . . PA
HONDA TSUSHIN KOGYO CO LTD.
MEGURO-KU TOKYO . . . . JAPAN
ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP
LOS ANGELES . . . . CAL
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
Accurate Electronics Corp Elyria . . . . Ohio
Aerolite Electronics Corp Union City . . . . N J
Aikow Shoji Kaisha Ltd Osaka . . . . Japan
AirBorn Inc Dallas . . . . Tex
Amphenol Broadview Ill
Amphenol Chicago Ill
AMP Incorporated Harrisburg . . . . Pa
AMP Inc, Capitron Div Elizabethtown . . . . Pa
Ark-Les Switch Corp Watertown . . . . Mass
Armel Electronics, Inc North Bergen . . . . N J
Astrolab Inc Linden . . . . N J
Auto-Swage Products, Inc Shelton . . . . Conn
Ava Electronics & Machine Corp Upper Darby . . . . Pa
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Bead Chain Mfg Co Bridgeport . . . . Conn
Bendix Corp Electrical Components Div Sidney . . . . N Y
Berg Electronics, Inc New Cumberland . . . . Pa
Carol Cable Co Pawtucket . . . . R I
Cole-Hersee Co S Boston . . . . Mass
Connector Corp Chicago Ill
Dage Electric Co Inc Franklin . . . . Ind
Dale Electronics Inc Columbus . . . . Neb
Deutsch Co, Electronic Components Div Banning . . . . Cal
Eagle Electric Mfg Co Inc Long Island City . . . . N Y
Elco Corp Willow Grove . . . . Pa
Electronic Accessories Div of BIW El Segundo . . . . Cal
Ercona Corp Bellmore . . . . NY
G & H Technology Inc Santa Monica . . . . Cal
Greenpar Engineering Ltd, Electronics Div Essex . . . . England
Hirose Electric Co Ltd Tokyo . . . . Japan
Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo . . . . . . Japan
ndit Corp Albertson . . . . N Y
ndustrial Electronic Hardware Corp New York . . . . N Y
TT Cannon Electric Div Intl Tel & Tel Corp Los Angeles . . . Cal
Keystone Electronics Corp New York . . . . N Y
Leviton Mfg Co Inc Brooklyn . . . . N Y
Malco Mfg Co Inc Chicago Ill
Microdot, Inc South Pasadena . . . . Cal
Molex Products Co Downers Grove Ill
National Tel-Tronics Corp Yonkers . . . . N Y
Pass & Seymour Syracuse . . . . N Y
Permonite Mfg Co Chicago Ill
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Plastoid Corp Long Island City . . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Positive Connector Co Derby . . . . Conn
Rye Industries, Inc Mamaroneck . . . . N Y
Shigoto Industries Ltd New York . . . . N Y
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Smith Inc, Herman H Brooklyn . . . . N Y
Sta-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington . . . . Mo
Switchcraft Inc Chicago Ill
Technical Materiel Corp Mamaroneck . . . . N Y
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Transitron Electronic Corp Wakefield . . . . Mass
Valdom Electronics Inc Chicago Ill
Western Int'l Inc., Connector Div. Yonkers . . . . NY
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ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP
LOS ANGELES CAL . . . . ADV PG 157
SHOWA MUSEN KOGYO CO LTD TOKYO
JAPAN . . . . ADV PG 158
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AirBorn Inc Dallas . . . . Tex
Alden Products Co, Inc Brockton . . . . Mass
Allmetal Screw Products Co Inc Garden City . . . . N Y
Americon Corp Waltham . . . . Mass
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Amphenol Chicago Ill
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AMP Inc, Capitron Div Elizabethtown . . . . Pa
Applied Engineering Prods Div Samarius Inc Ansonia . . . . Conn
Arco Electronics Div. Loral Corp. Great Neck . . . . N Y
Ark-Les Switch Corp Watertown . . . . Mass
Armel Electronics, Inc North Bergen . . . . N J
Astro Seal Inc S El Monte . . . . Cal
Atlantic Instruments & Electronics, Inc Watertown . . . . . Mass
Automatic Metal Products Corp Brooklyn . . . . N Y
Auto-Swage Products, Inc Shelton . . . . Conn
Ava Electronics & Machine Corp Upper Darby . . . . Pa
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Aviel Electronics, Inc Burbank . . . . Cal
Avionics, Inc South Bend . . . . Ind
Azimuth Electronics Denville . . . . N J
Barnes Corp Lansdowne . . . . Pa
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Burndy Corp Norwalk . . . . Conn
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Cinch Mfg Co Elk Grove Village Ill
Cinch-Nuline Div United-Carr Minneapolis . . . . Minn
Coastal Dynamics Corp Venice . . . . Cal
Co-Ax Inc Roslyn . . . . N Y
Communication Dynamics Corp Yonkers . . . . N Y
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Available in either solder or smooth (crimp) types, meeting MIL-C-26482. Inserts can be ordered polarized in accordance with applicable military standards. BANTAM connectors are vibration resistant and moisture proof, within the required range of —67° to +257°F. Catalog BSB (solder) and SCB (smooth) on request.

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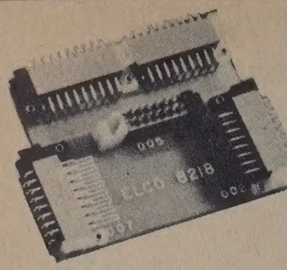
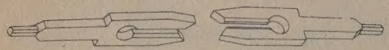


Miniature connectors, yes.

Miniature contacts, no.



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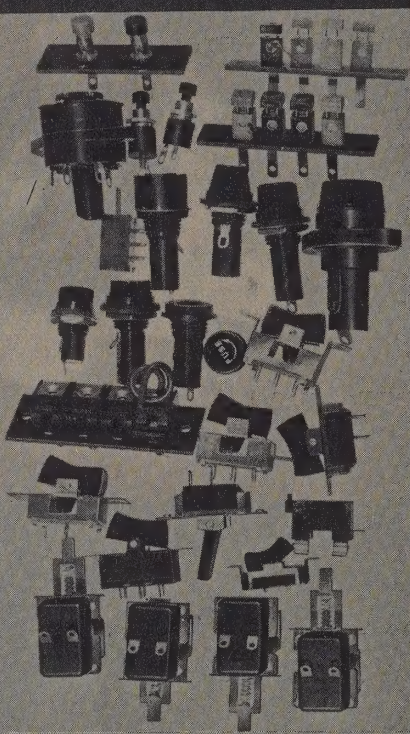

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Diebel Mfg Co Morton Grove Ill
Douglas Div Scott & Fetzer Co Bronson .... Mich
Elco Corp Willow Grove .... Pa
Electrix Corp Esmond .... R I
Electronic Hardware Corp Jamaica .... NY
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Emihus Microcomponents Ltd Hounslow Mdsx .... England
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Hydra-Electric Co Burbank .... Cal
Hydro Molding Co Inc Plattsburgh .... N Y
Indit Corp Albertson .... N Y
Industrial Circuits Co Fairfield .... N J
Industrial Electronic Hardware Corp New York .... N Y
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Japan Aviation Electronics Industry Ltd Tokyo .... Japan
Javex Electronics Cherry Valley .... Cal
Jones Electronics, Hiram Burbank .... Cal
Jones Inc, Norman South Merrimack .... N H
Keystone Electronics Corp New York .... N Y
Kings Electronics Co Inc Tuckahoe .... N Y
Lemosa Inc San Francisco .... Cal
Leviton Mfg Co Inc Brooklyn .... N Y
Livingston Electronic Div Jettron Prods Inc Hanover .... N J
Malco Mfg Co Inc Chicago Ill
Mark Eyelet & Stamping Inc Wolcott .... Conn
Marlin Mfg Corp Cleveland .... Ohio
Masterite Industries Corp Torrance .... Cal
Methode Electronics Inc Chicago Ill
Metox Paris 20 .... France
Microdot, Inc South Pasadena .... Cal
Microtech Inc Folcroft .... Pa
Microwave Associates Inc Burlington .... Mass
Mi-Kro Connector Corp Long Island City .... N Y
Millen Mfg Co Inc, James Malden .... Mass
3M Company St Paul .... Minn
Molex Products Co Downers Grove Ill
Narda Microwave Corp Plainview .... N Y
National Connector Corp Minneapolis .... Minn
National Tel-Tronics Corp Yonkers .... N Y
Networks Electronic Corp Chatsworth .... Cal
Omega Engineering Inc Stamford .... Conn
Omni Spectra Inc Farmington .... Mich
Penn-Union Electric A Teledyne Co Edinboro .... Pa
Permonite Mfg Co Chicago Ill
Phelps Dodge Communications Co North Haven .... Conn
Physical Sciences Corp Arcadia .... Cal
Plastoid Corp Long Island City .... N Y
Plessey Co Ltd Ilford Essex .... England
Plessey Electronics Corp Farmingdale .... N Y
Pomona Electronics Co Inc Pomona .... Cal
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Premium Allied Tool Inc Owensboro .... Ky
Pylon Co, Inc Attleboro .... Mass
Reynolds Industries Inc Santa Monica .... Cal
Robinson-Nugent Inc New Albany .... Ind
Rye Industries, Inc Mamaroneck .... N Y
SAE Advanced Packaging Inc Santa Ana .... Cal
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Sealectro Corp Mamaroneck .... N Y
Sealtron Corp Cincinnati .... Ohio
Shigoto Industries Ltd New York .... N Y
Showa Musen Kogyo Co Ltd Tokyo .... Japan
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Smiths Industries Ltd, Aviation Div Wembley, Mdsx .... England
S O G I E 75 Paris 19e .... France
Solitron/Microwave Long Island City .... N Y
Staffall, Inc Providence .... R
Standard Connector Corp North Haven .... Conn
Star Tronics Inc Georgetown .... Mass
Statham Instruments Inc Oxnard .... Ca
Sta-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington .... M
STM Corp Oakland .... Ca
Subminiature Instruments Corp Riverside .... Ca
Switchcraft Inc Chicago I
Sylvania Electric Prods Inc, Parts Div Warren .... P
Technical Materiel Corp Mamaroneck .... N
Techni-Tool Inc Philadelphia .... P
Ted Mfg Corp Shawnee Mission .... Kan
Teledata Inc Queens Village .... N
Tepro of Florida Inc Dunedin .... Fl
Texas Instruments Incorporated Dallas .... Te
Tower Mfg Corp Providence .... R
Transitron Electronic Corp Wakefield .... Mas
Triangle Electronic Mfg Co Inc Poughkeepsie .... N
Trim Line Connectors Ltd Weston .... Or
Trompeter Electronics Inc Chatsworth C
Tru-Connector Corp Peabody .... Ma
Uniform Tubes Inc Collegeville .... P
Vector Electronic Co Inc Sylmar C
Veritron West Inc Chatsworth C
Viking Industries Inc Chatsworth C
Western Int'l Inc., Connector Div. Yonkers .... N
Wiggins Inc, E B Los Angeles C
Winchester Electronic Div, Litton Industries Oakville .... Co

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Armel Electronics, Inc North Bergen.................N J
Auto-Swage Products, Inc Shelton...................Conn
Barker Products Co Saugus........................Mass
Bead Chain Mfg Co Bridgeport......................Conn
Birnbach Co Inc Freeport.........................N Y
Carter Precision Electric Co Skokie...................Ill
Cinch Mfg Co Elk Grove Village......................Ill
Connector Corp Chicago Ill
Daburn Electronics & Cable Corp Bronx ....N Y
Dialight Corp Brooklyn............................N Y
Ercona Corp Bellmore..............................NY
G C Electronics Div, Hydrometals Inc Rockford Ill
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Hosiden Electronics Co Ltd Osaka...................Japan
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Keystone Electronics Corp New York ....N Y
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Nutmeg Screw Machine Products Co Waterbury ....Conn
Pacific Electricord Co Gardena ....Cal
Permonite Mfg Co Chicago Ill
Philmore Mfg Co Inc Richmond Hill ....N Y
Plastoid Corp Long Island City ....N Y
Positive Connector Co Derby.......................Conn
Robins Industries Corp Flushing ....N Y
Rye Industries, Inc Mamaroneck ....N Y
Sanyo Electric Co Ltd Osaka ....Japan
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Showa Musen Kogyo Co Ltd Tokyo...................Japan
Smith Inc, Herman H Brooklyn.......................N Y
Switchcraft Inc Chicago.............................Ill
Transitron Electronic Corp Wakefield................Mass
Trico Fuse Mfg Co Milwaukee ....Wis
Waldom Electronics Inc Chicago......................Ill
Western Int'l Inc., Connector Div. Yonkers ....NY

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ACCURATE ELECTRONICS CORP ELYRIA ....OHIO
AMPHENOL BROADVIEW ILL ....ADV PG 159
AMPHENOL CHICAGO ILL
BURNDY CORP NORWALK ....CONN
DABURN ELECTRONICS & CABLE CORP BRONX........N Y
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Arco Electronics Div. Loral Corp. Great Neck ....N Y
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Astrolab Inc Linden ....N J
Atlantic Instruments & Electronics, Inc Watertown......Mass
Auburn Spark Plug Co, Inc Auburn....................N Y
Automatic Metal Products Corp Brooklyn..............N Y
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New Lebanon Center ....N Y
Coastal Dynamics Corp Venice ....Cal
Continental Connector Corp Woodside ....N Y
Crouse-Hinds Co Syracuse..........................N Y
Daburn Electronics & Cable Corp Bronx ....N Y
Dale Electronics Inc Columbus ....Neb
Dante Electric Mfg Co Bantam.....................Conn
Deutsch Co, Electronic Components Div Banning ....Cal
Eagle Electric Mfg Co Inc Long Island City ....N Y
Elco Corp Willow Grove ....Pa
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Joy Mfg Co New Philadelphia ....Ohio
Kent Corp Mundelein Ill
Lemosa Inc San Francisco ....Cal
Leviton Mfg Co Inc Brooklyn ....N Y
Lynn Electronics Corp Philadelphia....................Pa
Microdot, Inc South Pasadena ....Cal
Molex Products Co Downers Grove Ill
Pacific Electricord Co Gardena ....Cal
Pass & Seymour Syracuse ....N Y
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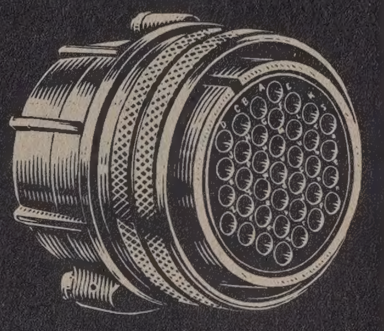

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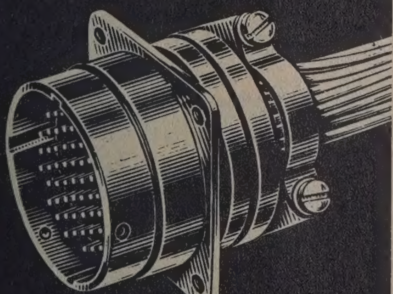

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Light weight and high contact density
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SUPERCON®
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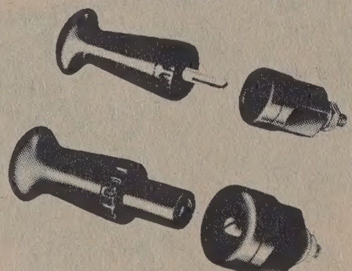

Gold-plated brass current-carrying parts; nylon plastic parts in black, blue, red, white, yellow or green. Plugs take either soldered or solderless wiring connections. Plug cable-fastening screws permit use of wide range of cable sizes. Plug grips are of a simple, two-piece threaded construction for quick assembly. All receptacle plastic parts are of the same color for more rapid and accurate circuit identification front and back of panel. Available in 25, 50, 100 and 250 amp. types; all except 250 amp. are listed by Underwriters' Laboratories, Inc.

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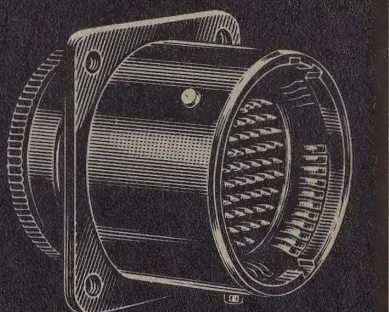

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.085" high-density contact spacing
Locked in removable contacts
Anti-scoop recessed pin contacts
6 shell styles

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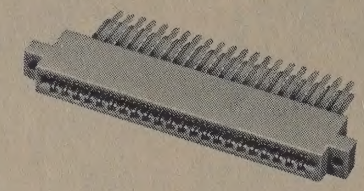
Technical Materiel Corp Mamaroneck	N Y
Transitron Electronic Corp Wakefield	Mass
Triangle Electronic Mfg Co Inc Poughkeepsie	N Y
Trico Fuse Mfg Co Milwaukee	Wis
Tru-Connector Corp Peabody	Mass
Veritron West Inc Chatsworth	Cal
Vernitron Electrical Components, Beau Prods Div Laconia	NH
Viking Industries Inc Chatsworth	Cal
Waber Electronics Inc Philadelphia	Pa
Western Int'l Inc., Connector Div. Yonkers	NY

CONNECTORS—PRINTED CIRCUIT

ACCURATE ELECTRONICS CORP ELYRIA	**OHIO**
AMPHENOL CHICAGO ILL	**ADV PGS 160,161**
AUGAT, INC ATTLEBORO	**MASS**
BURNDY CORP NORWALK CONN	**ADV PG 160**
CINCH MFG CO ELK GROVE VILLAGE ILL	**ADV PGS 162,163**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DALE ELECTRONICS INC COLUMBUS	**NEB**
ELCO CORP WILLOW GROVE PA	**ADV PG 160**
HONDA TSUSHIN KOGYO CO LTD. MEGURO-KU TOKYO JAPAN	**ADV PG 161**
HUGHES CONNECTING DEVICES NEWPORT BEACH CAL	**ADV PG 160**
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK	**NY**
ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP LOS ANGELES	**CAL**
LEL DIV VARIAN ASSOCIATES COPIAGUE	**N Y**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
SHOWA MUSEN KOGYO CO LTD TOKYO	**JAPAN**
Accurate Electronics Corp Elyria	Ohio
Aikow Shoji Kaisha Ltd Osaka	Japan
AirBorn Inc Dallas	Tex
Alden Products Co, Inc Brockton	Mass
Alford Mfg Co Winchester	Mass
Americon Corp Waltham	Mass
Amphenol Chicago	Ill
AMP Incorporated Harrisburg	Pa
Applied Engineering Prods Div Samarius Inc Ansonia	Conn
Ark-Les Switch Corp Watertown	Mass
Armel Electronics, Inc North Bergen	N J
Astrolab Inc Linden	N J
Atlantic Instruments & Electronics, Inc Watertown	Mass
Augat, Inc Attleboro	Mass
Automatic Metal Products Corp Brooklyn	N Y
Auto-Swage Products, Inc Shelton	Conn
Aviation Electric Ltd St Laurent, Montreal	Que
Bead Chain Mfg Co Bridgeport	Conn
Bendix Corp Electrical Components Div Sidney	N Y
Berg Electronics, Inc New Cumberland	Pa
Birnbach Co Inc Freeport	N Y
Brown Engineering-A Teledyne Co Huntsville	Ala
Buckbee-Mears Co. St Paul	Minn
Burndy Corp Norwalk	Conn
California Systems Components, Inc Chatsworth	Cal
Cambridge Thermionic Corp Cambridge	Mass
Chemical & Aerospace Products Inc Wilmington	Cal
Cinch Mfg Co Elk Grove Village	Ill
Coastal Dynamics Corp Venice	Cal
Co-Ax Inc Roslyn	N Y
Components Corp Denville	NJ
Continental Connector Corp Woodside	N Y
Daburn Electronics & Cable Corp Bronx	N Y
Dale Electronics Inc Columbus	Neb
Dan-L Inc E Northport	N Y
D-Cemco Inc Burbank	Cal
Deutsch Co, Electronic Components Div Banning	Cal
Eby Co Hugh H Philadelphia	Pa
Elco Corp Willow Grove	Pa
Electrosil Ltd Sunderland Durham	England
Emihus Microcomponents Ltd Hounslow Mdsx	England
Emtec Inc, Empire Spring Div Elyria	Ohio
Ercona Corp Bellmore	NY
Ferranti, Ltd Lancashire	England
Fischer & Porter Co Warminster	Pa
Flexible Circuits Inc Warrington	Pa
Flexible Products Inc Lakeville	Minn
Force Electronics Inglewood	Cal
Fujitsu Ltd Tokyo	Japan
Greenpar Engineering Ltd, Electronics Div Essex	England
Hirose Electric Co Ltd Tokyo	Japan
Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo	Japan
Hughes Connecting Devices Newport Beach	Cal
Hydro Molding Co Inc Plattsburgh	N Y
IBM, Industrial Products Marketing New York	NY
Indit Corp Albertson	N Y
Industrial Circuits Co Fairfield	N J
Industrial Electronic Hardware Corp New York	N Y
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles	Cal
ITT Europe Inc Components Gp Brussels 1	Belgium
Japan Aviation Electronics Industry Ltd Tokyo	Japan
Johnson Co, E F Waseca	Minn
JOLO Industries Santa Ana	Cal
Jones Electronics, Hiram Burbank	Cal
Kent Corp Mundelein	Ill
Keystone Electronics Corp New York	N Y
La Radiotechnique Compelec Paris 11e	France
Lel Div Varian Associates Copiague	N Y
Lemosa Inc San Francisco	Cal
Loranger Mfg Corp Warren	Pa
Malco Mfg Co Inc Chicago	Ill
Mark Eyelet & Stamping Inc Wolcott	Conn
Masterite Industries Corp Torrance	Cal
Meca Electronics, Inc Denville	N J
Methode Electronics Inc Chicago	Ill
Metox Paris 20	France

PRINTED CIRCUIT CONNECTORS

For Your Specific Needs



Increased miniaturization in the electronic and missile field has resulted in a wide use of printed circuit boards. The use of two connecting techniques: pin to board (pin type) and contact spring to printed contact (edge type) have been designed and are supplied by Burndy for Rack and Panel, Plug-in card receptacle, and terminal strip applications.

Printed Circuit Catalog—PC-1

BURNDY
Richards Avenue
Norwalk, Connecticut 06852

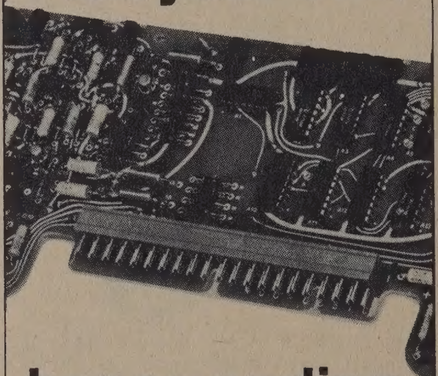
Specify Amphenol.
The leading name
in PC Connectors.

Complete line of receptacles, plugs, and adapters
Gold-plated contacts
Precious Metal Tip connectors
Micro-miniature connectors
Standards and specials

For quotations or additional information, call the sales offices or divisions listed in the green pages at the back of this directory.

AMPHENOL™

Pick your own



happy ending.

Elco printed circuit connectors give you a choice of happy endings: four, and all patented. Four plug-in styles. Ten receptacle styles. For direct staking, or with their own insulator. With or without card guides or guide pins. Up to 135 contacts. All meet MIL-E-5400. All have our patented Varicon™ metal-to-metal contacts. See our Printed Circuit Connector Guide for a happy ending to suit you. Elco Corporation, Willow Grove, Pa. 19090. (215) 659-7000. TWX 510-665-5573.

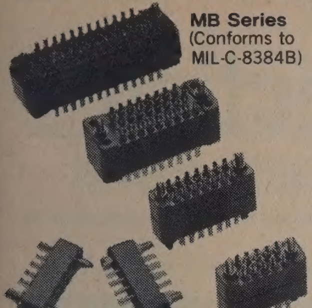
ELCO Printed Circuit Connectors

We've got your number.

Show us a spec, and we'll show you miniature and subminiature printed circuit connectors in 10 sizes with 10 to 96 contacts. We're good at the numbers game.

HUGHES
HUGHES AIRCRAFT COMPANY
CONNECTING DEVICES

HONDA makes a great many kinds of CONNECTORS–most reliable ones too



MB Series
(Conforms to
MIL-C-8384B)

Whether simple or complex, if a reliable connector is required, you need go no further than HONDA. Big in performance, reasonable in price and prompt in delivery...HONDA connectors will more than satisfy your exacting requirements. For details, contact us.

Main Products

Various kinds of connectors for low and high frequencies; plugs and jacks for communication apparatus.

Best Quality HK **Greatest Confidence**

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18-12, Megurohoncho 6-chome, Meguro-ku, Tokyo, Japan
Cable: HONDACONNECTOR TOKYO

Microdot, Inc South Pasadena ....Cal
3M Company St Paul ....Minn
Molex Products Co Downers Grove Ill
National Connector Corp Minneapolis ....Minn
National Tel-Tronics Corp Yonkers ....N Y
Nippon Electric Co Ltd Tokyo ....Japan
North Electric Co Galion ....Ohio
NPC Electronics Canoga Park ....Cal
Plastoid Corp Long Island City ....N Y
Plessey Co Ltd Ilford Essex ....England
Positive Connector Co Derby ....Conn
Positronic Industries Inc Springfield ....Mo
Pylon Co, Inc Attleboro ....Mass
Robinson-Nugent Inc New Albany ....Ind
Ross Co, Milton Southampton ....Pa
Rye Industries, Inc Mamaroneck ....N Y
SAE Advanced Packaging Inc Santa Ana ....Cal
Sanyo Electric Co Ltd Osaka ....Japan
Schjeldahl Co, G T Northfield ....Minn
Schurter AG, H 6002 Lucerne ....Switzerland
Sealectro Corp Mamaroneck ....N Y
Showa Musen Kogyo Co Ltd Tokyo ....Japan
S O G I E 75 Paris 19e ....France
Space Products Inc Long Beach ....Cal
Staffall, Inc Providence ....R I
Star Tronics Inc Georgetown ....Mass
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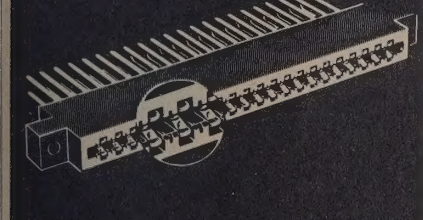
Specify Amphenol.
The leading name
in Precious Metal
Tip Connectors.



PMT features:
- Wrought gold dot welded to pc connector contacts
- Pre-tensioned contacts won't damage pc boards
- High density
- 22 different configurations
- Off-the-shelf delivery

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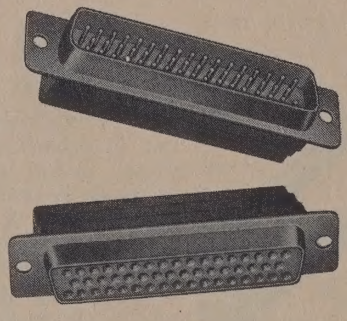
AMPHENOL™

Tru-Connector Corp Peabody ....Mass
U S Terminals Inc Cincinnati ....Ohio
Vector Electronic Co Inc Sylmar ....Cal
Vero Electronics, Inc Farmingdale ....N Y
Vero Electronics Ltd Southampton ....England
Viking Industries Inc Chatsworth ....Cal
Waldom Electronics Inc Chicago Ill
Western Int'l Inc., Connector Div. Yonkers ....NY
Winchester Electronic Div, Litton Industries Oakville ....Conn

CONNECTORS—RACK & PANEL

ACCURATE ELECTRONICS CORP ELYRIA ....OHIO
AMPHENOL BROADVIEW ILL ....ADV PGS 161,164
AMPHENOL CHICAGO ILL
BURNDY CORP NORWALK CONN ....ADV PG 161
CINCH MFG CO ELK GROVE VILLAGE ILL .ADV PGS 162,163
DALE ELECTRONICS INC COLUMBUS ....NEB
ELCO CORP WILLOW GROVE PA ....ADV PG 164
HONDA TSUSHIN KOGYO CO LTD.
MEGURO-KU TOKYO ....JAPAN
HUGHES CONNECTING DEVICES NEWPORT BEACH
CAL ....ADV PG 164
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK . .NY
ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP
LOS ANGELES CAL ....ADV PG 161
SUPERIOR ELECTRIC CO THE BRISTOL ....CONN
WEINSCHEL ENGINEERING CO INC GAITHERSBURG ....MD

D SUBMINIATURE RECTANGULAR CONNECTORS

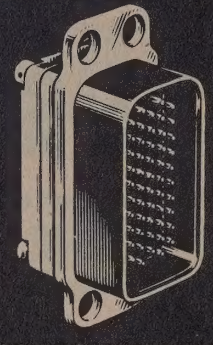


These connectors accommodate a great number of circuits in relation to their size and weight. A wide range of solder or crimp type contact arrangements is available, accommodating up to 100 contacts. Combination arrangements are also available, with provision for coaxial, power and/or high voltage contacts. These connectors incorporate highly reliable CENTI-PIN™ contacts which assure positive contact alignment and reduce contact bending, as well as providing a low noise level and electrical continuity even under severe vibration and shock.

For further information contact your ITT Cannon distributor or see the Yellow Pages for your nearest ITT Cannon Sales office. ITT Cannon Electric, 3208 Humboldt Street, Los Angeles, California 90031. A division of International Telephone and Telegraph Corporation.

CANNON ITT
TWIST PIN CONTACTS LICENSED BY NEW TWIST

Specify Amphenol.
The leading name
in R & P
Connectors.



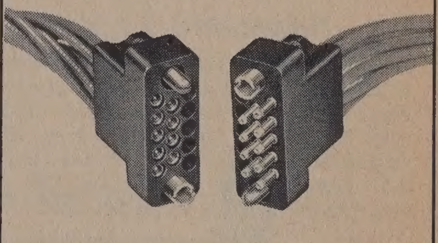
- Complete environmental sealing
- Go/No Go reliability
- Light weight and high contact density
- Poke-Home® contacts
- Two different versions available with a variety of configurations

For quotations or additional information, call the sales offices or divisions listed in the green pages at the back of this directory.

AMPHENOL™

RACK and PANEL CONNECTORS

For Your Specific Needs



HYFEN® multi-disconnect rack and panel connectors allow for contact installation at any point in the assembly procedure providing a compact, versatile circuit terminating method. Available in a wide range of block sizes and contact densities. Write for Catalog RP-1.

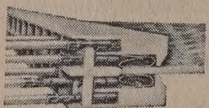
BURNDY
Richards Avenue
Norwalk, Connecticut 06852

Let Cinch solve your interconnection problems

PC BOARD CONNECTORS

"Twin-Con"*

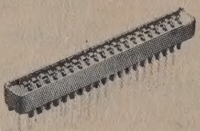
High reliability connectors. Meet MIL-C-21097 and combine the reliability of permanently assembled bifurcated contacts with the convenience and versatility of snap-in, crimp-on connectors. 8, 15, 22 and 43 position units available.



**Patent Pending.* CATALOG C-24.

.025 & .045 "Square Tail"

Wire wrap terminations available with selective gold plating on contact areas to substantially reduce cost. Contacts combine thin resilient flexing member with straight, rigid square tail. .025″ on .125 centers and .045″ on standard .156″ centers. Wide range of types available.



**Patent Pending.* CATALOG C-24.

Hermaphroditic Types*

A broad line of .045″ square tail, standard wire wrap, crimp-on, snap-in, taper pin and solder termination devices (interchangeable with ELCO's products sold under ELCO's trademark "VARICON"). 17 to 41 contacts

**Manufactured under license agreement with Elco Corporation.*

CATALOGS PBM-3, PBM-22 & PBM-47

Bifurcated Types*

Designed especially for severe environmental conditions. Bifurcation provides two wiping contact surfaces, assuring positive contact even when board irregularities exist. Meet applicable requirements of MIL-C-21097A. 6-25 double contact positions on .156″ centers. **Patent pending.* CATALOG C-24.

"Tykon" Subminiature*

For double-sided .062″ printed circuit boards. Ribbon type, flexing action contacts, spaced on .050″ centers assure maximum contact. Ideal for memory planes and plug-in modules. 6 to 25 double-contact positions. Largest

**Patent pending.* CATALOG CM-24

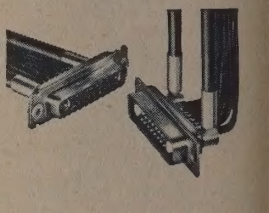
Low Cost Cantilever Type

Unique pre-loaded cantilever contact construction combines minimum insertion force with maximum contact pressure. Simple mechanical design, plus adaptability to selective gold plating and high volume assembly techniques provide high quality connector at low cost. Currently available in 15 position size. Other sizes on .156″ centers under development. CATALOG C-24.

RACK AND PANEL CONNECTORS

"D-Subminiature" Series*

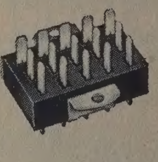
High contact density, high reliability units, available in a wide range of models, Mark I, Mark II, Mark III "Royal D" and Standard "D" as well as aerospace types can be supplied. 9,15,25,37 and 50 contact sizes, with solder pot, crimp type, snap-in or crimp type near-release contacts. Probe-proof, closed entry socket contacts on some models. Coaxial and/or high voltage contacts combinations provided on some series. Full line of hardware and accessories. Generally meet requirements of MIL-C-24308 Catalog CM-46.



**Manufactured under license agreement with ITT Cannon Electric Company.*

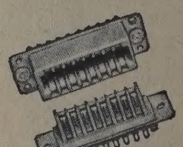
"Jones" Type

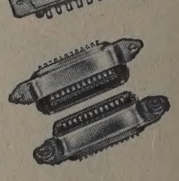
The most complete line of industry standard multi-contact units. Seven series covering 7.5, 10, 15 and 25 amps. 800-3000 V RMS, with 2 to 12 contacts. 7.5 amp. 1500 V series available to 33 contacts. Wide range of cap and cover variations. CATALOG CC-1



BLUE *Ribbon** AND *Micro*RIBBON*

Industry standard types available in 8, 16, 24 and 32 contact sizes in the larger units (largest overall length of approximately 4 inches for 32 contacts). Micro Ribbon type available with 14, 24, 36 and 50 contacts (largest overall length approximately 2.7 inches for 36 contacts). Micro Ribbon also available with clamps and cable caps for cable-to-chassis and cable-to-cable applications. CATALOG CM-36

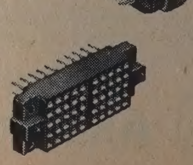




**Registered trademarks of Amphenol Corporation.*

"Gold Button"*

A gold button is welded in place, covering only the actual contact area of the female receptacle. Provides high dependability where frequent insertion and withdrawal are involved at no increase in cost over standard connectors. Available in 50 and 72 contact sizes for cable-to-chassis and cable-to-cable applications. Largest overall length for 72 contact size is approximately 3.70 inches. CATALOG PBM-73.



**Manufactured under license agreement with Western Electric Co.*

Cinch helps you...

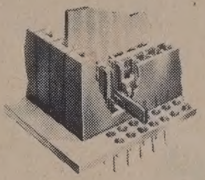
with a broad line of interconnection devices . . . with extensive experience in special tooling for volume production . . . with large production facilities that ensure the availability of the product you need at competitive prices.

Information on these products can be obtained from your local Cinch Electronics sales office or you can write for more information to Cinch Manufacturing Company at 1501 Morse Avenue, Elk Grove Village, Illinois 60007

INTERCONNECTION SYSTEMS

Back Plane Assembly

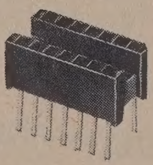
Punched aluminum plate concept incorporates many innovations that reduce high labor content of conventional back plane systems and simultaneously provides increased design flexibility and more precise contact of terminal tip location.



The plane can be bussed from the board side or the terminal side. Individual contacts, including bussing contacts, can be replaced easily. Common voltage input can be provided to any position on the plane. Terminal tips are held to ± .010″ radius tolerance.

Assemblies with 24,640 contacts on .125″ centers are now being produced. CATALOG C-112.

DIP and TO-5 Case IC Sockets



These devices combine low contact resistance and high contact force with exceptional environmental stability.

The DIP sockets are available for 14, 16, and 24 pin DIP's with standard 0.100″ spacing between pins. They will accept either round or flat leads and are available with diallyl phthalate or GP phenolic insulators and gold or electro-tin plated beryllium copper leads.

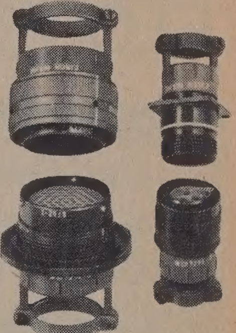
6, 8, and 10 pin TD-5 case sockets are supplied with deallyl phthalate and gold plated leads only. CATALOG C-113.

CYLINDRICAL CONNECTORS

*MIL-C-81511—Astro/348**

These subminiature connectors have .085″ contact centers with dielectric separation of .021″. A one-piece retention system eliminates metal construction. Features include scoop-proof mating, grounding prior to electrical contact, removable crimp contacts and exceptional environmental stability. Five shell sizes; 8, 10, 14, 16 and 18 for 4, 12, 37, 55, and 85 contacts respectively are available in five receptacle styles with standardized accessories. CINCH-NULINE CATALOG CN-5

*MIL-C-26500 and MIL-C-38300— Omega**



A complete line of miniature connectors for any required shell style, contact size and insert configuration, including G-Type conductive shells of chrome plated aluminum. They operate continuously at 200°C and take short exposures to 800°C and are extremely resistant to shock, vibration, corrosion and small particles. The Omega series are generally available on short delivery cycles in large quantities. Small quantities can be obtained from authorized Cinch-NuLine distributors.
CINCH-NULINE CATALOG CN-3A

**Manufactured under license agreement with Amphenol Corporation.*

FOR IMMEDIATE DELIVERY **Many of the Cinch products described here are stocked for off-the-shelf delivery through a nationwide network of Cinch Distributors.**

CINCH
DIVISION OF UNITED-CARR

CINCH
ELECTRONICS
GROUP.

The Cinch Electronics Group makes precision electronic components essential to every electronic product. Rely on Cinch quality, advanced engineering and superior manufacturing facilities. One telephone call to the Cinch Electronics Group sales office gives you quick service on this variety of products:

CINCH	connectors, contacts, sockets, terminal strips, interconnection systems
CINCH-GRAPHIK	multi-layer and printed circuit boards, thin film resistors
CINCH-MONADNOCK	heat sinks, stud bases, other electronic hardware
CINCH-NULINE	cylindrical and coaxial connectors
PLAXIAL	miniature low loss coaxial cable and cable harness

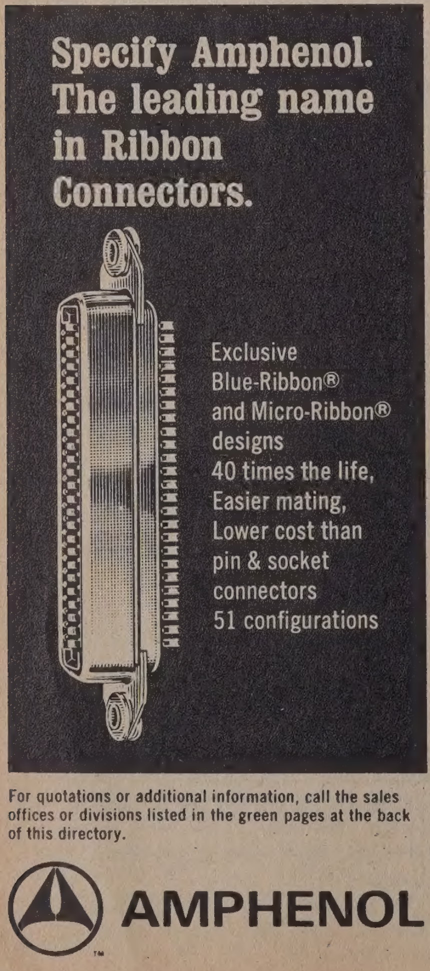
Get a better head start:

The Varicon™ contact.

And a choice of tails.

Up front, the Varicon. Four coin-hard surfaces that wipe clean with each make. Out back, a choice of tails. Nobody else offers the Varicon, or so many tails. Two to 140 contacts in standard, miniature, and modular styles. All meet MIL-E-5400. Request our Rack-and-Panel Connector Guide. Elco Corporation, Willow Grove, Pa. 19090. (215) 659-7000. TWX 510-665-5573.

ELCO Rack-and-Panel Connectors


Specify Amphenol. The leading name in Ribbon Connectors.

Exclusive Blue-Ribbon® and Micro-Ribbon® designs
40 times the life,
Easier mating,
Lower cost than pin & socket connectors
51 configurations

For quotations or additional information, call the sales offices or divisions listed in the green pages at the back of this directory.

AMPHENOL™

We'll save your space.

The way we make subminiatures, they're more subminiature. More fully packed. Same contact size and spacing, only we get 110 contacts to the inch.
Socket to 'em!

HUGHES
HUGHES AIRCRAFT COMPANY
CONNECTING DEVICES

Abacus Electronics Corp Dobbs Ferry . . . . N Y
Accurate Electronics Corp Elyria . . . . Ohio
AirBorn Inc Dallas . . . . Tex
Amphenol Broadview Ill
Amphenol Chicago Ill
AMP Incorporated Harrisburg . . . . Pa
Applied Engineering Prods Div Samarius Inc Ansonia . . . . Conn
Arco Electronics Div. Loral Corp. Great Neck . . . . N Y
Armel Electronics, Inc North Bergen . . . . N J
Associated Engineering & Mfg Corp Glen Ridge . . . . N J
Astrolab Inc Linden . . . . N J
Astro Seal Inc S El Monte . . . . Cal
Atlantic Instruments & Electronics, Inc Watertown . . . . . Mass
Automatic Metal Products Corp Brooklyn . . . . N Y
Auto-Swage Products, Inc Shelton . . . . Conn
Ava Electronics & Machine Corp Upper Darby . . . . Pa
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Bayly Engineering Ltd Ajax . . . . Ont
Bendix Corp Electrical Components Div Sidney . . . . N Y
Berg Electronics, Inc New Cumberland . . . . Pa
Birnbach Co Inc Freeport . . . . N Y
Burndy Corp Norwalk . . . . Conn
Cinch Mfg Co Elk Grove Village Ill
Continental Connector Corp Woodside . . . . N Y
Dale Electronics Inc Columbus . . . . Neb
Dan-L Inc E Northport . . . . N Y
Deutsch Co, Electronic Components Div Banning . . . . Cal
Device Seals Inc Sun Valley . . . . Cal
Don Mar Products Inc Denver . . . . Colo
Eby Co Hugh H Philadelphia . . . . Pa
Elco Corp Willow Grove . . . . Pa
Electro Scientific Industries Inc Portland . . . . Ore
Emihus Microcomponents Ltd Hounslow Mdsx . . . . . . England
Ericsson Centrum Inc New York . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Force Electronics Inglewood . . . . Cal
Glasseal Products Co Inc Linden . . . . N J
Greenpar Engineering Ltd, Electronics Div Essex . . . . England
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead . . . Cal
Hirose Electric Co Ltd Tokyo . . . . Japan
Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo . . . . . . Japan
Hughes Connecting Devices Newport Beach . . . . Cal
IBM, Industrial Products Marketing New York . . . . NY
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ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles . . . Cal
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Japan Aviation Electronics Industry Ltd Tokyo . . . . Japan
Litton Industries Inter-Pak Elctns Div Beverly Hills . . . . . . Cal
Methode Electronics Inc Chicago Ill
Metox Paris 20 . . . . France
Microdot, Inc South Pasadena . . . . Cal
Microtech Inc Folcroft . . . . Pa
Molex Products Co Downers Grove Ill
National Connector Corp Minneapolis . . . . Minn
North Electric Co Galion . . . . Ohio
NPC Electronics Canoga Park . . . . Cal
Plastoid Corp Long Island City . . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Positive Connector Co Derby . . . . Conn
Positronic Industries Inc Springfield . . . . Mo
Robins Industries Corp Flushing . . . . N Y
Ross Co, Milton Southampton . . . . Pa
Schjeldahl Co, G T Northfield . . . . Minn
Schurter AG, H 6002 Lucerne . . . . Switzerland
Sealectro Corp Mamaroneck . . . . N Y
Sealtron Corp Cincinnati . . . . Ohio
Siltronics Inc Oakmont . . . . Pa
S O G I E 75 Paris 19e . . . . France
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STM Corp Oakland . . . . Cal
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Tepro of Florida Inc Dunedin . . . . Fla
Transitron Electronic Corp Wakefield . . . . Mass
Triangle Electronic Mfg Co Inc Poughkeepsie . . . . N Y
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U S Dielectric Inc Worcester . . . . Mass
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Vero Electronics, Inc Farmingdale . . . . N Y
Viking Industries Inc Chatsworth . . . . Cal
Waldom Electronics Inc Chicago Ill
Weinschel Engineering Co Inc Gaithersburg . . . . Md
Western Int'l Inc., Connector Div. Yonkers . . . . NY
Winchester Electronic Div, Litton Industries Oakville . . . . Conn

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AMPHENOL DANBURY CONN . . . . ADV PGS 164,166
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN IND . . . . ADV PG 165
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HUGHES CONNECTING DEVICES NEWPORT BEACH CAL . . . . ADV PG 166
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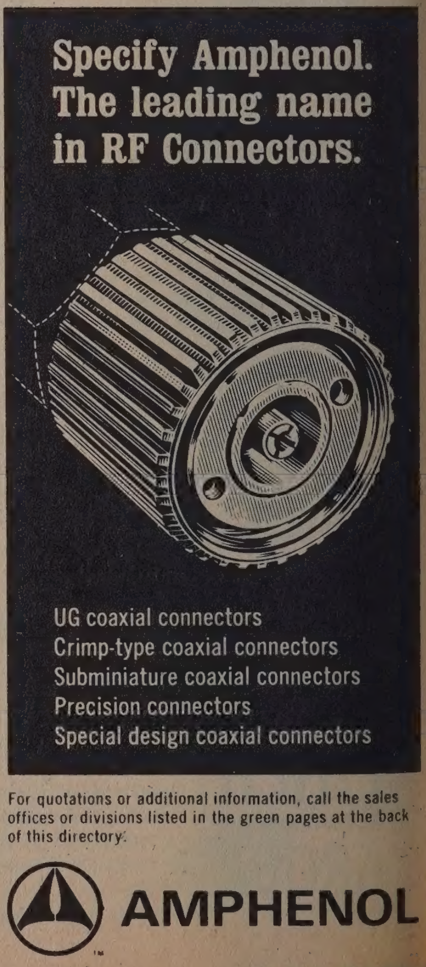
Aviel Electronics, Inc Burbank . . . . Cal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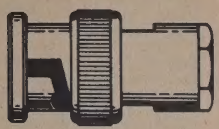
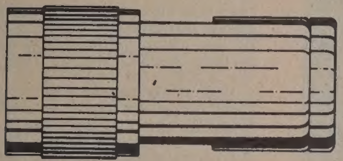


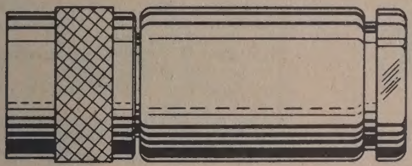
BNC Square Cut: 60 second cable assembly; weatherproof; small and lightweight with quick disconnect bayonet-lock coupling. BNC uses small cables, operates to peak load of 500 volts. Manufactured in accordance with MIL-C-3608A.

Cable	RG55B, 223	RG58	RG59, 62, 71	RG122	RG174
Plug	30220-9	30220-2	30220-4	30220-11	30220-13
Cable Jack	30516-5	30516-1	30516-3	30516-7	30516-9
S.H.Mt.Jack	30517-5	30517-1	30517-3	30517-7	30517-9



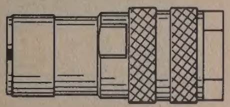
N Square Cut: A line of low voltage, constant impedence connectors (50 ohms) designed for quick cable assembly on small and medium size RF cable. They have a peak rating of 1,000 volts and are weatherproof.

Cable	RG55B, 233	RG58	RG59, 62, 71	RG8, 213	RG9, 214
Plug	33072-5	33072-1	33072-3	30533-1	30533-3
Cable Jack	33073-5	33073-1	33073-3	30534-1	30534-3
S.H.Mt.Jack	33086-5	33086-1	33086-3	30535-1	30535-3



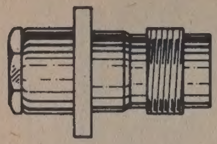
TRIAX Group A: Incorporates the normal coaxial design with center contact and outer contact, but with a third contact made through the body shell to accommodate the triaxial cable ground. Group A is of the same diameter as the Type C (UG-Series) connector line.

Cable	RG8	RG11	RG59	RG58
Plug	3875-1	3881-1	3880-1	—
Cable Jack	3874-1	3906-1	3902-1	—
S.H.Mt.Jack	3945-1	—	3974-1	3973-1



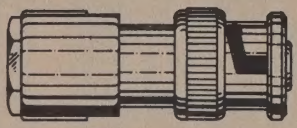
ADM: Miniature coaxial cable connectors featuring small bayonet-locking, superior cable gripping mechanism; waterproof construction and easy assembly with only 3 basic parts. Intermateable with DM Series; multiple polarization available. Fully tested to MIL-C-25516—B and C. Floating ground, ungrounded and unshielded versions available.

	Cable	Pol. E	Pol. F	Pol. J	Pol. K
Plug	RG179	43016-3	43003-2	43016-1	43003-3
Cable Jack	RG179	43005-1	43004-1	43005-2	43004-2
S.H.Mt.Jack	RG179	43006-1	43007-1	43006-2	43007-2



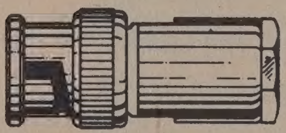
TNC Square Cut: A screw thread adaptation of BNC Square Cut. Assembly electrical and mechanical features are identical to the improved BNC Square Cut series and, except for threaded sleeve, are manufactured in accordance with MIL-C-3608A.

Cable	RG55B, 223	RG58	RG59, 62, 71	RG122	RG174
Plug	8280-5	8280-1	8280-3	8280-7	8280-9
Cable Jack	8281-5	8281-1	8281-3	8281-7	8281-9
S.H.Mt.Jack	8282-5	8282-1	8282-3	8282-7	8282-9



BNC High Voltage: A high voltage adaptation of the standard BNC. This series is of weatherproof construction rated at 4,000 V. at sea level.

Cable	RG55	RG58	RG59	RG195
Plug	2085-1	3621-2	UG932 A/U	3652-1
Cable Jack	3066-1	3066-1	UG1016 A/U	3954-1
S.H.Mt.Jack	3650-1	3650-1	3650-2	3655-1

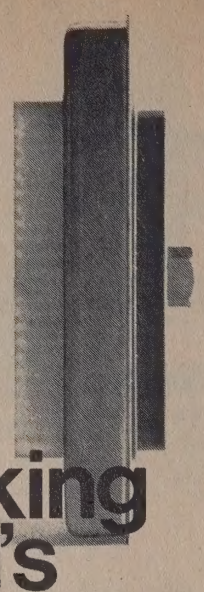


TRIAX Group B: Group B TRIAX is of the same diameter as the BNC series. It is available also in a polarized version.

Cable	21-738	50-3822	21-204	93-3930
Plug	2743-1	30088-1	4774-1	30061-1
Cable Jack	2741-1	30571-1	—	—
S.H.Mt.Jack	3107-1	—	30230-2	30062-1

Part numbers shown above (partial listing only) are suitable for most connector applications. All are available for fast delivery from Bendix stock. Bendix provides *one source* for all your RF connector requirements, including custom engineering and special finishes. Call or write for complete Catalog: Microwave Devices Division, The Bendix Corporation, Hurricane Road, Franklin, Indiana 46131. Phone (317) 736-6136.

Bendix Electronics



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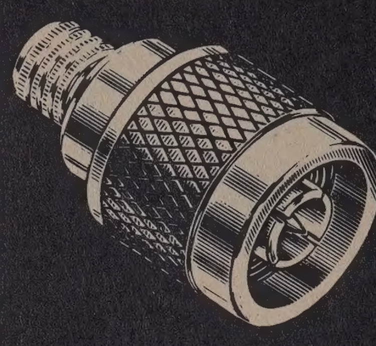

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BN, BNC, C, HN, LC, LN,
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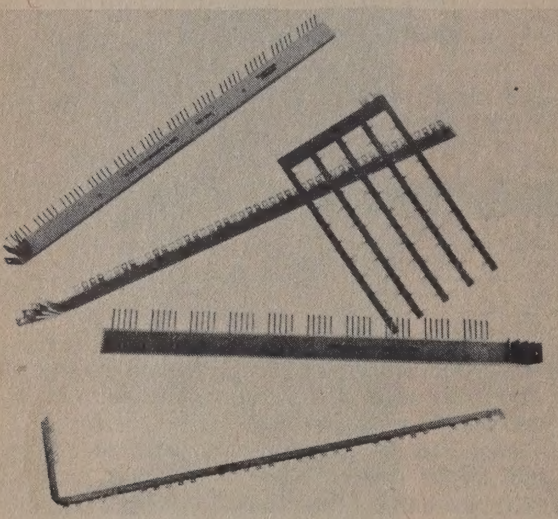

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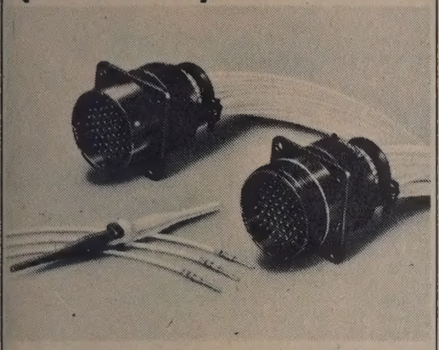
MINIATURE
CIRCULAR
CONNECTORS
(NAS1599)



The KV/PV series is designed to NAS1599 for critical environmental applications. Available in threaded or bayonet coupling, it allows intermating with MIL-C-26500 and MIL-C-26482 type connectors offering improved design, reliability and performance characteristics while combining into one industry specification the best features of two existing military specifications.

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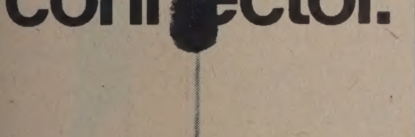
The
armadillo
connector.



Nature gives armadillos hard-shell protection. We give it to our D series connectors. Stainless steel armor to keep 'em foolproof. They align perfectly. Fully environmental. 5 sizes. Maybe we outdo armadillos.

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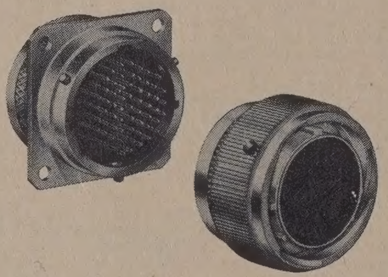

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Specify Amphenol.
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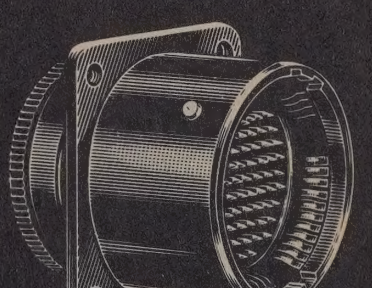

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.085" high-density contact spacing
Locked in removable contacts
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6 shell styles

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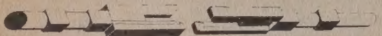
Elco subminiature connectors:

Tiny, yes. Puny, no.

Above, the tiny Elco subminiconnector. Below, the sturdy, rugged, Bi/Con™ contacts found in every one. You can see at a glance how the fork design makes for an absolutely reliable fit. Now that you know our main secret, get all the details in our Microelectronics Catalog. Elco Corporation, Willow Grove, Pa. 19090. (215) 659-7000. TWX 510-665-5573.



ELCO Bi/Con Subminiatures

We're getting to be known as rounders.

We invented the BULLS-EYE Connector and created a reputation as circular subminiature specialists. Goes to show you what a little concentration can do. (Like 102 contacts in a #18 shell.)

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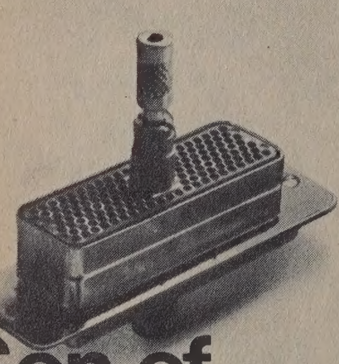

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Our W Series subminiatures now have a stainless steel shell like our D Series Connectors. Smaller, lighter than others. Yet more fully packed. 110 contacts to the inch. Great little fellows. Like father, like son!

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Electrosil Ltd Sunderland Durham	England
Emihus Microcomponents Ltd Hounslow Mdsx	England
Emporium Specialties Co Inc Chagrin Falls	Ohio
Emtec Inc, Empire Spring Div Elyria	Ohio
Ercona Corp Bellmore	NY
Greenpar Engineering Ltd, Electronics Div Essex	England
Gulton Industries, Glass Technology Div Newport Beach	Cal
Gulton Industries Inc Metuchen	N J
Gulton Industries Inc Controls & Instru Grp Costa Mesa	Cal
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead	Cal
Hirose Electric Co Ltd Tokyo	Japan
Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo	Japan
Hughes Connecting Devices Newport Beach	Cal
Hydra-Electric Co Burbank	Cal
Hydro Molding Co Inc Plattsburgh	N Y
Indit Corp Albertson	N Y
Industrial Electronic Hardware Corp New York	N Y
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles	Cal
ITT Europe Inc Components Gp Brussels 1	Belgium
Japan Aviation Electronics Industry Ltd Tokyo	Japan
Jones Electronics, Hiram Burbank	Cal
Keystone Electronics Corp New York	N Y
Kings Electronics Co Inc Tuckahoe	N Y
Lemosa Inc San Francisco	Cal
Livingston Electronic Div Jettron Prods Inc Hanover	N J
Malco Mfg Co Inc Chicago	Ill
Mark Eyelet & Stamping Inc Wolcott	Conn
Methode Electronics Inc Chicago	Ill
Microdot, Inc South Pasadena	Cal
Microtech Inc Folcroft	Pa
Microwave Associates Inc Burlington	Mass
Mi-Kro Connector Corp Long Island City	N Y
Molex Products Co Downers Grove	Ill
National Connector Corp Minneapolis	Minn
National Tel-Tronics Corp Yonkers	N Y
Omega Engineering Inc Stamford	Conn
Omni Spectra Inc Farmington	Mich
Phelps Dodge Communications Co North Haven	Conn
Philmore Mfg Co Inc Richmond Hill	N Y
Plessey Co Ltd Ilford Essex	England
Plessey Electronics Corp Farmingdale	N Y
Pomona Electronics Co Inc Pomona	Cal
Positive Connector Co Derby	Conn
Positronic Industries Inc Springfield	Mo
Premium Allied Tool Inc Owensboro	Ky
Pylon Co, Inc Attleboro	Mass
Reynolds Industries Inc Santa Monica	Cal
Robinson-Nugent Inc New Albany	Ind
Ross Co, Milton Southampton	Pa
Rye Industries, Inc Mamaroneck	N Y
SAE Advanced Packaging Inc Santa Ana	Cal
Schjeldahl Co, G T Northfield	Minn
Sealectro Corp Mamaroneck	N Y
Shigoto Industries Ltd New York	N Y
Smith Inc, Herman H Brooklyn	N Y
S O G I E 75 Paris 19e	France
Solitron/Microwave Long Island City	N Y
Staffall, Inc Providence	R I
Standard Connector Corp North Haven	Conn
Star Tronics Inc Georgetown	Mass
Statham Instruments Inc Oxnard	Cal
Subminiature Instruments Corp Riverside	Cal
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Technical Materiel Corp Mamaroneck	N Y
Ted Mfg Corp Shawnee Mission	Kans
Teledata Inc Queens Village	N Y
Tepro of Florida Inc Dunedin	Fla
Transitron Electronic Corp Wakefield	Mass
Trim Line Connectors Ltd Weston	Ont
Tru-Connector Corp Peabody	Mass
Uniform Tubes Inc Collegeville	Pa
Veritron West Inc Chatsworth	Cal
Viking Industries Inc Chatsworth	Cal
Wavelabs Co Div Systron-Donner Corp Concord	Cal
Western Int'l Inc., Connector Div. Yonkers	NY
Winchester Electronic Div, Litton Industries Oakville	Conn

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Aviation Electric Ltd St Laurent, Montreal	Que
Bendix Corp Electrical Components Div Sidney	N Y
Beowulf Connector & Cable Corp Huntsville	Ala
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center	N Y
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon	Ohio
Conax Corp Buffalo	N Y
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Control Products Corp Chicago	Ill
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Edison, Thomas A Industries, Instr Div West Orange	N J
Fabricast Inc South El Monte	Cal
Glesco Electronics Inc Rockford	Ill
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Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead	Cal
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Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo	Japan
Honeywell Industrial Div Fort Washington	Pa
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles	Cal
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Leeds & Northrup Co North Wales	Pa
Lemosa Inc San Francisco	Cal
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Marlin Mfg Corp Cleveland	Ohio
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Nanmac Corp Framingham Centre	Mass
Omega Engineering Inc Stamford	Conn
Pall Trinity Micro Corp Cortland	N Y
Physical Sciences Corp Arcadia	Cal
Pyco Inc Penndel	Pa
Thermo Electric Co Inc Saddle Brook	N J
Thermotronic Devices Conshohocken	Pa
Veritron West Inc Chatsworth	Cal
Viking Industries Inc Chatsworth	Cal
Western Int'l Inc., Connector Div. Yonkers	NY
West Instrument Div Gulton Ind Inc Schiller Park	Ill

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HUGHES CONNECTING DEVICES NEWPORT BEACH CAL . . . . ADV PG 169
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Americon Corp Waltham . . . . Mass
Astrolab Inc Linden . . . . N J
Buchanan Electrical Products Corp Union . . . . NJ
Burndy Corp Norwalk . . . . Conn
Elco Corp Willow Grove . . . . Pa
Hollingsworth Solderless Terminal Co Phoenixville . . . . Pa
Hughes Connecting Devices Newport Beach . . . . Cal
Japan Aviation Electronics Industry Ltd Tokyo . . . . Japan
Jonard Industries Corp Bronx . . . . N Y
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Beowulf Connector & Cable Corp Huntsville . . . . Ala
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center . . . . N Y
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Edwards High Vacuum Inc Grand Island . . . . N Y
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High Voltage Engineering Corp Burlington . . . . Mass
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Leybold-Heraeus, Inc. Monroeville . . . . Pa
Micro Parts Inc Los Angeles . . . . Cal
Norton Co Vacuum Equip Div Newton . . . . Mass
Precision Scientific Co Sub GCA Corp Chicago Ill
Premium Allied Tool Inc Owensboro . . . . Ky
Thermionics Lab Inc Hayward . . . . Cal
Tru-Connector Corp Peabody . . . . Mass
Ultek Div Perkin-Elmer Palo Alto . . . . Cal
Vactronic Lab Equipment Inc East Northport . . . . N Y
Vacuum Accessories Corp of America Huntington Station . N Y
Vacuum Industries Inc Sub GCA Corp Somerville . . . . Mass
Veeco Andar Sub Veeco Palo Alto . . . . Cal
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Wiggins Inc, E B Los Angeles . . . . Cal

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Anderson Power Prods Inc, Connector & Switch Prods Div Boston . . . . Mass
Applied Engineering Prods Div Samarius Inc Ansonia . . . . Conn

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Associated Engineering & Mfg Corp Glen Ridge . . . . N J
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Avionics, Inc South Bend . . . . Ind
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Burndy Corp Norwalk . . . . Conn
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Deutsch Co, Electronic Components Div Banning . . . . Cal
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Electro Oceanics Inc Compton . . . . Cal
Equipment & Service Co Dallas . . . . Tex
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Microdot, Inc South Pasadena . . . . Cal
Mi-Kro Connector Corp Long Island City . . . . N Y
Nus Corp Paramus . . . . N J
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Phelps Dodge Communications Co North Haven . . . . Conn
Physical Sciences Corp Arcadia . . . . Cal
Plessey Co Ltd Ilford Essex . . . . England
Positive Connector Co Derby . . . . Conn
Revere Electronic Div Wallingford . . . . Conn
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Rowe Co, L L Boston . . . . Mass
Standard Connector Corp North Haven . . . . Conn
Taffet Electronics Inc Woodside . . . . N Y
Technical Materiel Corp Mamaroneck . . . . N Y
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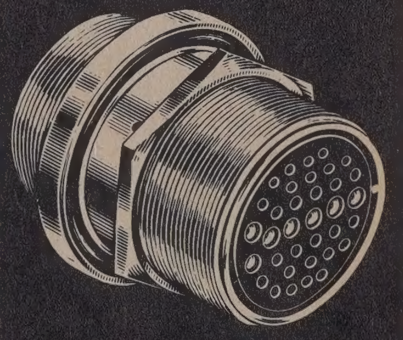
Triangle Electronic Mfg Co Inc Poughkeepsie . . . . N Y
Trim Line Connectors Ltd Weston . . . . Ont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TELE-SIGNAL CORP SUB SINGER CO WOODBURY	**N Y**
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Allied Research Assoc Inc Eng Sys Div Concord	Mass
Alma Engineering Inc San Diego	Cal
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C M L Inc Plainfield	N J
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Mid-West Metal Products Inc Kansas City	Kans
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Plessey Co Ltd Ilford Essex	England
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Radio Corp of America, Comml Elctn Prods Div Camden	N J
Randam Electronics Inc Cincinnati	Ohio
Rauland-Borg Corp Chicago	Ill
Saturn Electronics Corp Garland	Tex
Sealectro Corp Mamaroneck	N Y
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Honeywell EDP Div Wellesley Hills	Mass
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Kameco Electronics Ltd. Montreal	Que
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General Dynamics, Electronics Div Rochester	N Y
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa	Japan
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Armel Electronics, Inc North Bergen	N J
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Automatic Metal Products Corp Brooklyn	N Y
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Bemol Corp Newton	Mass
Bendix Corp Electrical Components Div Sidney	N Y
Beowulf Connector & Cable Corp Huntsville	Ala
Berg Electronics, Inc New Cumberland	Pa
Bigelow Components Corp Newark	N J
Brainin Corp Mt Vernon	NY
B & R Relays Ltd Essex	England
Carbone Corp Boonton	N J
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon	Ohio
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Contacts Inc Wethersfield	Conn
D-Cemco Inc Burbank	Cal
Deringer Metallurgical Corp Mundelein	Ill
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Electric Terminal Corp Warwick	R I
Electrix Corp Esmond	R I
Electro Miniatures Corp South Hackensack	N J
Electro-Tec Corp, Virginia Operation Blacksburg	Va
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Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Essex Intl Corp, Terminal Sales Chicago	Ill
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Japan Aviation Electronics Industry Ltd Tokyo	Japan
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Kent Corp Mundelein	Ill
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Metal Ceram Inc Mount Vernon	N Y
Metex Corp Edison	N J
Micro Contacts, Inc Hicksville	N Y
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National Connector Corp Minneapolis	Minn
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Sierra Electric Div Sola Basic Ind Gardena	Cal
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Accurate Electronics Corp Elyria	Ohio
Acme Model Engineering Co Ridgefield	N J
Airflyte Electronics Co Bayonne	N J
All Star Products Inc Defiance	Ohio
American Silver Co Div Flushing	N Y
AMP Incorporated Harrisburg	Pa
Augat, Inc Attleboro	Mass
Auto-Swage Products, Inc Shelton	Conn
Avionics, Inc South Bend	Ind
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Braun Tool & Instrument Co Inc, H Hawthorne	N J
Braun Tool & Instrument Co Inc, H Hawthorne	N J
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Connor Spring Mfg Co Div Sloss & Britain San Jose	Ca
Contacts Inc Wethersfield	Con
Eimac Div, Varian Associates San Carlos	Ca
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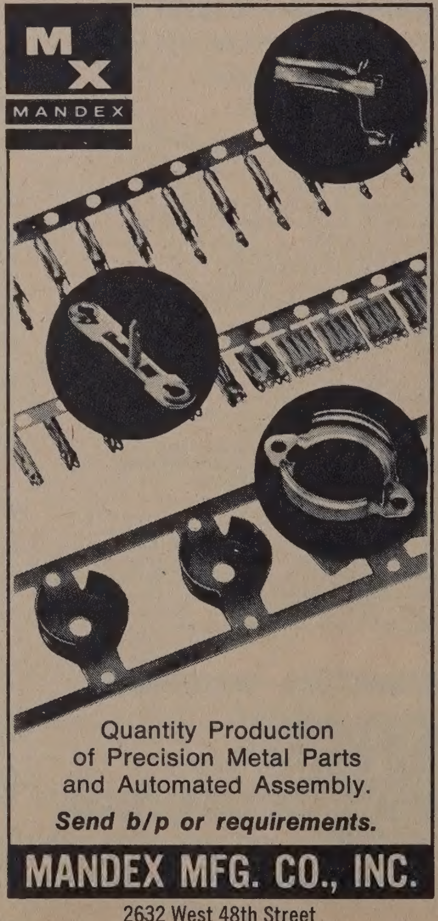
Elgiloy Co Elgin	Il



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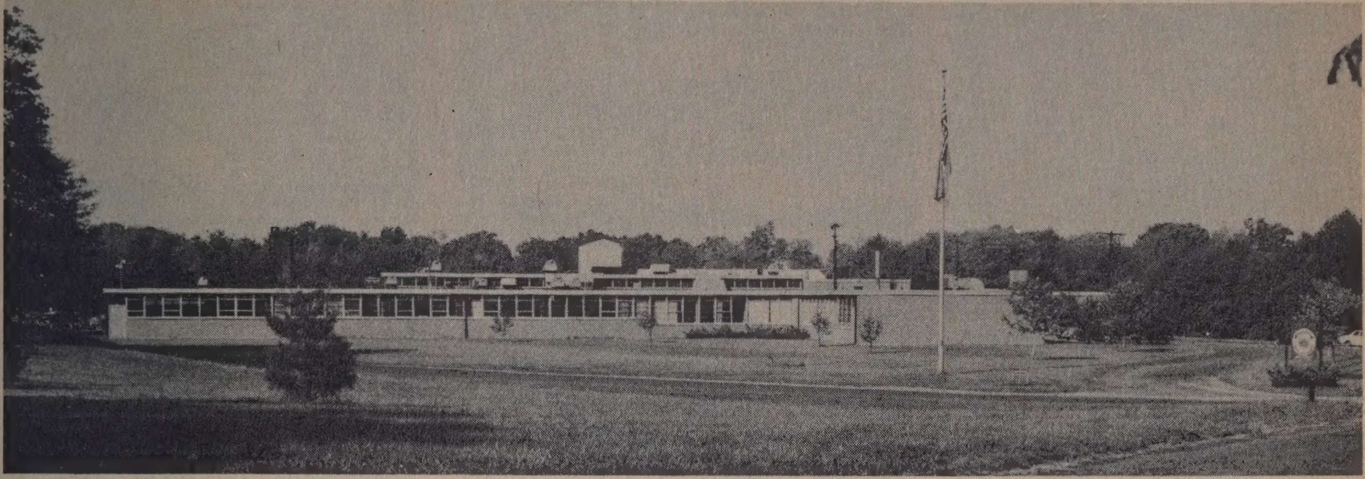

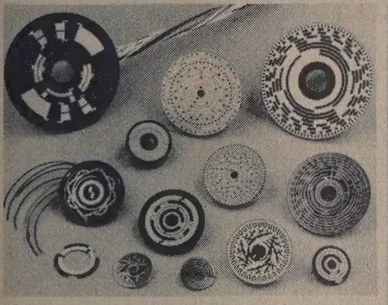

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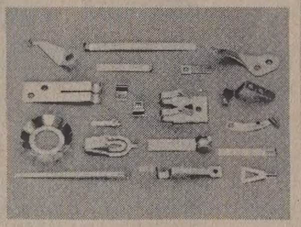

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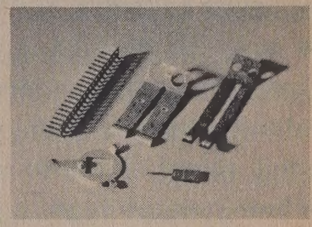
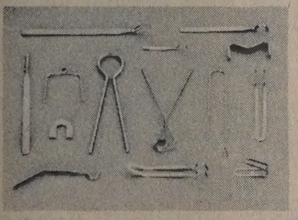
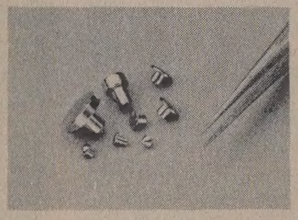


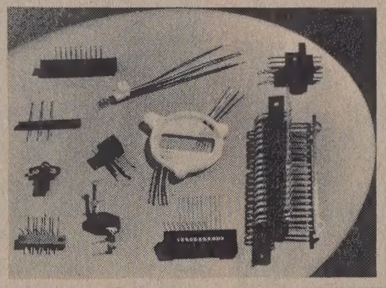
WELDED AND STAKED ASSEMBLIES



WIRE FORMS



HEADED CONTACTS



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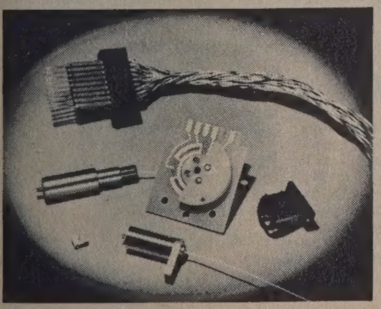
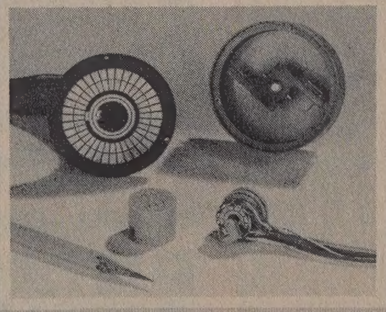


ASSEMBLED COMPONENTS



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Emtec Inc, Empire Spring Div Elyria .... Ohio
General Findings Co Industrial Div Attleboro .... Mass
Gibson Electric-Talon Div Textron Delmont .... Pa
Metal Ceram Inc Mount Vernon .... N Y
Micro Contacts, Inc Hicksville .... N Y
Micro Science Assoc Mountain View .... Cal
National Connector Corp Minneapolis .... Minn
Nippon Electric Co Ltd Tokyo .... Japan
Parechoc S A Ch 1347 Le Sentier .... Switzerland
Permonite Mfg Co Chicago Ill
Positive Connector Co Derby .... Conn
Premium Allied Tool Inc Owensboro .... Ky
Pylon Co, Inc Attleboro .... Mass
Robinson-Nugent Inc New Albany .... Ind
Seastrom Mfg Co Inc Glendale .... Cal
Semi-Alloys Inc Mt Vernon .... N Y
Servometer Corp Clifton .... N J
S K G Associates Inc Boston .... Mass
Staffall, Inc Providence .... R I
Superior Carbon Products Inc Cleveland .... Ohio
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Tapeswitch Corp of America Farmingdale .... N Y
Technical Wire Products Inc Cranford .... N J
USECO Div, Litton Industries Van Nuys .... Cal
Wells Co Inc, Gary Yonkers .... N Y
Winchester Electronic Div, Litton Industries Oakville .... Conn

CONTAINERS

See **Boxes; Cabinets; Cans; Cases; Enclosures; Housings; Packaging Materials; Tanks-Polyethelyne**

CONTINUITY TESTERS

See **Testers—Circuit**

CONTOURING CONTROLS

See **Controls—Machine Tool**

CONTROL CONSOLES

See **Consoles (Completely Wired)**

CONTROL DIODES

See **Diodes**

CONTROLLED ATMOSPHERE SYSTEMS

See **Chambers—Environmental Test**

CONTROLLERS

See **Controls**

CONTROLS—ALARM SYSTEM

See **Detectors**

CONTROLS—AUDIO FREQUENCY

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
J-B-T INSTRUMENTS INC NEW HAVEN .... CONN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
Agac-Derritron Inc Alexandria .... Va
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
Anritsu Electric Co Ltd Tokyo .... Japan
Applied Control Co Cedar Grove .... NJ
Audn Corp Hamburg .... N Y
Babcock Electronic Corp Costa Mesa .... Cal
Bayly Engineering Ltd Ajax .... Ont
Bramco Controls Div Ledex Inc Piqua .... Ohio
Fisher-Akin Co Manhattan Beach .... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
H B Engineering Corp Silver Spring .... Md
Impectron Inc New York .... N Y
Infomax Palo Alto .... Cal
J-B-T Instruments Inc New Haven .... Conn
Jensen Mfg Div, The Muter Co Chicago Ill
Lundy Electronics & Systems Inc Glen Head .... N Y
Maricopa Controls Scottsdale .... Ariz
Marquardt Industrial Products Co Chicago Ill
Neptune Electronics Co New York .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Perfectone Sound Labs Allendale .... NJ
Private Tele Communications Inc Chicago Ill
Quindar Electronics Inc, Controls Div Springfield .... NJ
Saturn Electronics Corp Garland .... Tex
Shallco Inc Smithfield .... N C
Sparta Electronic Corp Sacramento .... Cal
Spectral Dynamics Corp of San Diego San Diego .... Cal
Syncrotech Edgerton .... Ohio
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Trepac Corp of America Englewood .... N J
Utility Communication Systems Inc West Chester .... Pa
Ventron Electronics Corp, Controls/Matls Div Bradford .... Pa
VP Co Pasadena .... Cal
Westamp Inc Santa Monica .... Cal
Westrex Div Litton Industries, Inc Hollywood .... Cal

CONTROLS—AUTOMATIC POSITIONING

See **Controls—Positioning**

CONTROLS—AUTOMATIC TUNING

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
Anritsu Electric Co Ltd Tokyo .... Japan
Applied Devices Corp College Point .... n y
Automation Development Co Culver City .... Cal
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Control Technology Co Inc Long Island City .... N Y
Essex Engineering Co Inc Essex .... Conn
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
General Dynamics, Electronics Div Rochester .... N Y
Impectron Inc New York .... N Y
Infomax Palo Alto .... Cal
Instru-Lec Corp Mt Vernon .... N Y
Leeds & Northrup Co North Wales .... Pa
Loral Electronic Systems, Div Loral Corp New York .... NY
Marconi Co Ltd Chelmsford .... England
Melabs Palo Alto .... Cal
Summit Engineering Corp Bozeman .... Mont
VP Co Pasadena .... Cal

CONTROLS—AUTOMATIC VOLTAGE-REGULATING

See **Regulators—Voltage**

CONTROLS—CHEMICAL PROCESS

See **Controls Providing Required Function**

CONTROLS—COLOR

See **Controls—Photoelectric, Color; Spectrophotometers**

CONTROLS—COMBUSTION

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
Anritsu Electric Co Ltd Tokyo .... Japan
Automatic Switch Co Florham Park .... N J
Bailey Meter Co Wickliffe .... Ohio
Beckman Instruments Inc Fullerton, ... Cal
Cambridge Systems Inc Newton .... Mass
De-Tec-Tronic Corp Chicago Ill
Devco Engineering Inc Fairfield (Caldwell) .... N J
Edison, Thomas A Industries, Instr Div West Orange .... N J
Elastronics Labs Tarzana .... Cal
Electronic Applications Co Pine Brook .... N J
Electronic Control Corp Detroit .... Mich
Ellison Instrument Div Dieterich Std Corp New Buffalo .... Mich
Fischer & Porter Co Warminster .... Pa
Foxboro Co Foxboro .... Mass
Fox Valve Development Co Inc Hanover .... N J
Fuji Electric Co Ltd Tokyo .... Japan
Gas Analysis Systems Inc Basking Ridge .... NJ
General Electric Co, ECSO Schenectady .... N Y
Hagan Computer Systems Div Westinghouse Pittsburgh .... Pa
Hays Corp Michigan City .... Ind
Honeywell Industrial Div Fort Washington .... Pa
Honeywell Resdntl & Coml Sls Divs Minneapolis .... Minn
Industrial Electronetics Corp Satellite Beach .... Fla
In-Val-Co Tulsa .... Okla
Leeds & Northrup Co North Wales .... Pa
Malaker Corp High Bridge .... N J
Photomation Inc Mountain View .... Cal
Plessey Airborne Corp Hillside .... NJ
Pyrotector Inc Hingham .... Mass
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
RIL Electronics Inc Southampton .... Pa
Selas Corp of America Dresher .... Pa
Sensor Precision Industries Inc Medfield .... Mass
Singer-GPE Controls Inc Morton Grove Ill
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur .... Switzerland
West Instrument Div Gulton Ind Inc Schiller Park Ill
Worner Electronic Devices Rankin Ill

CONTROLS—CONTOURING

See **Controls—Machine Tool**

CONTROLS—COUNTING & SORTING

DATA TECHNOLOGY, INC WATERTOWN .... MASS
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .... IND
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT .... IOWA
FORK STANDARDS INC WEST CHICAGO ILL
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
HAYDON SWITCH & INSTRUMENT INC WATERBURY .... CONN
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL
Abrams Instrument Corp Lansing .... Mich
Accutronics, Inc Geneva Ill
Acromag Inc Wixom .... Mich
American Astrionics Inc Palo Alto .... Cal
American Hydromath Co New Hyde Park .... N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Anadex Instruments, Inc Van Nuys .... Cal
Applied Control Co Cedar Grove .... NJ
Audn Corp Hamburg .... N Y
Automatic Timing & Controls, Inc King of Prussia .... Pa
Automation Development Co Culver City .... Cal
Automation Products Mfg Inc Boca Raton .... Fla
Autotron, Inc Danville Ill
Avionics, Inc South Bend .... Ind
Beckman Instruments Inc Fullerton, ... Cal
Binary Electronics of Cal Div Avionic Structures Inc Anaheim .... Cal
Bin-Dicator Ultrasonics Div. Detroit .... Mich
Bioneers Inc. New Rochelle .... NY
Bionic Instruments Inc Bala Cynwyd .... Pa
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus .... Ohio
Canadian Research Institute Don Mills .... Ont
Chrono-Log Corp Broomall .... Pa
CMC/Rutherford San Fernando .... Cal
Coltron Industries, Inc Charlotte .... N C
Computer Central Detroit .... Mich
Control Logic Inc Natick .... Mass
Corning Glass Works Corning .... N Y
Data Automation Inc Scottsdale .... Ariz
Data Device Corp Hicksville .... N Y
Data Sensors Inc Addison Ill
Data Technology, Inc Watertown .... Mass
Delco Radio Div General Motors Corp Kokomo .... Ind
Design Products Corp Troy .... Mich
De-Tec-Tronic Corp Chicago Ill
Di/An Controls Inc Boston .... Mass
Digital Products San Pedro .... Cal
Dolan Jenner Industries Inc Melrose .... Mass
Durant Digital Instruments A C-H Co Milwaukee .... Wis
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Eagle Signal A Gulf & Western Co Davenport .... Iowa
Electric Tachometer Corp Philadelphia .... Pa
Electronic Control Corp Detroit .... Mich
Electronic Counters Inc Englewood .... N J
Electro-Sonic-Control Manteca .... Cal
Elesta Ltd Electronics Bad Ragaz .... Switzerland
E & L Instruments Inc Derby .... Conn
Elmek Div Electro Mechanics Inc New Britain .... Conn
EMI Electronics Ltd Hayes .... Middlesex Eng
Engler Instrument Co Jersey City .... N J
Fork Standards Inc West Chicago Ill
Frost Electronics Corp Rockaway .... N J
General Atronics Corp Industrial Div Philadelphia .... Pa
General Electric Co, ECSO Schenectady .... N Y
General Electric Co, Specialty Controls Waynesboro .... Va
General Equipment & Mfg Co Louisville .... Ky
General Time, Industrial Controls Div Torrington .... Conn
Guardian Electric Mfg Co of Cal Inc Culver City .... Cal
Haydon Switch & Instrument Inc Waterbury .... Conn
Hyde Park Electronics Inc Dayton .... Ohio
IKL Inc Newport Beach .... Cal
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Industrial Electronetics Corp Satellite Beach .... Fla
Industrial Systems & Controls USEM Div Emerson Elec Co Milford .... Conn
Instrumentation & Control Systems Inc Addison Ill
Instrumentation Technology Corp Northridge .... Cal
International Electro-Magnetics Inc Palatine Ill
Kameco Electronics Ltd. Montreal .... Que
La Telemecanique Electrique 92 Rueil .... France
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Luft Instruments Inc Lincoln .... Mass
Lundy Electronics & Systems Inc Glen Head .... N Y
Machinery Electrification Inc Northboro .... Mass
Micro Switch Div, Honeywell Freeport Ill
MKC Electronics Corp Kansas City .... Kans
Molecular Research Inc Palm Beach Gardens .... Fla
North Electric Co Galion .... Ohio
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Plessey Airborne Corp Hillside .... NJ
Post Electronics Products Inc Beverly .... Mass
Potter Instrument Co, Inc Plainview .... N Y
Power Instruments Inc Skokie Ill
Racal Electronics Ltd Bracknell Berks .... England
Ramic Corp Medford .... Ore
Rosemount Plug-In Inc Nashville .... Tenn
Saturn Electronics Corp Garland .... Tex
Sensor Corp Greenwich .... Conn
Servo Development Corp Hicksville .... NY
Sigma Instruments Inc Braintree .... Mass
Singer Co, Diehl Div Somerville .... N J
Slocum Industries Reseda .... Cal
Space & Systems Div General Time Corp Stamford .... Conn
Square D Co Park Ridge Ill
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia .... Pa
Stevenson Engineering & Mfg Co Portland .... Ore
Strandberg Engineering Labs Inc Greensboro .... N C
Summit Engineering Corp Bozeman .... Mont
Syracuse Electronics Corp Syracuse .... N Y
Tapeswitch Corp of America Farmingdale .... N Y
Tek-Sel Labs Inc Saddle Brook .... N J
Transistor Automation A Teledyne Co Woburn .... Mass
Tyco Instrument Div Waltham .... Mass
Veeder-Root Hartford .... Conn
Vernitron Corp Precision Comp Group Farmingdale .... N Y
Warner Electric Brake & Clutch Co Beloit .... Wisc
Watesta Electronics Ltd Loughton Essex .... England
Wintriss Controls Div Tyco New York .... N Y
Worner Electronic Devices Rankin Ill
Zehntel, Inc Berkeley .... Cal

CONTROLS, DENSITY—INFRARED

Audn Corp Hamburg .... N Y
Automation Products, Inc Houston .... Te
Bionic Instruments Inc Bala Cynwyd .... P
De-Tec-Tronic Corp Chicago Il
Hi-Shear Corp Torrance .... Ca
Industrial Components Inc Div Welsh Corp Beaverton .... Or
Infrared Industries Inc Santa Barbara .... Ca
Ovitron Corp Industrial Syst Div Cheshire .... Con
Photobell Co Inc New York .... N
Plessey Airborne Corp Hillside .... N
Princo Instruments Inc Southampton .... P
Pyrotel Corp C/O Milletron Inc Pittsburgh .... P
Ramic Corp Medford .... Or
Sensor Corp Greenwich .... Con
Systems Matrix Inc Trenton .... N
Tek-Sel Labs Inc Saddle Brook .... N
Worner Electronic Devices Rankin I

CONTROLS, DENSITY—NUCLEAR-ABSORPTION TYPE

Automation Products, Inc Houston	Tex
Conrac Corp New York	N Y
Elastronics Labs Tarzana	Cal
Isotopes A Teledyne Co Westwood	N J
Landis & Gyr AG Zug	Switzerland
Milletron, Inc Pittsburgh	Pa
Nuclear-Chicago Des Plaines	Ill
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Nuclear Equipment Corp San Carlos	Cal
Ohmart Corp Cincinnati	Ohio
RIL Electronics Inc Southampton	Pa
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Troxler Electronic Labs Inc Raleigh	N C

CONTROLS, DENSITY—PHOTOELECTRIC

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Audn Corp Hamburg	N Y
Automation Products, Inc Houston	Tex
Autotron, Inc Danville	Ill
Design Products Corp Troy	Mich
De-Tec-Tronic Corp Chicago	Ill
Dolan Jenner Industries Inc Melrose	Mass
Elastronics Labs Tarzana	Cal
Electronic Control Corp Detroit	Mich
Electronics Corp of America Cambridge	Mass
Electron-Radar Products Chicago	Ill
Elesta Ltd Electronics Bad Ragaz	Switzerland
Elmek Div Electro Mechanics Inc New Britain	Conn
Frost Electronics Corp Rockaway	N J
Gam Rad Inc Detroit	Mich
Gardner Lab Inc Bethesda	Md
General Electric Co, ECSO Schenectady	N Y
General Electric Co, Specialty Controls Waynesboro	Va
Grace Electronics Inc Cleveland	Ohio
HEI Inc Chaska	Minn
Hycon Monrovia	Cal
Industrial Components Inc Div Welsh Corp Beaverton	Ore
Instrumentation & Control Systems Inc Addison	Ill
Kameco Electronics Ltd. Montreal	Que
Lektra Labs Inc Div Kriser Corp College Point	N Y
LEM Instrument Corp Farmingdale	N Y
Melpar Inc, Special Prods Dept Falls Church	Va
Nuclear Enterprises Ltd Edinburgh	Scotland
Ovitron Corp Industrial Syst Div Cheshire	Conn
Phoenix Precision Instrument Co, Inc Philadelphia	Pa
Photobell Co Inc New York	N Y
Photo Research Corp Burbank	Cal
Post Electronics Products Inc Beverly	Mass
Pyrotel Corp C/O Milletron Inc Pittsburgh	PA
Razdow Labs Inc Newark	N J
Schoeffel Instrument Corp Westwood	NJ
Sel-Rex International S A Geneva	Switzerland
Sensor Corp Greenwich	Conn
Slocum Industries Reseda	Cal
Strandberg Engineering Labs Inc Greensboro	N C
Syracuse Electronics Corp Syracuse	N Y
Systems Matrix Inc Trenton	N J
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Vernitron Corp Precision Comp Group Farmingdale	N Y
Worner Electronic Devices Rankin	Ill

CONTROLS, DENSITY—ULTRASONIC

Acoustica Associates Inc Los Angeles	Cal
Audn Corp Hamburg	N Y
Automation Products, Inc Houston	Tex
Bin-Dicator Ultrasonics Div. Detroit	Mich
Nuclear Enterprises Ltd Edinburgh	Scotland

CONTROLS—DIMENSION

DATA TECHNOLOGY, INC WATERTOWN	**MASS**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
Automatic Timing & Controls, Inc King of Prussia	Pa
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus	Ohio
Data Technology, Inc Watertown	Mass
Daytronic Corp Dayton	Ohio
De-Tec-Tronic Corp Chicago	Ill
Dimensions Inc Hempstead	N Y
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Electron Machine Corp. Umatilla	Fla
Electro-Sonic-Control Manteca	Cal
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison	Ohio
Gilardoni S p A Mandello Lario Como	Italy
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
IKL Inc Newport Beach	Cal
Industrial Components Inc Div Welsh Corp Beaverton	Ore
Industrial Winding Machinery Corp River Edge	N J
Instrumentation & Control Systems Inc Addison	Ill
International Electro-Magnetics Inc Palatine	Ill
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Luft Instruments Inc Lincoln	Mass
Measuring Instrument Controls Inc Berkeley Heights	N J
Microwave Instruments Co Corona del Mar	Cal
Minnetech Labs Inc Minneapolis	Minn
Moore Products Co Spring House	Pa
Muirhead Instruments Inc Mountainside	N J
Optomechanisms Inc Plainview	N Y
Photobell Co Inc New York	N Y
Singer-GPE Controls Inc Morton Grove	Ill
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia	Pa
Tek-Sel Labs Inc Saddle Brook	N J
Theta Instrument Corp Fairfield	N J
Veeder-Root Hartford	Conn
Worner Electronic Devices Rankin	Ill
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

CONTROLS, DOOR (INCL. GARAGE DOORS)—ELECTRONIC

HEATH CO BENTON HARBOR	**MICH**
TEMPO INSTRUMENT INC IND DIV PLAINVIEW	**N Y**
Advance Industries Inc Appleton	Wis
Alliance Mfg Co Inc Alliance	Ohio
A R F Products, Inc Raton	N M
Avionics, Inc South Bend	Ind
Continental Instruments Corp Oceanside	NY
Cutler-Hammer Inc Milwaukee	Wisc
Dolan Jenner Industries Inc Melrose	Mass
Douglas Randall Inc Westerly	R I
EICO Electronic Instrument Co Inc Brooklyn	NY
Electronic Control Corp Detroit	Mich
Electronic Homes Co New York	N Y
Elesta Ltd Electronics Bad Ragaz	Switzerland
Frost Electronics Corp Rockaway	N J
GDO Co Inc Palisades Park	N J
Heath Co Benton Harbor	Mich
Lek-Trol, Inc Grapevine	Tex
Multi-Elmac Co Oak Park	Mich
Perma-Power Co Div Chamberlain Mfg Corp Chicago	Ill
Photobell Co Inc New York	N Y
Robot Industries Inc Dearborn	Mich
Sigma Instruments Inc Braintree	Mass
Tapeswitch Corp of America Farmingdale	N Y
Telectron Co Fort Lauderdale	Fla
Tempo Instrument Inc Ind Div Plainview	N Y
Unican Security Systems Plattsburgh	NY
Veeder-Root Hartford	Conn
Welex Electronics, Div Halliburton Co Silver Spring	Md
Worner Electronic Devices Rankin	Ill
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

CONTROLS—FLUID-FLOW

COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Acme Divac Industries Inc Hawthorne	Cal
Acoustica Associates Inc Los Angeles	Cal
Aladdin Controls Div Aladdin Electronics Nashville	Tenn
Anadex Instruments, Inc Van Nuys	Cal
Andonian Associates, Inc Waltham	Mass
Audn Corp Hamburg	N Y
Automatic Switch Co Florham Park	N J
Automation Development Co Culver City	Cal
Avien, Inc Woodside	N Y
Badger Meter Mfg Co Milwaukee	Wis
Bailey Meter Co Wickliffe	Ohio
Beckman Instruments Inc Fullerton,	Cal
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bendix Corp Electrodynamics Div North Hollywood	Cal
B I F Unit General Signal Corp Providence	R I
Bin-Dicator Ultrasonics Div. Detroit	Mich
Bionic Instruments Inc Bala Cynwyd	Pa
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
Bristol Div, American Chain & Cable Co Waterbury	Conn
Brooks Instrument Div Hatfield	Pa
Brooks Instrument Div Emerson Elec Canada Ltd Markham	Ont
B/W Controller Corp Birmingham	Mich
Cambridge Scientific Industries Inc Cambridge	Md
Canadian Motorola Electronics Ltd Willowdale 425	Ont
Compudyne Corp Hatboro	Pa
Computer Instruments Corp Hempstead	N Y
Consolidated Controls Corp Bethel	Conn
Controlotron Corp Farmingdale	N Y
Corning Glass Works Corning	N Y
Custom Control Mfg Inc Merriam	Kan
Decker Corp Bala Cynwyd	Pa
De Vilbiss Co Toledo	Ohio
Dietz Co Inc, Henry G Long Island City	N Y
Digital Blending Systems Inc Providence	R I
Durant Digital Instruments A C-H Co Milwaukee	Wis
Dynalog Corp Fort Lauderdale	Fla
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Elastronics Labs Tarzana	Cal
Electron Machine Corp. Umatilla	Fla
Ellison Instrument Div Dieterich Std Corp New Buffalo	Mich
EMR Div Weston Instruments Inc Princeton	N J
Exactel Instrument Co Div Statham Instrs Inc Oxnard	Cal
Fischer & Porter Co Warminster	Pa
Flowcon Co Anaheim	Cal
Fluid Power Systems Div Ambac Ind Inc Wheeling	Ill
Foxboro Co Foxboro	Mass
Foxboro Co Valenica Plant Valencia	Cal
Fox Valve Development Co Inc Hanover	N J
Fuji Electric Co Ltd Tokyo	Japan
Gems Co Inc Farmington	Conn
General Atronics Corp Industrial Div Philadelphia	Pa
General Electric Co, ECSO Schenectady	N Y
General Equipment & Mfg Co Louisville	Ky
Hagan Computer Systems Div Westinghouse Pittsburgh	Pa
Hays Corp Michigan City	Ind
Hi-Shear Corp Torrance	Cal
Honeywell Industrial Div Fort Washington	Pa
Hugle Industries Sunnyvale	Cal
Hydra-Electric Co Burbank	Cal
Ikor, Inc Burlington	Mass
Industrial Electronetics Corp Satellite Beach	Fla
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	Conn
International Controls Corp Fairfield,	N J
In-Val-Co Tulsa	Okla
I-T-E Imperial Corp Philadelphia	Pa
ITT Barton Controls & Instr Div Monterey Park	Cal
Jamesbury Corp Worcester	Mass
Joliet Control Corp Joliet	Ill
Kahn & Co Inc Wethersfield	Conn
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Romec Div Elyria	Ohio
Leeds & Northrup Co North Wales	Pa
Liquid Level Lectronics Inc Richardson	Tex
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Lunkenheimer Co Div Conval Corp Cincinnati	Ohio
Magnetrol Inc Downers Grove	Ill
Martron Inc Santa Ana	Cal
Milton Roy Co St Petersburg	Fla
Moore Products Co Spring House	Pa
Motorola Instrumentation & Control Inc Phoenix	Ariz
Palisades Engineering Co Inc Pacific Palisades	Cal
Penberthy Div Houdaille Ind Inc Prophettstown	Ill
Photobell Co Inc New York	N Y
Plessey Airborne Corp Hillside	NJ
Racal Electronics Ltd Bracknell Berks	England
Ramyr Mfg Co Buena Park	Cal
Revere Electronic Div Wallingford	Conn
RIL Electronics Inc Southampton	Pa
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Robintech Inc Burbank	Cal
Rockwell Mfg Co, Msmt & Control Div Pittsburgh	Pa
Sanders Assoc Inc, Instrument Div Manchester	N H
Servo Labs Inc Van Nuys	Cal
SieBelAir Co Los Angeles	Cal
Signet Controls Inc Tulsa	Okla
Singer Co, Diehl Div Somerville	N J
Singer-GPE Controls Inc Morton Grove	Ill
Skinner Electric Valve Div New Britain	Conn
Sunshine Scientific Instruments Inc Philadelphia	Pa
Syncrotech Edgerton	Ohio
Syracuse Electronics Corp Syracuse	N Y
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
TRW Systems Group Redondo Beach	Cal
United Aircraft Products Inc Dayton	Ohio
UOP Instruments Div Greenwich	Conn
Veeder-Root Hartford	Conn
Watesta Electronics Ltd Loughton Essex	England
West Coast Research Corp Los Angeles	Cal
Weston Hydraulics Van Nuys	Cal
Worner Electronic Devices Rankin	Ill
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

CONTROLS—FOOD-PROCESSING

***See* Controls Providing Required Function**

CONTROLS—SHAFT SEALS

***See* Seals—Mechanical**

CONTROLS—HEAT-TREATING

***See* Controls—Temperature**

CONTROLS—HUMIDITY

BLUE M ENGINEERING CO BLUE ISLAND	**ILL**
Abrax Instrument Corp Jamaica	N Y
American Instrument Co, Inc Silver Spring	Md
Amlab Inc Rahway	NJ
Atkins Technical, Inc Gainesville	Fla
Bacharach Instrument Co Pittsburgh	Pa
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bioneers Inc. New Rochelle	NY
Bionic Instruments Inc Bala Cynwyd	Pa
Blue M Engineering Co Blue Island	Ill
Bristol Div, American Chain & Cable Co Waterbury	Conn
Cambridge Systems Inc Newton	Mass
Compudyne Corp Hatboro	Pa
Custom Control Mfg Inc Merriam	Kan
Dryomatic Div Logetronics Inc Springfield	Va
Electron-Radar Products Chicago	Ill
Fischer & Porter Co Warminster	Pa
Foxboro Co Foxboro	Mass
Foxboro Co Valenica Plant Valencia	Cal
Fuji Electric Co Ltd Tokyo	Japan
Harrel Inc East Norwalk	Conn
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Honeywell Industrial Div Fort Washington	Pa
Honeywell Resdntl & Coml Sls Divs Minneapolis	Minn
Hygrodynamics Inc Silver Spring	Md
Jersey Technical Consultants Morristown	NJ
Kahn & Co Inc Wethersfield	Conn
Lab-Line Instruments Inc Melrose Park	Ill
Landis & Gyr AG Zug	Switzerland
Lear Siegler Inc Santa Monica	Cal
Leeds & Northrup Co North Wales	Pa
Phys-Chemical Research Corp New York	N Y
PMF Electronics Inc Dayton	Ohio
RIL Electronics Inc Southampton	Pa
Sigma Instruments Canada Ltd Toronto 18 Ont	Canada
Slocum Industries Reseda	Cal
Strandberg Engineering Labs Inc Greensboro	N C
Sunshine Scientific Instruments Inc Philadelphia	Pa
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
United Aircraft Products Inc Dayton	Ohio
Vapor Corp Chicago	Ill
Warren Components Corp Warren	Pa
Waynco Inc Winona	Minn
Worner Electronic Devices Rankin	Ill

CONTROLS—ILLUMINATION

***See* Controls—Photoelectric**

CONTROLS—INSPECTION

***See* Controls Providing Required Function**

CONTROLS, LEVEL—DRY MATERIALS

GAGNE ASSOCIATES INC BINGHAMTON	**N Y**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Acoustica Associates Inc Los Angeles	Cal
Aladdin Controls Div Aladdin Electronics Nashville	Tenn
Amiproducts Corp New York	N Y
Audn Corp Hamburg	N Y
Automatic Timing & Controls, Inc King of Prussia	Pa
Automation Products, Inc Houston	Tex
Avionics, Inc South Bend	Ind
Badger Meter Mfg Co Milwaukee	Wis
Bin-Dicator Ultrasonics Div. Detroit	Mich
Bionic Instruments Inc Bala Cynwyd	Pa
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
Brooks Instrument Div Emerson Elec Canada Ltd Markham	Ont
Compudyne Corp Hatboro	Pa
Controlotron Corp Farmingdale	N Y
Custom Control Mfg Inc Merriam	Kan
Decker Corp Bala Cynwyd	Pa
Delavan Mfg Co West Des Moines	Iowa
Dietz Co Inc, Henry G Long Island City	N Y
Drexelbrook Engineering Co Glenside	Pa
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison	Ohio
Foxboro Co Valenica Plant Valencia	Cal
Frost Electronics Corp Rockaway	N J
Fuji Electric Co Ltd Tokyo	Japan
Gagne Associates Inc Binghamton	N Y
General Electric Co, ECSO Schenectady	N Y
General Equipment & Mfg Co Louisville	Ky
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Industrial Electronetics Corp Satellite Beach	Fla
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	Conn
In-Val-Co Tulsa	Okla
Landis & Gyr AG Zug	Switzerland
Leeds & Northrup Co North Wales	Pa
Machinery Electrification Inc Northboro	Mass
Metritape Inc West Concord	Mass
National Sonics Corp Farmingdale	N Y
Norbatrol Electronics Corp Murrysville	Pa
Nuclear-Chicago Des Plaines	Ill
Nuclear Enterprises Ltd Edinburgh	Scotland
Ohmart Corp Cincinnati	Ohio
Philmore Mfg Co Inc Richmond Hill	N Y
Photobell Co Inc New York	N Y
Photomation Inc Mountain View	Cal
Post Electronics Products Inc Beverly	Mass
Presin Co Inc Shelton	Conn
Racal Electronics Ltd Bracknell Berks	England
Revere Electronic Div Wallingford	Conn
Rex Chainbelt Inc Milwaukee	Wis
RIL Electronics Inc Southampton	Pa
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Slocum Industries Reseda	Cal
Stevenson Engineering & Mfg Co Portland	Ore
Syntron Div FMC Corp Homer City	Pa
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Thorn Automation Ltd Rugeley, Staffs	England
Wintriss Controls Div Tyco New York	N Y
Worner Electronic Devices Rankin	Ill

CONTROLS, LEVEL—LIQUIDS

BLUE M ENGINEERING CO BLUE ISLAND	**ILL**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
CURTIS DEVELOPMENT & MFG CO MILWAUKEE	**WIS**
GAGNE ASSOCIATES INC BINGHAMTON	**N Y**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
MICRO SWITCH DIV, HONEYWELL FREEPORT	**ILL**
TEMPO INSTRUMENT INC IND DIV PLAINVIEW	**N Y**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
Acme Divac Industries Inc Hawthorne	Cal
Acoustica Associates Inc Los Angeles	Cal
Aladdin Controls Div Aladdin Electronics Nashville	Tenn
All-O-Matic Instruments & Systems Inc New Hyde Park	N Y
Amiproducts Corp New York	N Y
Anadex Instruments, Inc Van Nuys	Cal
Andonian Associates, Inc Waltham	Mass
Audn Corp Hamburg	N Y
Autocon Industries, Inc St Paul	Minn
Automatic Timing & Controls, Inc King of Prussia	Pa
Automation Products, Inc Houston	Tex
Autotron, Inc Danville	Ill
Bailey Meter Co Wickliffe	Ohio
B I F Unit General Signal Corp Providence	R I
Bin-Dicator Ultrasonics Div. Detroit	Mich
Bioneers Inc. New Rochelle	NY
Bionic Instruments Inc Bala Cynwyd	Pa
Blake Electronics Inc Muskego	Wisc
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
Blue M Engineering Co Blue Island	Ill
Bristol Div, American Chain & Cable Co Waterbury	Conn
Brooks Instrument Div Hatfield	Pa
Brooks Instrument Div Emerson Elec Canada Ltd Markham	Ont
B/W Controller Corp Birmingham	Mich
Cambridge Scientific Industries Inc Cambridge	Md
Canadian Motorola Electronics Ltd Willowdale 425	Ont
C-E Electronics Div Ametek Feasterville	Pa
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
Cole-Parmer Instrument Co Chicago	Ill
Collins Electronics Inc Stevensville	Md
Compudyne Corp Hatboro	Pa
Computer Instruments Corp Hempstead	N Y
Conrac Corp New York	N Y
Consolidated Airborne Systems Carle Place	N Y
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Controlomag Labs Roslyn	Pa
Controlotron Corp Farmingdale	N Y
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Cryogenic Research Co Inc Boulder	Colo
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Electric Machinery Mfg Co Minneapolis	Minn
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Foxboro Co Valenica Plant Valencia	Cal
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ITT Barton Controls & Instr Div Monterey Park	Cal
Joliet Control Corp Joliet	Ill
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Tempo Instrument Inc Ind Div Plainview	N Y
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Weldotron Corp Newark	N J
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MICRO SWITCH DIV, HONEYWELL FREEPORT	**ILL**
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW	**N Y**
SUPERIOR ELECTRIC CO THE BRISTOL CONN	**ADV PG 175**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
Airmec-AEI Ltd Buckinghamshire	England
Alcatel Paris 8eme	France
Allen-Bradley Co Milwaukee	Wis
All Star Products Inc Defiance	Ohio
Anadex Instruments, Inc Van Nuys	Cal
Applied Control Co Cedar Grove	NJ
Audn Corp Hamburg	N Y
Automatic Switch Co Florham Park	N J
Autonumerics Inc Westbury	NY
Baldwin Electronics Inc Little Rock	Ark
Blake Electronics Inc Muskego	Wisc
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Bowmar Instrument Corp Fort Wayne	Ind
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Computer Central Detroit	Mich
Concord Control Inc Boston	Mass
Conrac Corp New York	N Y
Control Logic Inc Natick	Mass
Control Systems Research Inc Pittsburgh	Pa
Curry Engineering Co N Hollywood	Cal
Cutler-Hammer Inc Milwaukee	Wisc
Data Automation Inc Scottsdale	Ariz
Datascan Inc Clifton	N J
Data Technology, Inc Watertown	Mass
Decitek Inc Worcester	Mass
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Del Electronics Corp Mt Vernon	N Y
Design Products Corp Troy	Mich
Digital Products San Pedro	Cal
Digital Systems Inc Covina	Cal
Durant Digital Instruments A C-H Co Milwaukee	Wis
Dynamic Precision Controls Corp Hagerstown	Ind
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Eagle Signal A Gulf & Western Co Davenport	Iowa
Electroglas Inc Menlo Park	Cal
E & L Instruments Inc Derby	Conn
EMI Electronics Ltd Hayes	Middlesex Eng
Engler Instrument Co Jersey City	N J
Excellon Industries Inc Torrance	Cal
Fairchild Controls Hicksville	N Y
Farrand Controls Inc Valhalla	N Y
Ferranti Electric Inc Plainview	N Y
Ferranti, Ltd Lancashire	England
Franklin Fibre-Lamitex Corp Wilmington	Del
Friden Div Singer Co San Leandro	Cal
Fujitsu Ltd Tokyo	Japan
Gems Co Inc Farmington	Conn
General Electric Co, ECSO Schenectady	N Y
General Electric Co, Specialty Controls Waynesboro	Va
Glentek Inc Santa Monica	Cal
Heidenhain Corp Miles	Ill
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Hopt KG, R E Rottweil a Neckar	Germany
Humphrey Electronics Inc Raleigh	N C
Icon Corp Cambridge	Mass
IKL Inc Newport Beach	Cal
Ikor, Inc Burlington	Mass
Industrial Components Inc Div Welsh Corp Beaverton	Ore
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	Conn
Infomax Palo Alto	Cal
Information Instruments, Inc Ann Arbor	Mich
International Electro-Magnetics Inc Palatine	Ill
IRA Systems Inc Waltham	Mass
Keltron Corp Waltham	Mass
Lake Erie Electric Mfg, Inc Erie	Pa
La Telemecanique Electrique 92 Rueil	France
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Mesur-Matic Electronic Corp Warner	N H
Micro Switch Div, Honeywell Freeport	Ill
Minnetech Labs Inc Minneapolis	Minn
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North Electric Co Galion	Ohio
Optomechanisms Inc Plainview	N Y
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Techmetric Co Redwood City	Cal
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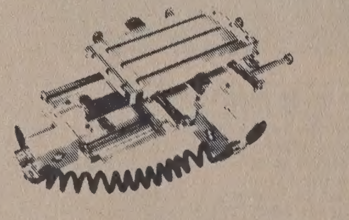

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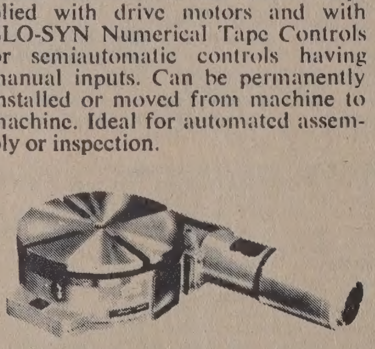

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Cutler-Hammer Inc Milwaukee	Wisc
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Ebert Electronics Corp Floral Park	N Y
Edison, Thomas A Industries, Instr Div West Orange	N J
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Fincor Inc York	Pa
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Foxboro Co Valenica Plant Valencia	Cal
Fuji Electric Co Ltd Tokyo	Japan
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Gaylord Rives Co Div Amer Elctns Inc Pasadena	Cal
GDO Co Inc Palisades Park	N J
General Electric Co, ECSO Schenectady	N Y
General Equipment & Mfg Co Louisville	Ky
General Instrument of Canada Ltd Waterloo	Ont
Glentek Inc Santa Monica	Cal
Glesco Electronics Inc Rockford	Ill
Green Rectifier Corp Fair Lawn	N J
Grigsby Barton Inc Arlington Heights	Ill
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Heath Co Benton Harbor	Mich
Heller Corp, G K Las Vegas	Nev
Hurletron Inc Danville	Ill
Ideal Electric & Mfg Co Mansfield	Ohio
Ikor, Inc Burlington	Mass
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J A C Electronics Ltd Camberley	England
Joliet Control Corp Joliet	Ill
Jordan Controls Inc Milwaukee	Wis
La Telemecanique Electrique 92 Rueil	France
Leland Airborne Products Div AMF Vandalia	Ohio
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Louis Allis Co Div Litton Industries Milwaukee	Wisc
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Opad Electric Co, Inc New York	N Y
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
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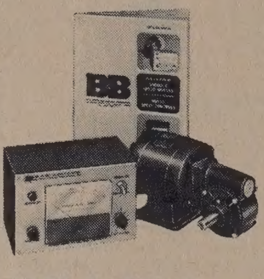

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Ohmite Mfg Co Skokie Ill
Oven Industries Mechanicsburg ....Pa
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RMS Motor Corp Binghamton ....N Y
Robicon Corp Pittsburgh ....Pa
Rundel Electric Co Sub Magnetics Inc Millbrae ....Cal
Scientific-Atlanta Inc Atlanta ....Ga
Sensor Corp Greenwich ....Conn
Sequential Electronic Systems Inc Elmsford ....N Y
Siemon Mfg Co Wayne Ill
Silver Glo Picture Tubes Ltd Edmonton ....Alb
Singer Co, Diehl Div Somerville ....N J
Slocum Industries Reseda ....Cal
Sprague Electric Co North Adams ....Mass
Square D Co Park Ridge Ill
Standard Precision Div ECI an NCR sub Wichita ....Kan
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur ....Switzerland
Syracuse Electronics Corp Syracuse ....N Y
Taft Electrosystems Inc Applied Elctns Div Metuchen ....N J
Task Corp Anaheim ....Cal
Tek-Sel Labs Inc Saddle Brook ....N J
Tensitron Inc Harvard ....Mass
Texas Instruments Incorporated Dallas ....Tex
Theta Instrument Corp Fairfield ....N J
Thomson-CSF 78 Versailles ....France
Torotron Co Div Struthers Electronics Corp Mamaroneck ....N Y
Trott Electronics Inc Rochester ....N Y
US Electrical Motors Div Emerson Elec Co Los Angeles ....Cal
Waber Electronics Inc Philadelphia ....Pa
Wac Line Div Simmonds Precision Prods Dayton ....Ohio
Weltronic Co Southfield ....Mich
Wer Industrial Corp Grand Island ....N Y
Westamp Inc Santa Monica ....Cal
X Cel Controls Inc South Bend ....Ind
Yaskawa Electric Mfg Co Ltd Tokyo ....Japan

CONTROLS, MOTOR-SPEED— ELECTRONIC, D-C MOTOR

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE ....FLA
ANALOG DEVICES INC CAMBRIDGE ....MASS
B & B MOTOR & CONTROL CORP NEW YORK N Y ....ADV PG 176
BODINE ELECTRIC CO CHICAGO ILL
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL ....PA
COMPUTER INSTRUMENTS CORP HEMPSTEAD ....N Y
ELECTRO-CRAFT CORP HOPKINS ....MINN
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV PG 7
GRIGSBY BARTON INC ARLINGTON HEIGHTS ILL
SCIENTIFIC-ATLANTA INC ATLANTA ....GA
SUPERIOR ELECTRIC CO THE BRISTOL ....CONN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN ....N Y
THETA INSTRUMENT CORP FAIRFIELD ....N J
Advanced Energy Conversion Menlo Park ....Cal
AEI Semiconductors Ltd Lincoln ....U K
Aeroflex Labs, Inc Plainview ....N Y
Airmec-AEI Ltd Buckinghamshire ....England
Airpax Electronics Inc Seminole Div Fort Lauderdale ....Fla
Allen-Bradley Co Milwaukee ....Wis
Allis-Chalmers Mfg Co Milwaukee ....Wis
American Machine & Foundry Co Alexandria Div Alexandria ....Va
American Solenoid Co, Inc Rahway ....N J
American Time Products, Elctns Div Bulova Watch Co Inc Woodside ....N Y
Analog Devices Inc Cambridge ....Mass
Applied Control Co Cedar Grove ....NJ
Arnold Magnetics Corp Culver City ....Ca
Audn Corp Hamburg ....N Y
Barber-Colman Co, EMP Div Rockford Il
Basler Electric Co Highland Il
B & B Motor & Control Corp New York ....N Y

Bergen Lab, Inc Paterson . . . N J
Blake Electronics Inc Muskego . . . Wisc
Bodine Electric Co Chicago . . . Ill
Bogue Electric Mfg Co Paterson . . . N J
Borg-Warner Controls Div Borg-Warner Corp Santa Ana . . Cal
Boston Gear Works Quincy . . . Mass
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Canadian Research Institute Don Mills . . . Ont
Carter Co, J C, Electronics Div Costa Mesa . . . Cal
Carter Motor Co Chicago . . . Ill
Clare-Electroseal Corp Des Plaines . . . Ill
Clifton Div Litton Industries Litton Prec Prods Inc
  Drexel Hill . . . Pa
Coilcraft Inc Cary . . . Ill
Cole-Parmer Instrument Co Chicago . . . Ill
Coltron Industries, Inc Charlotte . . . N C
Computer Central Detroit . . . Mich
Computer Instruments Corp Hempstead . . . N Y
Consolidated Controls Corp El Segundo . . . Cal
Control Engineering Div J B Webb Co Detroit . . . Mich
Control Systems Research Inc Pittsburgh . . . Pa
Control Technology Co Inc Long Island City . . . N Y
Curry Engineering Co N Hollywood . . . Cal
Custom Control Mfg Inc Merriam . . . Kan
Cutler-Hammer Inc Milwaukee . . . Wisc
Datametrics Inc Waltham . . . Mass
DeSoto Electrical Products DeSoto . . . Mo
Doran Mfg Co Cincinnati . . . Ohio
Dynamic Controls Corp South Windsor . . . Conn
Dynapar Corp Sub Louis Allis Co Gurnee . . . Ill
Electro-Craft Corp Hopkins . . . Minn
Electro-Devices Inc Servospeed Div Paterson . . . N J
Electroglas Inc Menlo Park . . . Cal
Electro-Mechanics Co Austin . . . Tex
Electronic Control Systems Inc Fairmont . . . W Va
Electronic Research Associates Inc Cedar Grove . . . N J
Electron Machine Corp. Umatilla . . . Fla
Elmek Div Electro Mechanics Inc New Britain . . . Conn
Essex Engineering Co Inc Essex . . . Conn
Esterline Angus Div Esterline Corp Indianapolis . . . Ind
Euro Cedag Milan . . . Italy
Fairchild Controls Hicksville . . . N Y
Fidelity Amplifier Co Chicago . . . Ill
Fincor Inc York . . . Pa
Firing Circuits Div Marathon Electric Mfg Co Norwalk . . . Conn
Fuji Electric Co Ltd Tokyo . . . Japan
Gaylord Rives Co Div Amer Elctns Inc Pasadena . . . Cal
General Electric Co, ECSO Schenectady . . . N Y
General Electric Co, Specialty Controls Waynesboro . . . Va
General Radio Co West Concord . . . Mass
Glentek Inc Santa Monica . . . Cal
Glesco Electronics Inc Rockford . . . Ill
Green Rectifier Corp Fair Lawn . . . N J
Grigsby Barton Inc Arlington Heights . . . Ill
Heller Corp, G K Las Vegas . . . Nev
Honeywell Inc Apparatus Controls Div Minneapolis . . . Minn
Hunt Electronics Co Dallas . . . Tex
Hurletron Inc Danville . . . Ill
Icon Corp Cambridge . . . Mass
Industrial Control Co Farmingdale . . . N Y
Industrial Systems & Controls USEM Div Emerson Elec Co
  Milford . . . Conn
Inertia Switch Inc New York . . . N Y
Inet Power A Teledyne Co Gardena . . . Cal
Infomax Palo Alto . . . Cal
Instrumentation & Control Systems Inc Addison . . . Ill
Integrated Motorcontrol Inc Palo Alto . . . Cal
International Rectifier Semiconductor Div El Segundo . . . Cal
J A C Electronics Ltd Camberley . . . England
Joliet Control Corp Joliet . . . Ill
Jordan Controls Inc Milwaukee . . . Wis
Kinetics A Teledyne Co Solana Beach . . . Cal
La Telemecanique Electrique 92 Rueil . . . France
Lear Siegler Inc Santa Monica . . . Cal
Leviton Mfg Co Inc Brooklyn . . . N Y
Louis Allis Co Div Litton Industries Milwaukee . . . Wisc
Loyola Industries Inc Harbor City . . . Cal
Lundy Electronics & Systems Inc Glen Head . . . N Y
Lutron Electronics Co Inc Coopersburg . . . Pa
Macarr Inc Bronx . . . N Y
Magnetic Engineering Corp Danbury . . . Conn
Magnetics Inc Butler . . . Pa
Magnetic Technology Inc Canoga Park . . . Cal
Maricopa Controls Scottsdale . . . Ariz
Maurey Instrument Corp Chicago . . . Ill
Measurement Systems Inc Norwalk . . . Conn
Microdyne Inc Rolling Meadows . . . Ill
Minarik Electric Co Los Angeles . . . Cal
Minnetech Labs Inc Minneapolis . . . Minn
Molecular Research Inc Palm Beach Gardens . . . Fla
Norbatrol Electronics Corp Murrysville . . . Pa
Nucleonic Industries Tucson . . . Ariz
Ohmite Mfg Co Skokie . . . Ill
Oven Industries Mechanicsburg . . . Pa
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
Payne Engineering Co South Charleston . . . W Va
Photobell Co Inc New York . . . N Y
Plessey Airborne Corp Hillside . . . NJ
PMF Electronics Inc Dayton . . . Ohio
Power Concepts Corp Binghamton . . . N Y
Power Control Corp Pittsburgh . . . Pa
Powertec Div, Airtronics Corp Chatsworth . . . Cal
P P M Inc Cleveland . . . Ohio
Precision Electronics Inc Amityville . . . N Y
Precision Transformer Anaheim . . . Cal
Printed Motors Inc Glen Cove . . . N Y
Radio Engineering Labs, Div DCA Long Island City . . . N Y
Ramsey Controls Inc Mahwah . . . N J
Reflectone. Inc, Englewood Cliffs . . . N J
Reflex Controls Corp Huntington Station . . . NY
Reliance Electric Co Cleveland . . . Ohio
Research Inc, R-I Controls Div Minneapolis . . . Minn
Robicon Corp Pittsburgh . . . Pa
Rotamec Inc Los Angeles . . . Cal
Rundel Electric Co Sub Magnetics Inc Millbrae . . . Cal
Schaevitz Engineering Pennsauken . . . N J
Scientific-Atlanta Inc Atlanta . . . Ga
Seco Electronics Corp Hopkins . . . Minn
Sensor Corp Greenwich . . . Conn
Sequential Electronic Systems Inc Elmsford . . . N Y
Servo-Tek Products Co Hawthorne . . . N J
Siemon Mfg Co Wayne . . . Ill
Sigma Instruments Inc Braintree . . . Mass
Silver Glo Picture Tubes Ltd Edmonton . . . Alb
Singer Co, Diehl Div Somerville . . . N J
Slocum Industries Reseda . . . Cal
Square D Co Park Ridge . . . Ill
Standard Precision Div ECI an NCR sub Wichita . . . Kan
Sterling Electric Motors Inc Los Angeles . . . Cal
Strandberg Engineering Labs Inc Greensboro . . . N C
Summit Engineering Corp Bozeman . . . Mont
Superior Electric Co The Bristol . . . Conn
Sweo Associates Inc Redwood City . . . Cal
Syracuse Electronics Corp Syracuse . . . N Y
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . N J
Task Corp Anaheim . . . Cal
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn . . . N Y
Tek-Sel Labs Inc Saddle Brook . . . N J
Telstar Electronics Corp Southold . . . N Y
Tensitron Inc Harvard . . . Mass
Texas Instruments Incorporated Dallas . . . Tex
Theta Instrument Corp Fairfield . . . N J
Thiem-Transrex Inc Torrance . . . Cal
Thomson-CSF 78 Versailles . . . France
Thorn Automation Ltd Rugeley, Staffs . . . England
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
TPC Div Webb Press Eng Cedarburg . . . Wisc
Transistor Automation A Teledyne Co Woburn . . . Mass
Trott Electronics Inc Rochester . . . N Y
US Electrical Motors Div Emerson Elec Co Los Angeles . . . Cal
Voltex Co Inc Farmingdale . . . N Y
Wac Line Div Simmonds Precision Prods Dayton . . . Ohio
Weltronic Co Southfield . . . Mich
Wer Industrial Corp Grand Island . . . N Y
Westamp Inc Santa Monica . . . Cal
Yaskawa Electric Mfg Co Ltd Tokyo . . . Japan
Zehntel, Inc Berkeley . . . Cal

CONTROLS—NOISE-ACTUATED

***See* Controls—Sound-Actuated**

CONTROLS—PACKAGE-WRAPPING

***See* Controls—Photoelectric**

CONTROLS—PH

Analytical Measurements, Inc Chatham . . . NJ
Automation Products, Inc Houston . . . Tex
Bailey Meter Co Wickliffe . . . Ohio
Beckman Instruments Inc Fullerton, . . . Cal
Beckman Instruments Intl SA 1207 Geneva . . . Switzerland
Bioneers Inc. New Rochelle . . . NY
Bio-Rad Laboratories Richmond . . . Cal
Bristol Div, American Chain & Cable Co Waterbury . . . Conn
Canadian Research Institute Don Mills . . . Ont
Corning Glass Works Corning . . . N Y
Fischer & Porter Co Warminster . . . Pa
Foxboro Co Foxboro . . . Mass
Foxboro Co Valenica Plant Valencia . . . Cal
Fuji Electric Co Ltd Tokyo . . . Japan
Honeywell Inc Apparatus Controls Div Minneapolis . . . Minn
Honeywell Industrial Div Fort Washington . . . Pa
Horiba Instruments Inc Kyoto . . . Japan
Instrumentation Lab Inc Lexington . . . Mass
KDI Polytechnic Inc Div KDI Corp Cincinnati . . . Ohio
Leeds & Northrup Co North Wales . . . Pa
London Co Westlake . . . Ohio
Luft Instruments Inc Lincoln . . . Mass
Micro Metrics Inc Paterson . . . N J
Milton Roy Co St Petersburg . . . Fla
Moore Products Co Spring House . . . Pa
Ramyr Mfg Co Buena Park . . . Cal
Simpson Electric Co Chicago . . . Ill
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . N Y

CONTROLS, PHOTOELECTRIC—COLOR

A M E C 45 Orleans . . . France
Audn Corp Hamburg . . . N Y
Beckman Instruments Inc Fullerton, . . . Cal
Bionic Instruments Inc Bala Cynwyd . . . Pa
Canadian Research Institute Don Mills . . . Ont
De-Tec-Tronic Corp Chicago . . . Ill
Dolan Jenner Industries Inc Melrose . . . Mass
Ebert Electronics Corp Floral Park . . . N Y
Farmer Electric Products Co Inc Natick . . . Mass
Gardner Lab Inc Bethesda . . . Md
General Atronics Corp Industrial Div Philadelphia . . . Pa
Grace Electronics Inc Cleveland . . . Ohio
Hird-Brown Ltd Bolton, Lancs . . . England
Industrial Components Inc Div Welsh Corp Beaverton . . . Ore
Instrumentation & Control Systems Inc Addison . . . Ill
Instrument Development Labs Div Kollmorgen Corp
  Attleboro . . . Mass
Lektra Labs Inc Div Kriser Corp College Point . . . N Y
Melpar Inc, Special Prods Dept Falls Church . . . Va
Ovitron Corp Industrial Syst Div Cheshire . . . Conn
Phoenix Precision Instrument Co, Inc Philadelphia . . . Pa
Photobell Co Inc New York . . . N Y
Photomation Inc Mountain View . . . Cal
Photo Research Corp Burbank . . . Cal
Post Electronics Products Inc Beverly . . . Mass
Process & Instruments Corp Brooklyn . . . N Y
Pyrotel Corp C/O Milletron Inc Pittsburgh . . . PA
Schoeffel Instrument Corp Westwood . . . NJ
Sigma Instruments Inc Braintree . . . Mass
Singer-GPE Controls Inc Morton Grove . . . Ill
Syracuse Electronics Corp Syracuse . . . N Y
Thorn Automation Ltd Rugeley, Staffs . . . England
Warner Electric Brake & Clutch Co Beloit . . . Wisc

CONTROLS, PHOTOELECTRIC—COUNTING

DISCON CORP FORT LAUDERDALE . . . FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y . . . ADV PG 7
A M E C 45 Orleans . . . France
Audn Corp Hamburg . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . Pa
Automation Products Mfg Inc Boca Raton . . . Fla
Autotron, Inc Danville . . . Ill
Bionic Instruments Inc Bala Cynwyd . . . Pa
Canadian Research Institute Don Mills . . . Ont
Coltron Industries, Inc Charlotte . . . N C
Continental Instruments Corp Oceanside . . . NY
Control Logic Inc Natick . . . Mass
Design Products Corp Troy . . . Mich
De-Tec-Tronic Corp Chicago . . . Ill
Digital Products San Pedro . . . Cal
Discon Corp Fort Lauderdale . . . Fla
Dolan Jenner Industries Inc Melrose . . . Mass
Durant Digital Instruments A C-H Co Milwaukee . . . Wis
Dynapar Corp Sub Louis Allis Co Gurnee . . . Ill
Dyonics Inc Woburn . . . Mass
Ebert Electronics Corp Floral Park . . . N Y
Electroid Corp Union . . . N J
Electronic Control Corp Detroit . . . Mich
Electronic Counters Inc Englewood . . . N J
Electronics Corp of America Cambridge . . . Mass
Electron Machine Corp. Umatilla . . . Fla
Electro-Sonic-Control Manteca . . . Cal
Elesta Ltd Electronics Bad Ragaz . . . Switzerland
E & L Instruments Inc Derby . . . Conn
Fairchild Controls Hicksville . . . N Y
Farmer Electric Products Co Inc Natick . . . Mass
Frost Electronics Corp Rockaway . . . N J
Gardner Lab Inc Bethesda . . . Md
General Atronics Corp Industrial Div Philadelphia . . . Pa
General Electric Co, ECSO Schenectady . . . N Y
General Electric Co, Specialty Controls Waynesboro . . . Va
HEI Inc Chaska . . . Minn
Hird-Brown Ltd Bolton, Lancs . . . England
IKL Inc Newport Beach . . . Cal
Industrial Components Inc Div Welsh Corp Beaverton . . . Ore
Industrial Systems & Controls USEM Div Emerson Elec Co
  Milford . . . Conn
Infrared Industries Inc Santa Barbara . . . Cal
Instrumentation & Control Systems Inc Addison . . . Ill
Instrumentation Technology Corp Northridge . . . Cal
ITT Decca Marine Inc New York . . . NY
J A C Electronics Ltd Camberley . . . England
Lek-Trol, Inc Grapevine . . . Tex
Louis Allis Co Div Litton Industries Milwaukee . . . Wisc
Machinery Electrification Inc Northboro . . . Mass
Maricopa Controls Scottsdale . . . Ariz
Melpar Inc, Special Prods Dept Falls Church . . . Va
3M Company St Paul . . . Minn
MKC Electronics Corp Kansas City . . . Kans
MTI- Mechanical Technology Inc Latham . . . NY
Optomechanisms Inc Plainview . . . N Y
Ovitron Corp Industrial Syst Div Cheshire . . . Conn
Peco Corp Mountain View . . . Cal
Photobell Co Inc New York . . . N Y
Photomation Inc Mountain View . . . Cal
Post Electronics Products Inc Beverly . . . Mass
Power Instruments Inc Skokie . . . Ill
Racal Electronics Ltd Bracknell Berks . . . England
Ramic Corp Medford . . . Ore
Razdow Labs Inc Newark . . . N J
Regdon Corp Brookfield . . . Ill
Remex Electronics Hawthorne . . . Cal
Richard Lee Co New Providence . . . N J
Royco Instruments Inc Menlo Park . . . Cal
Selco Electronics Inc Palisades Park . . . N J
Sensor Corp Greenwich . . . Conn
Siemon Mfg Co Wayne . . . Ill
Sigma Instruments Inc Braintree . . . Mass
Skan-A-Matic Corp Skaneateles . . . N Y
Slocum Industries Reseda . . . Cal
Standard Instrument Corp Div Automatic Timing & Controls
  Inc King of Prussia . . . Pa
Strandberg Engineering Labs Inc Greensboro . . . N C
Syracuse Electronics Corp Syracuse . . . N Y
Systems Matrix Inc Trenton . . . N J
Techmetric Co Redwood City . . . Cal
Veeder-Root Hartford . . . Conn
Vernitron Corp Precision Comp Group Farmingdale . . . N Y
Warner Electric Brake & Clutch Co Beloit . . . Wisc
Watesta Electronics Ltd Loughton Essex . . . England
Weldotron Corp Newark . . . N J
Wintriss Controls Div Tyco New York . . . N Y
Worner Electronic Devices Rankin . . . Ill

CONTROLS, PHOTOELECTRIC—GENERAL PURPOSE

B & B MOTOR & CONTROL CORP NEW YORK . . . N Y
CURTIS DEVELOPMENT & MFG CO MILWAUKEE . . . WIS
DISCON CORP FORT LAUDERDALE . . . FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y . . . ADV PG 7
Aerolite Electronics Corp Union City . . . N J
A M E C 45 Orleans . . . France
Amtron Inc Sub Republic Corp Midlothian . . . Ill
Audn Corp Hamburg . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . Pa
Automation Products Mfg Inc Boca Raton . . . Fla
Autotron, Inc Danville . . . Ill
B & B Motor & Control Corp New York . . . N Y
Bionic Instruments Inc Bala Cynwyd . . . Pa
Canadian Research Institute Don Mills . . . Ont
Coltron Industries, Inc Charlotte . . . N C
Continental Instruments Corp Oceanside . . . NY
Curtis Development & Mfg Co Milwaukee . . . Wis
Custom Control Mfg Inc Merriam . . . Kan
Cutler-Hammer Inc Milwaukee . . . Wisc

Data Sensors Inc Addison Ill
Design Products Corp Troy .... Mich
De-Tec-Tronic Corp Chicago Ill
Discon Corp Fort Lauderdale .... Fla
Dolan Jenner Industries Inc Melrose .... Mass
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Dyonics Inc Woburn .... Mass
Ebauches SA Dept Oscilloquartz 2001 Neuchatel .... Switz
Ebert Electronics Corp Floral Park .... N Y
Electroid Corp Union .... N J
Electronic Control Corp Detroit .... Mich
Electronic Counters Inc Englewood .... N J
Electronics Corp of America Cambridge .... Mass
Electron Machine Corp. Umatilla .... Fla
Electron-Radar Products Chicago Ill
Electro-Sonic-Control Manteca .... Cal
Elesta Ltd Electronics Bad Ragaz .... Switzerland
Elmek Div Electro Mechanics Inc New Britain .... Conn
Fairchild Controls Hicksville .... N Y
Farmer Electric Products Co Inc Natick .... Mass
Frost Electronics Corp Rockaway .... N J
General Atronics Corp Industrial Div Philadelphia .... Pa
General Electric Co, ECSO Schenectady .... N Y
General Electric Co, Specialty Controls Waynesboro .... Va
Grace Electronics Inc Cleveland .... Ohio
HEI Inc Chaska .... Minn
Heidenhain Corp Miles Ill
Hird-Brown Ltd Bolton, Lancs .... England
Honeywell Resdntl & Coml Sls Divs Minneapolis .... Minn
Hughey & Phillips Inc Burbank .... Cal
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Industrial Systems & Controls USEM Div Emerson Elec Co
  Milford .... Conn
Infrared Industries Inc Santa Barbara .... Cal
Instrumentation & Control Systems Inc Addison Ill
Lek-Trol, Inc Grapevine .... Tex
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Lundy Electronics & Systems Inc Glen Head .... N Y
Machinery Electrification Inc Northboro .... Mass
MacKay Research Labs Wickenburg .... Ariz
Maricopa Controls Scottsdale .... Ariz
Measuring Instrument Controls Inc Berkeley Heights .... N J
Melpar Inc, Special Prods Dept Falls Church .... Va
Modelectric Products Corp Asbury Park .... N J
Molecular Research Inc Palm Beach Gardens .... Fla
MTI- Mechanical Technology Inc Latham .... NY
Optronics Inc Newburyport .... Mass
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Phoenix Precision Instrument Co, Inc Philadelphia .... Pa
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Photo Research Corp Burbank .... Cal
Pioneer Electric & Research Corp Forest Park Ill
PMF Electronics Inc Dayton .... Ohio
Post Electronics Products Inc Beverly .... Mass
Power Instruments Inc Skokie Ill
Racal Electronics Ltd Bracknell Berks .... England
Ramic Corp Medford .... Ore
Razdow Labs Inc Newark .... N J
Regdon Corp Brookfield Ill
Remex Electronics Hawthorne .... Cal
Richard Lee Co New Providence .... N J
Schoeffel Instrument Corp Westwood .... NJ
Selco Electronics Inc Palisades Park .... N J
Sensor Corp Greenwich .... Conn
Show Sound, Inc New York .... N Y
Sigma Instruments Inc Braintree .... Mass
Skan-A-Matic Corp Skaneateles .... N Y
Slocum Industries Reseda .... Cal
Standard Instrument Corp Div Automatic Timing & Controls
  Inc King of Prussia .... Pa
Strandberg Engineering Labs Inc Greensboro .... N C
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Syracuse Electronics Corp Syracuse .... N Y
Systems Matrix Inc Trenton .... N J
Techmetric Co Redwood City .... Cal
Timeco Inc Huntington .... W Va
Veeder-Root Hartford .... Conn
Warner Electric Brake & Clutch Co Beloit .... Wisc
Weldotron Corp Newark .... N J
Wer Industrial Corp Grand Island .... N Y
Wintriss Controls Div Tyco New York .... N Y
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—ILLUMINATION

GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y .... ADV PG 7
TABET MFG CO INC NORFOLK .... VA
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
ACR Electronics Corp New York .... N Y
Aerospace Controls Corp Los Angeles .... Cal
Automatic Switch Co Florham Park .... N J
Autotron, Inc Danville Ill
Canadian Research Institute Don Mills .... Ont
Data Sensors Inc Addison Ill
De-Tec-Tronic Corp Chicago Ill
Ebert Electronics Corp Floral Park .... N Y
Electron-Radar Products Chicago Ill
Elesta Ltd Electronics Bad Ragaz .... Switzerland
Gardner Lab Inc Bethesda .... Md
General Electric Co, ECSO Schenectady .... N Y
HEI Inc Chaska .... Minn
Hird-Brown Ltd Bolton, Lancs .... England
Hughey & Phillips Inc Burbank .... Cal
Hunt Electronics Co Dallas .... Tex
LEM Instrument Corp Farmingdale .... N Y
LGM Electronics Inc Houston .... Tex
Maricopa Controls Scottsdale .... Ariz
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Photo Research Corp Burbank .... Cal
PMF Electronics Inc Dayton .... Ohio
Ramic Corp Medford .... Ore
Schoeffel Instrument Corp Westwood .... NJ
Selco Electronics Inc Palisades Park .... N J
Sigma Instruments Inc Braintree .... Mass
Slocum Industries Reseda .... Cal
Sylvania Elec Prods Inc Lighting Equip Div Danvers .... Mass
Syracuse Electronics Corp Syracuse .... N Y
Tabet Mfg Co Inc Norfolk .... Va
Techmetric Co Redwood City .... Cal
Tung-Sol Div Wagner Electric Corp Newark .... N J
Warner Electric Brake & Clutch Co Beloit .... Wisc
Weston Instruments Div Weston Instr Inc Newark .... N J
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—LOOP REGULATING

GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y .... ADV PG 7
Applied Control Co Cedar Grove .... NJ
Autotron, Inc Danville Ill
Coltron Industries, Inc Charlotte .... N C
De-Tec-Tronic Corp Chicago Ill
Dolan Jenner Industries Inc Melrose .... Mass
Electronics Corp of America Cambridge .... Mass
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison .... Ohio
Farmer Electric Products Co Inc Natick .... Mass
Frost Electronics Corp Rockaway .... N J
General Electric Co, ECSO Schenectady .... N Y
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
International Light Inc Newburyport .... Mass
Maricopa Controls Scottsdale .... Ariz
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
PMF Electronics Inc Dayton .... Ohio
Post Electronics Products Inc Beverly .... Mass
Racal Electronics Ltd Bracknell Berks .... England
Ramic Corp Medford .... Ore
Singer-GPE Controls Inc Morton Grove Ill
Standard Instrument Corp Div Automatic Timing & Controls
  Inc King of Prussia .... Pa
Strandberg Engineering Labs Inc Greensboro .... N C
Sweo Associates Inc Redwood City .... Cal
Vernitron Corp Precision Comp Group Farmingdale .... N Y
Voltex Co Inc Farmingdale .... N Y
Warner Electric Brake & Clutch Co Beloit .... Wisc
Wer Industrial Corp Grand Island .... N Y
Wintriss Controls Div Tyco New York .... N Y
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—PHOTOGRAPHIC EXPOSURE

Custom Control Mfg Inc Merriam .... Kan
E G & G Inc, Electronic Prods Div Boston .... Mass
Flight Research Div Geotel Inc Richmond .... Va
Hycon Monrovia .... Cal
Industrial Timer Corp Parsippany .... N J
International Light Inc Newburyport .... Mass
Lektra Labs Inc Div Kriser Corp College Point .... N Y
LEM Instrument Corp Farmingdale .... N Y
Mati Elgeet Div Rochester .... NY
Photobell Co Inc New York .... N Y
Photomatrix Corp Los Angeles .... Cal
Photo Research Corp Burbank .... Cal
Racal Electronics Ltd Bracknell Berks .... England
Self-Organizing Systems Inc Dallas .... Tex
Techmetric Co Redwood City .... Cal
Trott Electronics Inc Rochester .... N Y
Weston Instruments Div Weston Instr Inc Newark .... N J
Worner Electronic Devices Rankin Ill
Zeiss Inc, Carl New York .... N Y

CONTROLS, PHOTOELECTRIC—REGISTER, PRINTING CUTOFF OR PERFORATING

DISCON CORP FORT LAUDERDALE .... FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y .... ADV PG 7
Automatic Timing & Controls, Inc King of Prussia .... Pa
Autotron, Inc Danville Ill
Coltron Industries, Inc Charlotte .... N C
Continental Instruments Corp Oceanside .... NY
De-Tec-Tronic Corp Chicago Ill
Discon Corp Fort Lauderdale .... Fla
Dolan Jenner Industries Inc Melrose .... Mass
Electronic Machine Parts Inc College Point .... N Y
Electronics Corp of America Cambridge .... Mass
Farmer Electric Products Co Inc Natick .... Mass
Fincor Inc York .... Pa
Frost Electronics Corp Rockaway .... N J
General Electric Co, ECSO Schenectady .... N Y
HEI Inc Chaska .... Minn
Hird-Brown Ltd Bolton, Lancs .... England
Hurletron Inc Danville Ill
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Industrial Systems & Controls USEM Div Emerson Elec Co
  Milford .... Conn
Instrumentation & Control Systems Inc Addison Ill
MKC Electronics Corp Kansas City .... Kans
MTI- Mechanical Technology Inc Latham .... NY
Nash & Harrison Ltd Ottawa 3 .... Ont
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Post Electronics Products Inc Beverly .... Mass
Power Instruments Inc Skokie Ill
Pulse Communications Inc Falls Church .... Va
RVA Inc Racine .... Wis
Sensor Corp Greenwich .... Conn
Singer-GPE Controls Inc Morton Grove Ill
Standard Instrument Corp Div Automatic Timing & Controls
  Inc King of Prussia .... Pa
Techmetric Co Redwood City .... Cal
Thorn Automation Ltd Rugeley, Staffs .... England
Trott Electronics Inc Rochester .... N Y
Vari Tech Co Grand Rapids .... Mich
Veeder-Root Hartford .... Conn
Warner Electric Brake & Clutch Co Beloit .... Wisc
Wer Industrial Corp Grand Island .... N Y
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—SKEW

GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y .... ADV PG 7
Autotron, Inc Danville Ill
Coltron Industries, Inc Charlotte .... N C
Continental Instruments Corp Oceanside .... NY
Dolan Jenner Industries Inc Melrose .... Mass
Electronics Corp of America Cambridge .... Mass
Electron Machine Corp. Umatilla .... Fla
Farmer Electric Products Co Inc Natick .... Mass
General Electric Co, ECSO Schenectady .... N Y
HEI Inc Chaska .... Minn
Hurletron Inc Danville Ill
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Instrumentation & Control Systems Inc Addison Ill
MTI- Mechanical Technology Inc Latham .... NY
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Photobell Co Inc New York .... N Y
Post Electronics Products Inc Beverly .... Mass
Singer-GPE Controls Inc Morton Grove Ill
Skan-A-Matic Corp Skaneateles .... N Y
Techmetric Co Redwood City .... Cal
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—SMOKE & COMBUSTION

GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y .... ADV PG 7
Autotron, Inc Danville Ill
Bailey Meter Co Wickliffe .... Ohio
Beckman Instruments Inc Fullerton, ... Cal
Bionic Instruments Inc Bala Cynwyd .... Pa
Continental Instruments Corp Oceanside .... NY
De-Tec-Tronic Corp Chicago Ill
Ebert Electronics Corp Floral Park .... N Y
Edison, Thomas A Industries, Instr Div West Orange .... N J
Electronic Control Corp Detroit .... Mich
Electronics Corp of America Cambridge .... Mass
Electron Machine Corp. Umatilla .... Fla
Electron-Radar Products Chicago Ill
General Electric Co, ECSO Schenectady .... N Y
General Electric Co, Specialty Controls Waynesboro .... Va
Hird-Brown Ltd Bolton, Lancs .... England
Honeywell Resdntl & Coml Sls Divs Minneapolis .... Minn
Instrumentation & Control Systems Inc Addison Ill
Leeds & Northrup Co North Wales .... Pa
Melpar Inc, Special Prods Dept Falls Church .... Va
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Particle Technology Inc Sunnyvale .... Cal
Phoenix Precision Instrument Co, Inc Philadelphia .... Pa
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Post Electronics Products Inc Beverly .... Mass
Royco Instruments Inc Menlo Park .... Cal
Sensor Precision Industries Inc Medfield .... Mass
Slocum Industries Reseda .... Cal
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—SORTING

FORK STANDARDS INC WEST CHICAGO ILL
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y .... ADV PG 7
Amtron Inc Sub Republic Corp Midlothian Ill
Applied Control Co Cedar Grove .... NJ
Audn Corp Hamburg .... N Y
Automatic Timing & Controls, Inc King of Prussia .... Pa
Autotron, Inc Danville Ill
Bionic Instruments Inc Bala Cynwyd .... Pa
Canadian Research Institute Don Mills .... Ont
Continental Instruments Corp Oceanside .... NY
Control Engineering Div J B Webb Co Detroit .... Mich
Controlomag Labs Roslyn .... Pa
Custom Control Mfg Inc Merriam .... Kan
De-Tec-Tronic Corp Chicago Ill
Dolan Jenner Industries Inc Melrose .... Mass
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electroid Corp Union .... N J
Electronic Control Corp Detroit .... Mich
Electronic Counters Inc Englewood .... N J
Electronics Corp of America Cambridge .... Mass
Electron Machine Corp. Umatilla .... Fla
Electro-Sonic-Control Manteca .... Cal
Elesta Ltd Electronics Bad Ragaz .... Switzerland
Elmek Div Electro Mechanics Inc New Britain .... Conn
Fairchild Controls Hicksville .... N Y
Farmer Electric Products Co Inc Natick .... Mass
Fork Standards Inc West Chicago Ill
Frost Electronics Corp Rockaway .... N J
Gardner Lab Inc Bethesda .... Md
General Atronics Corp Industrial Div Philadelphia .... Pa
General Electric Co, ECSO Schenectady .... N Y
General Electric Co, Specialty Controls Waynesboro .... Va
Grace Electronics Inc Cleveland .... Ohio
HEI Inc Chaska .... Minn
Hird-Brown Ltd Bolton, Lancs .... England
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Infrared Industries Inc Santa Barbara .... Cal

Instrumentation & Control Systems Inc Addison Ill
Instrument Development Labs Div Kollmorgen Corp Attleboro .... Mass
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Lundy Electronics & Systems Inc Glen Head .... N Y
Machinery Electrification Inc Northboro .... Mass
Melpar Inc, Special Prods Dept Falls Church .... Va
3M Company St Paul .... Minn
MTI- Mechanical Technology Inc Latham .... NY
Nash & Harrison Ltd Ottawa 3 .... Ont
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Post Electronics Products Inc Beverly .... Mass
Ramic Corp Medford .... Ore
Regdon Corp Brookfield Ill
Sensor Corp Greenwich .... Conn
Sigma Instruments Inc Braintree .... Mass
Skan-A-Matic Corp Skaneateles .... N Y
Slocum Industries Reseda .... Cal
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia .... Pa
Techmetric Co Redwood City .... Cal
Warner Electric Brake & Clutch Co Beloit .... Wisc
Wer Industrial Corp Grand Island .... N Y
Wintriss Controls Div Tyco New York .... N Y
Worner Electronic Devices Rankin Ill

CONTROLS, PHOTOELECTRIC—TURBIDITY

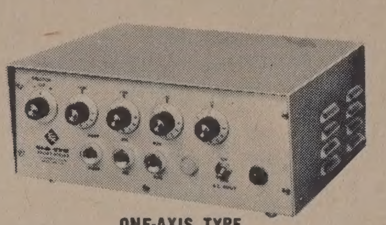
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
Bailey Meter Co Wickliffe .... Ohio
Bionic Instruments Inc Bala Cynwyd .... Pa
Canadian Research Institute Don Mills .... Ont
Continental Instruments Corp Oceanside .... NY
De-Tec-Tronic Corp Chicago Ill
Electron Machine Corp. Umatilla .... Fla
Farmer Electric Products Co Inc Natick .... Mass
Foxboro Co Foxboro .... Mass
Frost Electronics Corp Rockaway .... N J
Gam Rad Inc Detroit .... Mich
Gardner Lab Inc Bethesda .... Md
General Electric Co, ECSO Schenectady .... N Y
Grace Electronics Inc Cleveland .... Ohio
Hird-Brown Ltd Bolton, Lancs .... England
International Light Inc Newburyport .... Mass
KDI Polytechnic Inc Div KDI Corp Cincinnati .... Ohio
MTI- Mechanical Technology Inc Latham .... NY
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Particle Technology Inc Sunnyvale .... Cal
Phoenix Precision Instrument Co, Inc Philadelphia .... Pa
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
Pyrotector Inc Hingham .... Mass
Ramic Corp Medford .... Ore
Schoeffel Instrument Corp Westwood .... NJ
Worner Electronic Devices Rankin Ill

CONTROLS—POSITIONING

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
COMPUTER INSTRUMENTS CORP HEMPSTEAD .... N Y
DATA TECHNOLOGY, INC WATERTOWN .... MASS
DISCON CORP FORT LAUDERDALE .... FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
LINAIR DESIGN CORP LINDEN .... N J
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL
SCIENTIFIC-ATLANTA INC ATLANTA .... GA
SUPERIOR ELECTRIC CO THE BRISTOL CONN .. ADV PG 179
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
THETA INSTRUMENT CORP FAIRFIELD .... N J
Adams Rite Mfg Co Glendale .... Cal
Aeroflex Labs, Inc Plainview .... N Y
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park .... N Y
Allen-Bradley Co Milwaukee .... Wis
Ammon Instruments Inc Manchester .... N H
Anritsu Electric Co Ltd Tokyo .... Japan
Applied Control Co Cedar Grove .... NJ
Audn Corp Hamburg .... N Y
Automatic Switch Co Florham Park .... N J
Automatic Timing & Controls, Inc King of Prussia .... Pa
Avionics, Inc South Bend .... Ind
Bailey Co Washington .... D C
Bailey Meter Co Wickliffe .... Ohio
Baldwin Electronics Inc Little Rock .... Ark
Barber-Colman Co, EMP Div Rockford Ill
Beckman Instruments Inc Fullerton, ... Cal
Bendix Corp Electrodynamics Div North Hollywood .... Cal
Bin-Dicator Ultrasonics Div. Detroit .... Mich
Bionic Instruments Inc Bala Cynwyd .... Pa
Boston Digital Corp Ashland .... Mass
Bristol Div, American Chain & Cable Co Waterbury .... Conn
B & W Electronic Research Labs Dallas .... Tex
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus .... Ohio
Coast Electronics Inc Manhattan Beach .... Cal
Coleman Engineering Co Inc Santa Ana .... Cal
Compudyne Corp Hatboro .... Pa
Computer Central Detroit .... Mich
Computer Conversions Corp East Northport .... N Y
Computer Instruments Corp Hempstead .... N Y
Continental Instruments Corp Oceanside .... NY
Control Engineering Div J B Webb Co Detroit .... Mich
Control Logic Inc Natick .... Mass
Controlotron Corp Farmingdale .... N Y
Control Systems Research Inc Pittsburgh .... Pa
Control Technology Co Inc Long Island City .... N Y
Corning Glass Works Corning .... N Y
Curtiss-Wright Corp Electronics Div E Paterson .... N J
Cutler-Hammer Inc Milwaukee .... Wisc
Data Device Corp Hicksville .... N Y

Data Technology, Inc Watertown .... Mass
Daytronic Corp Dayton .... Ohio
Decker Corp Bala Cynwyd .... Pa
Del Electronics Corp Mt Vernon .... N Y
De-Tec-Tronic Corp Chicago Ill
Digital Automation Co Pennington .... N J
Discon Corp Fort Lauderdale .... Fla
Dolan Jenner Industries Inc Melrose .... Mass
Dynamic Precision Controls Corp Hagerstown .... Ind
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electronic Modules Corp Timonium .... Md
Electro-Pacific Inc Goleta .... Cal
Electro Products Labs Inc Transducer Div Chicago Ill
Electro-Sonic-Control Manteca .... Cal
EMI Electronics Ltd Hayes .... Middlesex Eng
EMR-Hatboro Div Weston Insts Inc Hatboro .... Pa
Energy Beams Inc Haskell .... N J
Essex Engineering Co Inc Essex .... Conn
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison .... Ohio
Fairchild Controls Hicksville .... N Y
Farrand Controls Inc Valhalla .... N Y
Ferranti Electric Inc Plainview .... N Y
Floyd Drives Co Denver .... Colo
Foxboro Co Foxboro .... Mass
Frost Electronics Corp Rockaway .... N J
Fuji Electric Co Ltd Tokyo .... Japan
Fujitsu Ltd Tokyo .... Japan
Gap Instrument Corp Westbury .... N Y
General Electric Co, ECSO Schenectady .... N Y
General Electric Co, Specialty Controls Waynesboro .... Va
General Oceonology Inc Cambridge .... Mass
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Gilmore Industries Inc Cleveland .... Ohio
Glentek Inc Santa Monica .... Cal
Glesco Electronics Inc Rockford Ill
Hartman Systems Co Inc Huntington Station .... N Y
Hi-Altitude Instrument Co, Inc. Denver .... Colo
Honeywell Inc Apparatus Controls Div Minneapolis .... Minn
Honeywell Inc, Computer Control Div Framingham .... Mass
Honeywell Resdntl & Coml Sls Divs Minneapolis .... Minn
Humphrey Electronics Inc Raleigh .... N C
Icon Corp Cambridge .... Mass
IKL Inc Newport Beach .... Cal
Industrial Components Inc Div Welsh Corp Beaverton .... Ore
Industrial Control Co Farmingdale .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
Industrial Systems & Controls USEM Div Emerson Elec Co Milford .... Conn
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh .... Pa
Instru-Lec Corp Mt Vernon .... N Y
Instrumentation & Control Systems Inc Addison Ill
International Electro-Magnetics Inc Palatine Ill
ITT Decca Marine Inc New York .... NY
Jordan Controls Inc Milwaukee .... Wis
Kahn & Co Inc Wethersfield .... Conn
Keltron Corp Waltham .... Mass
Larson Instrument Co Inc Orangeburg .... N Y
La Telemecanique Electrique 92 Rueil .... France
Ledex Div Ledex Inc Dayton .... Ohio
Leeds & Northrup Co North Wales .... Pa
Linair Design Corp Linden .... N J
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Luft Instruments Inc Lincoln .... Mass
Magnetics Inc Butler .... Pa
Maricopa Controls Scottsdale .... Ariz
Martin-Decker Corp Santa Ana .... Cal
Maytronics Inc Colorado Springs .... Colo
McMaster Products Corp Chicago Ill
Measurement Systems Inc Norwalk .... Conn
Metritape Inc West Concord .... Mass
Micro Metrics Inc Paterson .... N J
Micro Switch Div, Honeywell Freeport Ill
MKC Electronics Corp Kansas City .... Kans
Molecular Research Inc Palm Beach Gardens .... Fla
Moog Inc, Industrial Div East Aurora .... N Y
M Ten Bosch, Inc Pleasantville .... N Y
MTI- Mechanical Technology Inc Latham .... NY
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell .... N J
Natel Electronic Industries Inc. Van Nuys .... Cal
Neill Engineering Co East Hartland .... Conn
Norbatrol Electronics Corp Murrysville .... Pa
Ohmite Mfg Co Skokie Ill
Omega Industries Inc Newport Beach .... Cal
Omega-t Systems Inc Richardson .... Tex
Optomechanisms Inc Plainview .... N Y
Pacific Data & Controls San Carlos .... Cal
Payne Engineering Co South Charleston .... W Va
Pegasus Labs Inc Berkley .... Mich
Photobell Co Inc New York .... N Y
Photomation Inc Mountain View .... Cal
PMF Electronics Inc Dayton .... Ohio
Post Electronics Products Inc Beverly .... Mass
Precision Mechanisms Corp Westbury .... N Y
Racal Electronics Ltd Bracknell Berks .... England
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Razdow Labs Inc Newark .... N J
Reflex Controls Corp Huntington Station .... NY
Remex Electronics Hawthorne .... Cal
Robicon Corp Pittsburgh .... Pa
Rundel Electric Co Sub Magnetics Inc Millbrae .... Cal
Sanders Assoc Inc, Instrument Div Manchester .... N H
Schaevitz Engineering Pennsauken .... N J
Schoeffel Instrument Corp Westwood .... NJ
Sciaky Bros Inc Chicago Ill
Scientific-Atlanta Inc Atlanta .... Ga
Seneca Falls Machine Co Seneca Falls .... N Y
Sensor Corp Greenwich .... Conn
Sequential Electronic Systems Inc Elmsford .... N Y
Servo Development Corp Hicksville .... NY
Servo Labs Inc Van Nuys .... Cal
Siemon Mfg Co Wayne Ill
Sigma Instruments Inc Braintree .... Mass
Singer Co, Diehl Div Somerville .... N J
Singer-GPE Controls Inc Morton Grove Ill
Solar Electronics Co Hollywood .... Cal
Sparton Southwest Inc Albuquerque .... NM
Square D Co Park Ridge Ill
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia .... Pa
Struthers-Dunn Inc Pitman .... N J

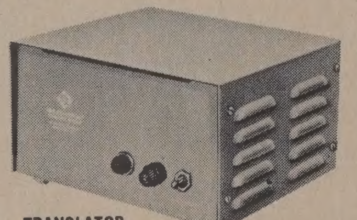
SLO-SYN®
Preset Indexers



ONE-AXIS TYPE

Provide precise control of digital indexing in applications using SLO-SYN motors for positioning. Desired indexing movement up to 99,999 steps of 1.8° each can be preset on the control panel. Speed adjustable from 4 steps/second to maximum possible, with motor used. Either manual or automatic recycling possible. Single- or two-axis types offered. Two-axis types are also available with backlash take-up circuit.

Translators, Adjustable Speed Drives & Translator Modules



TRANSLATOR

Pulse-to-step converters for use with bifilar SLO-SYN motors connected for incremental stepping. Used in programmed positioning, indexing and indicating operations. Translators use an external signal source; Adjustable Speed Drives have oscillator to provide signals; Translator Modules are plug-in printed circuit boards with logic capabilities for stepping SLO-SYN motors.

Write for Catalog SS1265

THE SUPERIOR ELECTRIC COMPANY
1200 Middle Street
Bristol, Connecticut 06010

Sulzer Bros Ltd Industrial Elctns Ltd Winterthur . . Switzerland
Superior Electric Co The Bristol . . . . Conn
Swanson Engineering & Mfg Co Inglewood . . . . Cal
Syncrotech Edgerton . . . . Ohio
Tapeswitch Corp of America Farmingdale . . . . N Y
Taylor Instrument Process Con Div Sybron Corp Rochester . . . . N Y
Techmetric Co Redwood City . . . . Cal
Technology Instrument Corp Sub Bowmar Instr Corp Newbury Park . . . . Cal
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Tenor Co Inc New Berlin . . . . Wis
Theta Instrument Corp Fairfield . . . . N J
Thomson-CSF 78 Versailles . . . . France
Thorn Automation Ltd Rugeley, Staffs . . . . England
Transducer Controls Corp Covina . . . . Cal
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
TRW Systems Group Redondo Beach . . . . Cal
U S Gauge Div Ametek Inc Sellersville . . . . Pa
Veeder-Root Hartford . . . . Conn
Vega Servo-Control Inc Troy . . . . Mich
Vernitron Corp Precision Comp Group Farmingdale . . . . N Y
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Warner Electric Brake & Clutch Co Beloit . . . . Wisc
Watesta Electronics Ltd Loughton Essex . . . . England
Weldotron Corp Newark . . . . N J
Westamp Inc Santa Monica . . . . Cal
West Instrument Div Gulton Ind Inc Schiller Park Ill
Weston Hydraulics Van Nuys . . . . Cal
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa
Wintriss Controls Div Tyco New York . . . . N Y
Worner Electronic Devices Rankin Ill
Yaskawa Electric Mfg Co Ltd Tokyo . . . . Japan

CONTROLS—POWER LEVEL

***See* Resistors—Variable; Switches—Multi-Contact**

CONTROLS—PRESSURE

COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
GAGNE ASSOCIATES INC BINGHAMTON . . . . N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
HAYDON SWITCH & INSTRUMENT INC WATERBURY . CONN
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . N Y
Acme Divac Industries Inc Hawthorne . . . . Cal
Adel Div De Laval Turbine Calif Inc Burbank . . . . Cal
Aerodyne Controls Corp Farmingdale . . . . N Y
Allen-Bradley Co Milwaukee . . . . Wis
Applied Control Co Cedar Grove . . . . NJ
Audn Corp Hamburg . . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Bailey Meter Co Wickliffe . . . . Ohio
Beckman Instruments Inc Fullerton, ... Cal
B I F Unit General Signal Corp Providence . . . . R I
Bioneers Inc. New Rochelle . . . . NY
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham . . . . Mass
Bristol Div, American Chain & Cable Co Waterbury . . . . Conn
Canadian Motorola Electronics Ltd Willowdale 425 . . . . Ont
Carleton Controls Corp East Aurora . . . . N Y
C-E Electronics Div Ametek Feasterville . . . . Pa
Columbus Electric Mfg Co Columbus . . . . Ohio
Compudyne Corp Hatboro . . . . Pa
Computer Instruments Corp Hempstead . . . . N Y
Conrac Corp New York . . . . N Y
Consolidated Controls Corp El Segundo . . . . Cal
Consolidated Controls Corp Bethel . . . . Conn
Controlotron Corp Farmingdale . . . . N Y
Cutler-Hammer Inc Milwaukee . . . . Wisc
Decker Corp Bala Cynwyd . . . . Pa
De Vilbiss Co Toledo . . . . Ohio
Dietz Co Inc, Henry G Long Island City . . . . N Y
Edison, Thomas A Industries, Instr Div West Orange . . . . N J
Elastronics Labs Tarzana . . . . Cal
Electronic Control Systems Inc Fairmont . . . . W Va
Electro-Sonic-Control Manteca . . . . Cal
Ellison Instrument Div Dieterich Std Corp New Buffalo . . Mich
Exactel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
Fairchild Controls Hicksville . . . . N Y
Fischer & Porter Co Warminster . . . . Pa
Foxboro Co Foxboro . . . . Mass
Fox Valve Development Co Inc Hanover . . . . N J
Fuji Electric Co Ltd Tokyo . . . . Japan
Fulton Sylphon Div Robertshaw Controls Co Knoxville . . . Tenn
Futurecraft Corp City of Industry . . . . Cal
Gagne Associates Inc Binghamton . . . . N Y
General Electric Co, ECSO Schenectady . . . . N Y
Gilmont Instruments Inc Roger Great Neck . . . . N Y
Gulton Industries Inc Metuchen . . . . N J
Hartman Systems Co Inc Huntington Station . . . . N Y
Haydon Switch & Instrument Inc Waterbury . . . . Conn
Honeywell Inc Apparatus Controls Div Minneapolis . . . . Minn
Honeywell Industrial Div Fort Washington . . . . Pa
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Minn
Hyde Park Electronics Inc Dayton . . . . Ohio
Hydra-Electric Co Burbank . . . . Cal
Industrial Electronetics Corp Satellite Beach . . . . Fla
Instrumentation & Control Systems Inc Addison Ill
International Controls Corp Fairfield, ... N J
In-Val-Co Tulsa . . . . Okla
ITT Barton Controls & Instr Div Monterey Park . . . . Cal
Joliet Control Corp Joliet Ill
Kahn & Co Inc Wethersfield . . . . Conn
Leeds & Northrup Co North Wales . . . . Pa
Lion Research Corp Newton . . . . Mass
Liquid Level Lectronics Inc Richardson . . . . Tex
Martin-Decker Corp Santa Ana . . . . Cal
MKS Instruments Inc Burlington . . . . Mass
Moore Products Co Spring House . . . . Pa
Motorola Instrumentation & Control Inc Phoenix . . . . Ariz
National Acme Elecl Controls Div Acme-Cleveland Corp Cleveland . . . . Ohio
Palisades Engineering Co Inc Pacific Palisades . . . . Cal
PMF Electronics Inc Dayton . . . . Ohio
Robertshaw Controls Co, Aero & Instrument Div Anaheim . . Cal
Rosemount Engineering Co Minneapolis . . . . Minn
Rosemount Plug-In Inc Nashville . . . . Tenn
Sanders Assoc Inc, Instrument Div Manchester . . . . N H
Schaevitz Engineering Pennsauken . . . . N J
Seely Instrument Co Inc Niagara Falls . . . . N Y
Servotronics Inc Buffalo . . . . N Y
SieBelAir Co Los Angeles . . . . Cal
Sigma Instruments Inc Braintree . . . . Mass
Singer-GPE Controls Inc Morton Grove Ill
Skinner Electric Valve Div New Britain . . . . Conn
Slocum Industries Reseda . . . . Cal
Sparton Southwest Inc Albuquerque . . . . NM
Square D Co Park Ridge Ill
Syncrotech Edgerton . . . . Ohio
Tapeswitch Corp of America Farmingdale . . . . N Y
Taylor Instrument Process Con Div Sybron Corp Rochester . . . . N Y
Tek-Sel Labs Inc Saddle Brook . . . . N J
Teledyne Systems Control Sys A Teledyne Co El Segundo . . Cal
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Texas Instruments Incorporated Dallas . . . . Tex
Texas Instruments Inc Indl Prods Div Houston . . . . Tex
Transducer Controls Corp Covina . . . . Cal
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
United Electric Controls Co Watertown . . . . Mass
U S Gauge Div Ametek Inc Sellersville . . . . Pa
UOP Instruments Div Greenwich . . . . Conn
Volumetrics Inglewood . . . . Cal
West Instrument Div Gulton Ind Inc Schiller Park Ill

CONTROLS—PROPORTIONING

API INSTRUMENTS CO CHESTERLAND . . . . OHIO
BLUE M ENGINEERING CO BLUE ISLAND ILL
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
DATA TECHNOLOGY, INC WATERTOWN . . . . MASS
GRIGSBY BARTON INC ARLINGTON HEIGHTS ILL
SUPERIOR ELECTRIC CO THE BRISTOL . . . . CONN
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . N Y
THETA INSTRUMENT CORP FAIRFIELD . . . . N J
VICTORY ENGINEERING CORP SPRINGFIELD N J . . . . ADV PG Facing Pg 1
Acoustica Associates Inc Los Angeles . . . . Cal
Advanced Dynamics Inc Div Alco Std Corp Cleveland . . . . Ohio
Aladdin Controls Div Aladdin Electronics Nashville . . . . Tenn
A & M Instruments Inc Great Neck . . . . N Y
API Instruments Co Chesterland . . . . Ohio
Applied Control Co Cedar Grove . . . . NJ
Automation Products, Inc Houston . . . . Tex
Bailey Meter Co Wickliffe . . . . Ohio
Barber-Colman Co, EMP Div Rockford Ill
Beckman Instruments Inc Fullerton, ... Cal
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham . . . . Mass
Blue M Engineering Co Blue Island Ill
Bristol Div, American Chain & Cable Co Waterbury . . . . Conn
Coast Electronics Inc Manhattan Beach . . . . Cal
Coltron Industries, Inc Charlotte . . . . N C
Computer Instruments Corp Hempstead . . . . N Y
Controlotron Corp Farmingdale . . . . N Y
Control Technology Co Inc Long Island City . . . . N Y
Data Technology, Inc Watertown . . . . Mass
Decker Corp Bala Cynwyd . . . . Pa
Delta Design Inc La Mesa . . . . Cal
Digital Blending Systems Inc Providence . . . . R I
Doric Scientific Corp San Diego . . . . Cal
Durant Digital Instruments A C-H Co Milwaukee . . . . Wis
Electronic Control Systems Inc Fairmont . . . . W Va
Electronic Modules Corp Timonium . . . . Md
Electron Machine Corp. Umatilla . . . . Fla
Electro-Sonic-Control Manteca . . . . Cal
Elmek Div Electro Mechanics Inc New Britain . . . . Conn
EMI Electronics Ltd Hayes . . . . Middlesex Eng
EMR-Hatboro Div Weston Insts Inc Hatboro . . . . Pa
Fischer & Porter Co Warminster . . . . Pa
Foxboro Co Foxboro . . . . Mass
Foxboro Co Valenica Plant Valencia . . . . Cal
Fox Valve Development Co Inc Hanover . . . . N J
Fuji Electric Co Ltd Tokyo . . . . Japan
Furnas Electric Co Batavia Ill
Glesco Electronics Inc Rockford Ill
Goodyear Aerospace Corp Akron . . . . Ohio
Grigsby Barton Inc Arlington Heights Ill
Helm Instrument Co Inc Toledo . . . . Ohio
Honeywell Inc Apparatus Controls Div Minneapolis . . . . Minn
Honeywell Industrial Div Fort Washington . . . . Pa
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Minn
Hugle Industries Sunnyvale . . . . Cal
Hyde Park Electronics Inc Dayton . . . . Ohio
IKL Inc Newport Beach . . . . Cal
Industrial Components Inc Div Welsh Corp Beaverton . . . . Ore
Industrial Control Co Farmingdale . . . . N Y
Industrial Electronetics Corp Satellite Beach . . . . Fla
Industrial Timer Corp Parsippany . . . . N J
Instrulab Inc Dayton . . . . Ohio
Jersey Technical Consultants Morristown . . . . NJ
Keltron Corp Waltham . . . . Mass
Lab-Line Instruments Inc Melrose Park Ill
Leeds & Northrup Co North Wales . . . . Pa
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
Loyola Industries Inc Harbor City . . . . Cal
Luft Instruments Inc Lincoln . . . . Mass
Lundy Electronics & Systems Inc Glen Head . . . . N Y
Lutron Electronics Co Inc Coopersburg . . . . Pa
Magnetics Inc Butler . . . . Pa
Malaker Corp High Bridge . . . . N J
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Martin-Decker Corp Santa Ana . . . . Cal
Matheson Gas Products East Rutherford . . . . N J
Milton Roy Co St Petersburg . . . . Fla
Molecular Research Inc Palm Beach Gardens . . . . Fla
M Ten Bosch, Inc Pleasantville . . . . N Y
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell . N J
Norbatrol Electronics Corp Murrysville . . . . Pa
Orbitran Co, Inc Lakeside . . . . Cal
Oven Industries Mechanicsburg . . . . Pa
Payne Engineering Co South Charleston . . . . W Va
Pegasus Labs Inc Berkley . . . . Mich
Plessey Airborne Corp Hillside . . . . NJ
PMF Electronics Inc Dayton . . . . Ohio
Power Control Corp Pittsburgh . . . . Pa
Pyrotel Corp C/O Milletron Inc Pittsburgh . . . . PA
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Research Inc, R-I Controls Div Minneapolis . . . . Minn
Revere Electronic Div Wallingford . . . . Conn
Rex Chainbelt Inc Milwaukee . . . . Wis
RO Associates Inc Menlo Park . . . . Cal
Robicon Corp Pittsburgh . . . . Pa
Rosemount Plug-In Inc Nashville . . . . Tenn
Rundel Electric Co Sub Magnetics Inc Millbrae . . . . Cal
Servotronics Inc Buffalo . . . . N Y
Sigma Instruments Inc Braintree . . . . Mass
Signet Scientific Co Burbank . . . . Cal
Simpson Electric Co Chicago Ill
Singer-GPE Controls Inc Morton Grove Ill
Superior Electric Co The Bristol . . . . Conn
Taylor Instrument Process Con Div Sybron Corp Rochester . . . . N Y
Technology Instrument Corp Sub Bowmar Instr Corp Newbury Park . . . . Cal
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Tenor Co Inc New Berlin . . . . Wis
Texas Instruments Incorporated Dallas . . . . Tex
Theta Instrument Corp Fairfield . . . . N J
Tia Electric Co Princeton . . . . N J
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
United Electric Controls Co Watertown . . . . Mass
Veeder-Root Hartford . . . . Conn
Victory Engineering Corp Springfield . . . . N J
Waynco Inc Winona . . . . Minn
West Instrument Div Gulton Ind Inc Schiller Park Ill

CONTROLS—PROXIMITY

GAGNE ASSOCIATES INC BINGHAMTON . . . . N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL
Allen-Bradley Co Milwaukee . . . . Wis
Amiproducts Corp New York . . . . N Y
Audn Corp Hamburg . . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Automation Products Mfg Inc Boca Raton . . . . Fla
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus . . . . Ohio
Coltron Industries, Inc Charlotte . . . . N C
Controlotron Corp Farmingdale . . . . N Y
Decker Corp Bala Cynwyd . . . . Pa
De-Tec-Tronic Corp Chicago Ill
Dolan Jenner Industries Inc Melrose . . . . Mass
Douglas Randall Inc Westerly . . . . R I
Drexelbrook Engineering Co Glenside . . . . Pa
Durant Digital Instruments A C-H Co Milwaukee . . . . Wis
Ebauches SA Dept Oscilloquartz 2001 Neuchatel . . . . Switz
Ebert Electronics Corp Floral Park . . . . N Y
Electro Products Labs Inc Transducer Div Chicago Ill
Electro-Sonic-Control Manteca . . . . Cal
Farmer Electric Products Co Inc Natick . . . . Mass
Gagne Associates Inc Binghamton . . . . N Y
General Electric Co, ECSO Schenectady . . . . N Y
General Equipment & Mfg Co Louisville . . . . Ky
Helm Instrument Co Inc Toledo . . . . Ohio
Hyde Park Electronics Inc Dayton . . . . Ohio
ICC Mfg Corp South Hackensack . . . . N J
Industrial Electronetics Corp Satellite Beach . . . . Fla
La Telemecanique Electrique 92 Rueil . . . . France
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Martin-Decker Corp Santa Ana . . . . Cal
Micro Metrics Inc Paterson . . . . N J
Micro Switch Div, Honeywell Freeport Ill
MKC Electronics Corp Kansas City . . . . Kans
Molecular Research Inc Palm Beach Gardens . . . . Fla
MTI- Mechanical Technology Inc Latham . . . . NY
National Acme Elecl Controls Div Acme-Cleveland Corp Cleveland . . . . Ohio
Peco Corp Mountain View . . . . Cal
Photobell Co Inc New York . . . . N Y
PMF Electronics Inc Dayton . . . . Ohio
Power Instruments Inc Skokie Ill
Racal Electronics Ltd Bracknell Berks . . . . England
Regdon Corp Brookfield Ill
Research Associates Inc Linden . . . . N J
Rundel Electric Co Sub Magnetics Inc Millbrae . . . . Cal
Schaevitz Engineering Pennsauken . . . . N J
Sensi-Tronics Inc Williamsville . . . . N Y
Sensor Corp Greenwich . . . . Conn
Singer-GPE Controls Inc Morton Grove Ill
Slocum Industries Reseda . . . . Cal
Square D Co Park Ridge Ill
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia . . . . Pa
Tapeswitch Corp of America Farmingdale . . . . N Y
Techrand Corp of America Muskegon . . . . Mich
Thorn Automation Ltd Rugeley, Staffs . . . . England
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
Warner Electric Brake & Clutch Co Beloit . . . . Wisc
Wayne Kerr Co c/o Southfield Electronics Southfield . . . Mich
Wer Industrial Corp Grand Island . . . . N Y
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham . . . . England

CONTROLS—REGISTER

***See* Controls—Photoelectric**

CONTROLS, REMOTE—RADIO

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
HEATH CO BENTON HARBOR . . . . MICH
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . N Y
Advance Industries Inc Appleton . . . . Wis

Allen Aircraft Radio Inc Elk Grove Village Ill
Anritsu Electric Co Ltd Tokyo . . . . Japan
Aquadyne Inc East Falmouth . . . . Mass
A R F Products, Inc Raton . . . . N M
Aristo-Craft Distinctive Miniatures New York . . . . N Y
Babcock Electronic Corp Costa Mesa . . . . Cal
Barrett Electronics Corp Northbrook Ill
Bauer Broadcast Div Granger Assoc Palo Alto . . . . Cal
Bayly Engineering Ltd Ajax . . . . Ont
Bionic Instruments Inc Bala Cynwyd . . . . Pa
Bramco Controls Div Ledex Inc Piqua . . . . Ohio
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Cubex Co Altadena . . . . Cal
Data-Control Systems Inc Danbury . . . . Conn
Dresser Controls Houston . . . . Texas
Electronic Homes Co New York . . . . N Y
Executive Electronics Inc. Denver . . . . Colo
Fisher-Akin Co Manhattan Beach . . . . Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
GDO Co Inc Palisades Park . . . . N J
General Dynamics, Electronics Div Rochester . . . . N Y
Gulton Industries Inc Metuchen . . . . N J
Harris-Intertype Corp Cleveland . . . . Ohio
Hathaway Pacific Palo Alto . . . . Cal
Heath Co Benton Harbor . . . . Mich
Infomax Palo Alto . . . . Cal
Instru-Lec Corp Mt Vernon . . . . N Y
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Marquardt Industrial Products Co Chicago Ill
Meson Electronics Co, Inc Rochester . . . . N Y
Micro Communications Co Denver . . . . Colo
Moore Associates Div Rucker Co San Carlos . . . . Cal
Moseley Associates Inc Goleta . . . . Cal
Motorola Communications & Electronics Div Schaumburg . . Ill
Motorola Communications & Electronics Inc Chicago Ill
Multi-Elmac Co Oak Park . . . . Mich
National Radio Co Inc Melrose . . . . Mass
Perma-Power Co Div Chamberlain Mfg Corp Chicago Ill
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Private Tele Communications Inc Chicago Ill
Pulse Communications Inc Falls Church . . . . Va
Quindar Electronics Inc, Controls Div Springfield . . . . NJ
Racal Communications Inc Silver Spring . . . . Md
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Reach Electronics Inc Lexington . . . . Neb
Rust Corp Everett . . . . Mass
Sanyo Electric Co Ltd Osaka . . . . Japan
Show Sound, Inc New York . . . . N Y
Southern Avionics Co Beaumont . . . . Tex
Standard Telephones & Cables Ltd London WC 2 . . . . England
Symetrics Engineering Corp Satellite Beach . . . . Fla
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Topping Electronics Ltd Scarborough . . . . Ont
Union Switch & Signal Div Westinghouse Air Brake Co
  Pittsburgh . . . . Pa
Utility Communication Systems Inc West Chester . . . . Pa
Vega Electronics Corp Santa Clara . . . . Cal
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa
VP Co Pasadena . . . . Cal
Westinghouse Brake & Signal Co Ltd Automation Div
  Chippenham . . . . England
Wilcox Electric Co Kansas City . . . . Mo

CONTROLS, REMOTE—TV

HEATH CO BENTON HARBOR . . . . MICH
Bionic Instruments Inc Bala Cynwyd . . . . Pa
Brown Engineering-A Teledyne Co Huntsville . . . . Ala
Canoga Industries Los Angeles . . . . Cal
CBC Industries Inc Philadelphia . . . . Pa
Central Dynamics Ltd Pte Claire . . . . Que
Cohu Electronics Inc San Diego . . . . Cal
Cubex Co Altadena . . . . Cal
Dalto Electronics Corp Norwood . . . . N J
Fedtro Inc Rockville Centre . . . . N Y
Hayakawa Electric Co Ltd Osaka . . . . Japan
Heath Co Benton Harbor . . . . Mich
Inelco S p A Tavernerio . . . . Italy
Kameco Electronics Ltd. Montreal . . . . Que
Lake Systems Corp Newton . . . . Mass
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . Cal
Moore Associates Div Rucker Co San Carlos . . . . Cal
Moseley Associates Inc Goleta . . . . Cal
Ovitron Corp Industrial Syst Div Cheshire . . . . Conn
Philmore Mfg Co Inc Richmond Hill . . . . N Y
Quindar Electronics Inc, Controls Div Springfield . . . . NJ
Rust Corp Everett . . . . Mass
Sanyo Electric Co Ltd Osaka . . . . Japan

CONTROLS, REMOTE—WIRELINE

TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . N Y
THETA INSTRUMENT CORP FAIRFIELD . . . . N J
Amtron Inc Sub Republic Corp Midlothian Ill
Autocon Industries, Inc St Paul . . . . Minn
Automatic Switch Co Florham Park . . . . N J
A V Electronics, Inc Fresno . . . . Cal
Babcock Electronic Corp Costa Mesa . . . . Cal
Bayly Engineering Ltd Ajax . . . . Ont
Bionic Instruments Inc Bala Cynwyd . . . . Pa
Bramco Controls Div Ledex Inc Piqua . . . . Ohio
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
B/W Controller Corp Birmingham . . . . Mich
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Cohu Electronics Inc San Diego . . . . Cal
Coltron Industries, Inc Charlotte . . . . N C
Control Engineering Div J B Webb Co Detroit . . . . Mich
Data Automation Inc Scottsdale . . . . Ariz
Dresser Controls Houston . . . . Texas
Edison, Thomas A Industries, Instr Div West Orange . . . . . N J
Electronic Modules Corp Timonium . . . . Md
Electronics Communications Div Atlantic Research Corp
  Alexandria . . . . Va
Essex Engineering Co Inc Essex . . . . Conn
Foxboro Co Foxboro . . . . Mass
General Dynamics, Electronics Div Rochester . . . . N Y
General Railway Signal Co Rochester . . . . N Y
Gulton Industries Inc Metuchen . . . . N J
Hathaway Pacific Palo Alto . . . . Cal
H B Engineering Corp Silver Spring . . . . Md
Hersey-Sparling Meter Co El Monte . . . . Cal
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Minn
Industrial Components Inc Div Welsh Corp Beaverton . . . . . Ore
International Scanatron Systems Corp Wyandanch . . . . . . N Y
ITT Barton Controls & Instr Div Monterey Park . . . . Cal
Joliet Control Corp Joliet Ill
Kaar Electronics Corp Rahway . . . . N J
Landis & Gyr AG Zug . . . . Switzerland
Lane Industries, Electronics Div North Hollywood . . . . Cal
Ledex Div Ledex Inc Dayton . . . . Ohio
Lutron Electronics Co Inc Coopersburg . . . . Pa
Marin Controls Co Div FRL Inc Belmont . . . . Cal
Marquardt Industrial Products Co Chicago Ill
Martron Inc Santa Ana . . . . Cal
Measuring Instrument Controls Inc Berkeley Heights . . . . . N J
Meson Electronics Co, Inc Rochester . . . . N Y
Micro Communications Co Denver . . . . Colo
Moore Associates Div Rucker Co San Carlos . . . . Cal
Moseley Associates Inc Goleta . . . . Cal
Motorola Instrumentation & Control Inc Phoenix . . . . Ariz
Nichols Co Ltd, R H Downsview . . . . Ont
Northern Engineering Div Baraboo . . . . Wis
Plessey Airborne Corp Hillside . . . . NJ
Pulse Communications Inc Falls Church . . . . Va
Quindar Electronics Inc, Controls Div Springfield . . . . NJ
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Reach Electronics Inc Lexington . . . . Neb
Rust Corp Everett . . . . Mass
Saturn Electronics Corp Garland . . . . Tex
Show Sound, Inc New York . . . . N Y
Siemon Mfg Co Wayne Ill
Sierra Electric Div Sola Basic Ind Gardena . . . . Cal
Simplex Time Recorder Co Gardner . . . . Mass
Southwest Products Co Monrovia . . . . Cal
Standard Telephones & Cables Ltd London WC 2 . . . . England
Stevenson Engineering & Mfg Co Portland . . . . Ore
Swanson Engineering & Mfg Co Inglewood . . . . Cal
Syncrotech Edgerton . . . . Ohio
Tapeswitch Corp of America Farmingdale . . . . N Y
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Theta Instrument Corp Fairfield . . . . N J
Touch-Plate Electro-Systems Inc Paramount . . . . Cal
Trepac Corp of America Englewood . . . . N J
Utility Communication Systems Inc West Chester . . . . Pa
Vega Electronics Corp Santa Clara . . . . Cal
Westinghouse Brake & Signal Co Ltd Automation Div
  Chippenham . . . . England
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh . . . Pa

CONTROLS—SERVO

***See Also* Servosystems**

ANALOG DEVICES INC CAMBRIDGE . . . . MASS
ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
B & B MOTOR & CONTROL CORP NEW YORK . . . . N Y
BECKMAN INSTRUMENTS INC, HELIPOT DIV
** FULLERTON . . . . CAL**
BODINE ELECTRIC CO CHICAGO ILL
BOWMAR INSTRUMENT CORP FORT WAYNE . . . . IND
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
DATA TECHNOLOGY, INC WATERTOWN . . . . MASS
DRANETZ ENGINEERING LABS INC PLAINFIELD . . . . N J
ELECTRO-CRAFT CORP HOPKINS . . . . MINN
IMC MAGNETICS CORP WESTERN DIV MAYWOOD . . . . CAL
LINAIR DESIGN CORP LINDEN . . . . N J
SCIENTIFIC-ATLANTA INC ATLANTA . . . . GA
SUPERIOR ELECTRIC CO THE BRISTOL . . . . CONN
THETA INSTRUMENT CORP FAIRFIELD . . . . N J
ADC Electronics, Inc Harbor City . . . . Cal
Adel Div De Laval Turbine Calif Inc Burbank . . . . Cal
Advance Instrument Corp Belmar . . . . N J
Aeroflex Labs, Inc Plainview . . . . N Y
Airmec-AEI Ltd Buckinghamshire . . . . England
Allen Aircraft Radio Inc Elk Grove Village Ill
Analog Devices Inc Cambridge . . . . Mass
Analog General Corp Oceanside . . . . N Y
Anritsu Electric Co Ltd Tokyo . . . . Japan
Applied Devices Corp College Point . . . . n y
Astrodata Inc Anaheim . . . . Cal
Audn Corp Hamburg . . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Autonumerics Inc Westbury . . . . NY
Ball Brothers Research Corp Boulder . . . . Colo
Barber-Colman Co, EMP Div Rockford Ill
B & B Motor & Control Corp New York . . . . N Y
Beckman Instruments Inc Fullerton . . . . Cal
Beckman Instruments Inc, Helipot Div Fullerton . . . . Cal
Beckman Instruments Intl SA 1207 Geneva . . . . . Switzerland
Bendix Corp Electrodynamics Div North Hollywood . . . . Cal
Bendix Corp, Flight & Engine Instr Div South Montrose . . . Pa
Bodine Electric Co Chicago Ill
Boston Digital Corp Ashland . . . . Mass
Bowmar Instrument Corp Fort Wayne . . . . Ind
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Burr-Brown Research Corp Tucson . . . . Ariz
Canoga Industries Los Angeles . . . . Cal
Carbonara Inc, Victor E Port Washington . . . . N Y
C-E Electronics Div Ametek Feasterville . . . . Pa
Coast Electronics Inc Manhattan Beach . . . . Cal
Coltron Industries, Inc Charlotte . . . . N C
Compudyne Corp Hatboro . . . . Pa
Computer Central Detroit . . . . Mich
Computer Instruments Corp Hempstead . . . . N Y
Conrac Corp New York . . . . N Y
Consolidated Airborne Systems Carle Place . . . . N Y
Consolidated Controls Corp El Segundo . . . . Cal
Consolidated Controls Corp Bethel . . . . Conn
Control Engineering Div J B Webb Co Detroit . . . . Mich
Controlotron Corp Farmingdale . . . . N Y
Control Systems Research Inc Pittsburgh . . . . Pa
Control Technology Co Inc Long Island City . . . . N Y
Data Technology, Inc Watertown . . . . Mass
Decker Corp Bala Cynwyd . . . . Pa
Dranetz Engineering Labs Inc Plainfield . . . . N J
Dynamic Precision Controls Corp Hagerstown . . . . Ind
Electro-Craft Corp Hopkins . . . . Minn
Electronic Communications Inc Div NCR St Petersburg . . . Fla
EMI Electronics Ltd Hayes . . . . Middlesex Eng
EMR-Hatboro Div Weston Insts Inc Hatboro . . . . Pa
Exactel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
Fairchild Controls Hicksville . . . . N Y
Farrand Controls Inc Valhalla . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Floyd Drives Co Denver . . . . Colo
Fujitsu Ltd Tokyo . . . . Japan
Gap Instrument Corp Westbury . . . . N Y
General Electric Co Ordnance Systems Pittsfield . . . . Mass
Geo Space Systems Inc St Petersburg . . . . Fla
Gilmore Industries Inc Cleveland . . . . Ohio
Glentek Inc Santa Monica . . . . Cal
Goodyear Aerospace Corp Akron . . . . Ohio
Hartman Systems Co Inc Huntington Station . . . . N Y
Henschel Corp Amesbury . . . . Mass
Honeywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
Honeywell Industrial Div Fort Washington . . . . Pa
Icon Corp Cambridge . . . . Mass
IMC Magnetics Corp Western Div Maywood . . . . Cal
Industrial Control Co Farmingdale . . . . N Y
Industrial Electronetics Corp Satellite Beach . . . . Fla
Infomax Palo Alto . . . . Cal
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh . . . . . . Pa
Jordan Controls Inc Milwaukee . . . . Wis
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Keltron Corp Waltham . . . . Mass
Kinetic Instrument Co Div Nortek Inc Brooklyn . . . . N Y
Kollsman Motor Corp Dublin . . . . Pa
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Power Equipment Div Cleveland . . . . Ohio
Ledex Div Ledex Inc Dayton . . . . Ohio
Lek-Trol, Inc Grapevine . . . . Tex
Linair Design Corp Linden . . . . N J
Ling Electronics Div LTV Altec Inc Anaheim . . . . Cal
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
LTV Electrosystems Inc, Garland Div Dallas . . . . Tex
Luft Instruments Inc Lincoln . . . . Mass
Lundy Electronics & Systems Inc Glen Head . . . . N Y
Magnetic Technology Inc Canoga Park . . . . Cal
Maricopa Controls Scottsdale . . . . Ariz
MB Electronics A Textron Co New Haven . . . . Conn
McFadden Electronics Co South Gate . . . . Cal
McMaster Products Corp Chicago Ill
Measurement Systems Inc Norwalk . . . . Conn
Micro Metrics Inc Paterson . . . . N J
Minnetech Labs Inc Minneapolis . . . . Minn
Molecular Research Inc Palm Beach Gardens . . . . Fla
Moog Inc, Industrial Div East Aurora . . . . N Y
M Ten Bosch, Inc Pleasantville . . . . N Y
Muirhead Instruments Inc Mountainside . . . . N J
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell . N J
Natel Electronic Industries Inc. Van Nuys . . . . Cal
Norbatrol Electronics Corp Murrysville . . . . Pa
Omega Industries Inc Newport Beach . . . . Cal
Omega-t Systems Inc Richardson . . . . Tex
Orbit Instrument Corp Syosset . . . . N Y
Palisades Engineering Co Inc Pacific Palisades . . . . Cal
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
Pegasus Labs Inc Berkley . . . . Mich
Photocircuits Corp Glen Cove . . . . N Y
Plessey Airborne Corp Hillside . . . . NJ
Precision Mechanisms Corp Westbury . . . . N Y
Printed Motors Inc Glen Cove . . . . N Y
Reeves Instrument Div, DCA Garden City . . . . N Y
Reflex Controls Corp Huntington Station . . . . NY
Robicon Corp Pittsburgh . . . . Pa
Rosemount Plug-In Inc Nashville . . . . Tenn
Sanders Assoc Inc, Instrument Div Manchester . . . . N H
Saturn Electronics Corp Garland . . . . Tex
Schaevitz Engineering Pennsauken . . . . N J
Scientific-Atlanta Inc Atlanta . . . . Ga
Seneca Falls Machine Co Seneca Falls . . . . N Y
Sequential Electronic Systems Inc Elmsford . . . . N Y
Servo Development Corp Hicksville . . . . NY
Servo Labs Inc Van Nuys . . . . Cal
Servonetics Inc Northridge . . . . Cal
Servo-Tek Products Co Hawthorne . . . . N J
Servotronics Inc Buffalo . . . . N Y
Siemon Mfg Co Wayne Ill
Singer Co, Diehl Div Somerville . . . . N J
Singer-GPE Controls Inc Morton Grove Ill
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Solar Electronics Co Hollywood . . . . Cal
Spectral Dynamics Corp of San Diego San Diego . . . . Cal
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
Standard Instrument Corp Div Automatic Timing & Controls
  Inc King of Prussia . . . . Pa
Strandberg Engineering Labs Inc Greensboro . . . . N C
Stratocon Corp Newark . . . . N J
Struthers-Dunn Inc Pitman . . . . N J
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur . . Switzerland
Summit Engineering Corp Bozeman . . . . Mont
Sunbeam Electronics Fort Lauderdale . . . . Fla
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Superior Electric Co The Bristol . . . . Conn
Sweo Associates Inc Redwood City . . . . Cal
Symetrics Engineering Corp Satellite Beach . . . . Fla
Syncrotech Edgerton . . . . Ohio
Technology Instrument Corp Sub Bowmar Instr Corp
  Newbury Park . . . . Cal
Tek-Sel Labs Inc Saddle Brook . . . . N J
Teledyne Systems Control Sys A Teledyne Co El Segundo . . Cal
Theta Instrument Corp Fairfield . . . . N J
Thomson-CSF 78 Versailles . . . . France
Thorn Automation Ltd Rugeley, Staffs . . . . England
United Control Corp Redmond . . . . Wash
Vactric Control Equipment Ltd Morden . . . . England
Vega Servo-Control Inc Troy . . . . Mich
Vernitron Corp Precision Comp Group Farmingdale . . . . . . N Y
Wer Industrial Corp Grand Island . . . . N Y
Westamp Inc Santa Monica . . . . Cal
Weston Hydraulics Van Nuys . . . . Cal
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa

Yaskawa Electric Mfg Co Ltd Tokyo . . . . Japan

CONTROLS—SORTING (NOT PHOTOELECTRIC)

***See Also* Controls—Photoelectric**

THETA INSTRUMENT CORP FAIRFIELD . . . . N J
Advanced Technology & Systems Corp Riverside . . . . Conn
Audn Corp Hamburg . . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Avionics, Inc South Bend . . . . Ind
Bionic Instruments Inc Bala Cynwyd . . . . Pa
Control Engineering Div J B Webb Co Detroit . . . . Mich
Custom Control Mfg Inc Merriam . . . . Kan
Cutler-Hammer Inc Milwaukee . . . . Wisc
Data Device Corp Hicksville . . . . N Y
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electro-Sonic-Control Manteca . . . . Cal
EMI Electronics Ltd Hayes . . . . Middlesex Eng
Fairchild Controls Hicksville . . . . N Y
General Atronics Corp Industrial Div Philadelphia . . . . Pa
Industrial Components Inc Div Welsh Corp Beaverton . . . . . Ore
International Electro-Magnetics Inc Palatine Ill
ITT Decca Marine Inc New York . . . . NY
Joliet Control Corp Joliet Ill
Kameco Electronics Ltd. Montreal . . . . Que
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
Luft Instruments Inc Lincoln . . . . Mass
MKC Electronics Corp Kansas City . . . . Kans
Moore Products Co Spring House . . . . Pa
Nash & Harrison Ltd Ottawa 3 . . . . Ont
Presin Co Inc Shelton . . . . Conn
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Sensor Corp Greenwich . . . . Conn
Square D Co Park Ridge Ill
Standard Instrument Corp Div Automatic Timing & Controls
Inc King of Prussia . . . . Pa
Stevenson Engineering & Mfg Co Portland . . . . Ore
Techmetric Co Redwood City . . . . Cal
Theta Instrument Corp Fairfield . . . . N J
Warner Electric Brake & Clutch Co Beloit . . . . Wisc
Wayne Kerr Co c/o Southfield Electronics Southfield . . . . Mich
Wer Industrial Corp Grand Island . . . . N Y

CONTROLS—SOUND ACTUATED

Abtronics, Inc Livermore . . . . Cal
Applied Control Co Cedar Grove . . . . NJ
Audn Corp Hamburg . . . . N Y
A V Electronics, Inc Fresno . . . . Cal
Douglas Randall Inc Westerly . . . . R I
Honeywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Minn
Photobell Co Inc New York . . . . N Y
Randam Electronics Inc Cincinnati . . . . Ohio
Sensor Corp Greenwich . . . . Conn
Trepac Corp of America Englewood . . . . N J

CONTROLS—SPECIFIC GRAVITY, LIQUIDS

CURTIS DEVELOPMENT & MFG CO MILWAUKEE . . . . . . WIS
Adel Div De Laval Turbine Calif Inc Burbank . . . . Cal
Automation Products, Inc Houston . . . . Tex
Bionic Instruments Inc Bala Cynwyd . . . . Pa
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Cambridge Scientific Industries Inc Cambridge . . . . Md
Curtis Development & Mfg Co Milwaukee . . . . Wis
Elastronics Labs Tarzana . . . . Cal
Exactel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
Fischer & Porter Co Warminster . . . . Pa
Foxboro Co Foxboro . . . . Mass
Fuji Electric Co Ltd Tokyo . . . . Japan
Gardner Lab Inc Bethesda . . . . Md
Honeywell Industrial Div Fort Washington . . . . Pa
ITT Barton Controls & Instr Div Monterey Park . . . . Cal
Liquid Level Lectronics Inc Richardson . . . . Tex
Nuclear-Chicago Des Plaines Ill
Ohmart Corp Cincinnati . . . . Ohio
Poole Instruments Inc Dallas . . . . Tex
RIL Electronics Inc Southampton . . . . Pa
Taylor Instrument Process Con Div Sybron Corp
Rochester . . . . N Y

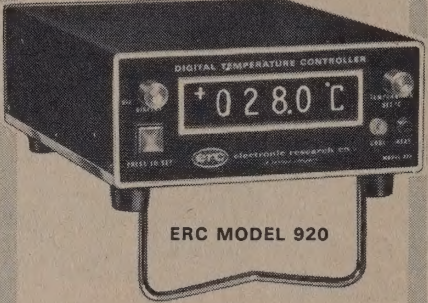
CONTROLS—TEMPERATURE

AIRPAX ELECTRONICS INC SEMINOLE DIV
FORT LAUDERDALE . . . . FLA
API INSTRUMENTS CO CHESTERLAND . . . . OHIO
BLUE M ENGINEERING CO BLUE ISLAND ILL
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
CURTIS DEVELOPMENT & MFG CO MILWAUKEE . . . . . . WIS
ELECTRONIC RESEARCH CO, A TEXTRON CO
OVERLAND PARK KAN . . . . ADV PG 182
ELMWOOD SENSORS INC CRANSTON . . . . R I
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y . . . . ADV PG 7
GRIGSBY BARTON INC ARLINGTON HEIGHTS ILL
G-V CONTROLS INC LIVINGSTON . . . . N J
NORTH HILLS ELECTRONICS INC GLEN COVE . . . . N Y
SUPERIOR ELECTRIC CO THE BRISTOL . . . . CONN
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW
N Y . . . . ADV PG 642
VICTORY ENGINEERING CORP SPRINGFIELD
N J . . . . ADV PG Facing Pg 1
Acromag Inc Wixom . . . . Mich
ADC Electronics, Inc Harbor City . . . . Cal
ADC Products Minneapolis . . . . Minn
A D Data Systems Inc Rochester . . . . N Y
Advanced Dynamics Inc Div Alco Std Corp Cleveland . . . . Ohio
Advanced Products Co North Haven . . . . Conn
Advanced Purification System Co Inc Great Neck . . . . N Y
Aeromarine Electronics, Inc San Diego . . . . Cal
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Aladdin Controls Div Aladdin Electronics Nashville . . . . . . Tenn
Allen-Bradley Co Milwaukee . . . . Wis
Allen-Jones Electronics Div WEMS Inc Gardena . . . . Cal
Allied Research Assoc Inc Eng Sys Div Concord . . . . Mass
Alnor Instrument Co Div Ill Testing Labs Chicago Ill
Alpha Scientific Labs Inc Oakland . . . . Cal
American Instrument Co, Inc Silver Spring . . . . Md
A & M Instruments Inc Great Neck . . . . N Y
Amlab Inc Rahway . . . . NJ
Andonian Associates, Inc Waltham . . . . Mass
API Instruments Co Chesterland . . . . Ohio
Athena Controls Inc West Conshohocken . . . . Pa
Atkins Technical, Inc Gainesville . . . . Fla
Audn Corp Hamburg . . . . N Y
Bacharach Instrument Co Pittsburgh . . . . Pa
Bailey Meter Co Wickliffe . . . . Ohio
Barber-Colman Co, EMP Div Rockford Ill
Barnes Engineering Co Def & Space Div Stamford . . . . . . Conn
Bayley Instrument Co Danville . . . . Cal
Beckman Instruments Inc Fullerton, ... Cal
Beede Electrical Instrument Co, Inc Penacook . . . . N H
Bioneers Inc. New Rochelle . . . . NY
Blue M Engineering Co Blue Island Ill
Borg-Warner, Thermoelectric Div Des Plaines Ill
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Bulova Watch Co Inc Elctns Div Frequency Control Prods
Woodside . . . . N Y
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Burling Instrument Co Chatham . . . . N J
Cambridge Metallurgical Corp of Ohio Precision Sys Div
Columbus . . . . Ohio
Cambridge Thermionic Corp Cambridge . . . . Mass
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Chatham Controls Corp Chatham . . . . N J
Cleveland Process Corp Cleveland . . . . Ohio
Coltron Industries, Inc Charlotte . . . . N C
Columbus Electric Mfg Co Columbus . . . . Ohio
Compudyne Corp Hatboro . . . . Pa
Computer Instruments Corp Hempstead . . . . N Y
Conrad-Missimer Corte Madera . . . . Cal
Consolidated Airborne Systems Carle Place . . . . N Y
Consolidated Controls Corp El Segundo . . . . Cal
Consolidated Controls Corp Bethel . . . . Conn
Consolidated Ohmic Devices Inc Carle Place . . . . N Y
Continental Testing Labs Fern Park . . . . Fla
Control Data Corp, Magnetic Prods Oper Minneapolis . . . Minn
Controlomag Labs Roslyn . . . . Pa
Controlotron Corp Farmingdale . . . . N Y
Control Products Inc East Hanover . . . . N J
Control Technology Co Inc Long Island City . . . . N Y
Cox & Company, Inc New York . . . . NY
Creative Electric Inc Auburn . . . . N Y
Cryogenic Engineering Co Denver . . . . Colo
Cryogenic Research Co Inc Boulder . . . . Colo
Curtis Development & Mfg Co Milwaukee . . . . Wis
Dales Co, Franklin Akron . . . . Ohio
Data Device Corp Hicksville . . . . N Y
Delta Design Inc La Mesa . . . . Cal
DeSoto Electrical Products DeSoto . . . . Mo
Devco Engineering Inc Fairfield (Caldwell) . . . . N J
Dohrmann Instruments Co Mountain View . . . . Cal
Doran Mfg Co Cincinnati . . . . Ohio
Doric Scientific Corp San Diego . . . . Cal
Dynamic Controls Corp South Windsor . . . . Conn
Dynamic Precision Controls Corp Hagerstown . . . . Ind
Edison, Thomas A Industries, Instr Div West Orange . . . . . N J
E G & G Inc, Electronic Prods Div Boston . . . . Mass
Electro-Flex Heat Inc Bloomfield . . . . Conn
Electro Miniatures Corp South Hackensack . . . . N J
Electronic Applications Co Pine Brook . . . . N J
Electronic Control Corp Detroit . . . . Mich
Electronic Control Systems Inc Fairmont . . . . W Va
Electronic Modules Corp Timonium . . . . Md
Electronic Research co, A Textron Co Overland Park . . . . . Kan
Electronics Corp of America Cambridge . . . . Mass
Elesta Ltd Electronics Bad Ragaz . . . . Switzerland
Elmwood Sensors Inc Cranston . . . . R I
En-Cer Inc South Holland Ill
Essex Intl Corp, Stemco Controls Mansfield . . . . Ohio
Euro Cedag Milan . . . . Italy
Fenwal Inc Ashland . . . . Mass
Fischer & Porter Co Warminster . . . . Pa
Fostoria-Fannon Inc Fostoria . . . . Ohio
Foxboro Co Foxboro . . . . Mass
Foxboro Co Valenica Plant Valencia . . . . Cal
Fuji Electric Co Ltd Tokyo . . . . Japan
Fulton Sylphon Div Robertshaw Controls Co Knoxville . . . . Tenn
Furnas Electric Co Batavia Il
Garzino S p A 10020 Pessinetto . . . . Italy
General Electric Co, ECSO Schenectady . . . . N Y
General Oceonology Inc Cambridge . . . . Mass
General Radio Co West Concord . . . . Mass
Genisco Technology Corp Compton . . . . Ca
Genisco Technology Instrument Div Compton . . . . Ca
Giannini-Voltex-Radex-Irvine Whittier . . . . Ca
Glentek Inc Santa Monica . . . . Ca
Glesco Electronics Inc Rockford Il
Grigsby Barton Inc Arlington Heights Il
Gruenberg Electric Co Inc Garden City . . . . N Y
Guardian Electric Mfg Co of Cal Inc Culver City . . . . Ca
Gulton Industries Inc Metuchen . . . . N
G-V Controls Inc Livingston . . . . N
Hafstrom Technical Products Inc San Diego . . . . Ca
Hallikainen Instruments Richmond . . . . Ca
Harrel Inc East Norwalk . . . . Con
Helm Instrument Co Inc Toledo . . . . Ohi
Hexacon Electric Co Roselle Park . . . . N
Hi-Shear Corp Torrance . . . . Ca
Honeywell Inc Apparatus Controls Div Minneapolis . . . . Min
Honeywell Industrial Div Fort Washington . . . . P
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Min
Hydra-Electric Co Burbank . . . . Ca
Industrial Electronetics Corp Satellite Beach . . . . Fl
Infrared Industries Inc Santa Barbara . . . . Ca

erc

DIGITAL

TEMPERATURE CONTROLLER



- 0.5°C ACCURACY
- 0.1°C RESOLUTION
- ZERO CROSS-OVER SWITCHING

Automatic Digital Temperature Control and Read Out from −60.0°C to +160.0°C.

Press to set switch for temperature setting and read out with precision ten turn set control.

Instrument compatible with either CO_2 or mechanical refrigeration systems.

Unit controls any size chamber where heater does not exceed 3600 watts.

Zero cross-over switching of load, heater or solenoid valve at zero voltage to prevent RFI.

Standard output Analog, Option; B C D

Size: 2⅝ H. x 6¾ W. x 9¼ L.

Controller may be supplied in degrees Fahrenheit.

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electronic research co.

call or write for technical data

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Infra-Red Systems Inc Riverdale	N J
Instrulab Inc Dayton	Ohio
Instrumentation & Control Systems Inc Addison	Ill
Instrument Development Labs Div Kollmorgen Corp Attleboro	Mass
International Controls Corp Cryogenics Div Fairfield	N J
International Energy Conversion Div Nuclear Sys Inc Garland	Tex
International Rectifier Semiconductor Div El Segundo	Cal
Intertechnique Plaisir 78	France
Ircon Inc Niles	Ill
Irtronics Inc Stamford	Conn
ITT Barton Controls & Instr Div Monterey Park	Cal
Jelrus Instrument Corp New Hyde Park	N Y
Jersey Technical Consultants Morristown	NJ
Kahl Scientific Instrument Corp El Cajon	Cal
Kahn & Co Inc Wethersfield	Conn
Kidde & Co Inc, Walter Belleville	N J
Kokusai Electric Co Ltd Tokyo-105	Japan
Lab-Line Instruments Inc Melrose Park	Ill
Landis & Gyr AG Zug	Switzerland
Larson Instrument Co Inc Orangeburg	N Y
La Telemecanique Electrique 92 Rueil	France
Leeds & Northrup Co North Wales	Pa
Lek-Trol, Inc Grapevine	Tex
Loyola Industries Inc Harbor City	Cal
Luft Instruments Inc Lincoln	Mass
Lutron Electronics Co Inc Coopersburg	Pa
Magnetics Inc Butler	Pa
Maricopa Controls Scottsdale	Ariz
Marin Controls Co Div FRL Inc Belmont	Cal
Marlin Mfg Corp Cleveland	Ohio
Martron Inc Santa Ana	Cal
Melabs Palo Alto	Cal
Milletron, Inc Pittsburgh	Pa
Moore Products Co Spring House	Pa
Motorola Instrumentation & Control Inc Phoenix	Ariz
Muirhead Instruments Inc Mountainside	N J
Nanmac Corp Framingham Centre	Mass
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell	N J
Norbatrol Electronics Corp Murrysville	Pa
North Hills Electronics Inc Glen Cove	N Y
Nucleonic Industries Tucson	Ariz
Oven Industries Mechanicsburg	Pa
Ovitron Corp Industrial Syst Div Cheshire	Conn
Payne Engineering Co South Charleston	W Va
Pennsylvania Electronics Technology, Inc Pittsburgh	Pa
Phoenix Materials Corp Forbes Road	Pa
Plessey Airborne Corp Hillside	NJ
Plessey Co Ltd Ilford Essex	England
PMF Electronics Inc Dayton	Ohio
Power Control Corp Pittsburgh	Pa
Princeton Applied Research Corp Princeton	N J
Princo Instruments Inc Southampton	Pa
Procedyne Corp New Brunswick	N J
Program Electronics Co New Hyde Park	N Y
Protective Controls Inc Chartley	Mass
Pyrometer Instrument Co Inc Northvale	N J
Pyro-Serv Instruments, Inc North Arlington	N J
Pyrotel Corp C/O Milletron Inc Pittsburgh	PA
Racal Electronics Ltd Bracknell Berks	England
Radix Electronics Corp Anaheim	Cal
Ramyr Mfg Co Buena Park	Cal
Relco Products Inc Denver	Colo
Research Inc, R-I Controls Div Minneapolis	Minn
RFL Industries Inc, Thermocontrol Div Boonton	N J
RIL Electronics Inc Southampton	Pa
RO Associates Inc Menlo Park	Cal
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Robicon Corp Pittsburgh	Pa
Rosemount Engineering Co Minneapolis	Minn
Rosemount Plug-In Inc Nashville	Tenn
Rundel Electric Co Sub Magnetics Inc Millbrae	Cal
Sage Instruments Inc White Plains	N Y
Scaico Div, Wavetronics Industries Inc West Pittston	Pa
Schindler's Los Angeles	Cal
Scientific Engrg Mfg Co Div Gen Devices Inc North Hollywood	Cal
Seely Instrument Co Inc Niagara Falls	N Y
Sigma Instruments Canada Ltd Toronto 18 Ont	Canada
Sigma Instruments Inc Braintree	Mass
Signet Controls Inc Tulsa	Okla
Signet Scientific Co Burbank	Cal
Simpson Electric Co Chicago	Ill
Slocum Industries Reseda	Cal
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sprague Electric Co North Adams	Mass
Square D Co Park Ridge	Ill
Stephen & Co Ltd, R A Mitcham	England
Sunshine Scientific Instruments Inc Philadelphia	Pa
Superior Electric Co The Bristol	Conn
Syracuse Electronics Corp Syracuse	N Y
Systems Matrix Inc Trenton	N J
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Technology/Versatronics Inc Yellow Springs	Ohio
Tek-Sel Labs Inc Saddle Brook	N J
Tempil Div Big Three Ind Gas & Equip Co New York	N Y
Tempo Instrument Inc, Military Div Plainview	N Y
Texas Instruments Incorporated Dallas	Tex
Thermal Engineering & Design Co Akron	Ohio
Thermal Systems Inc Los Angeles	Cal
Therm-O-Disc Inc Mansfield	Ohio
Thermo Electric Co Inc Saddle Brook	N J
Thermolyne Corp Dubuque	Iowa
Thorn Automation Ltd Rugeley, Staffs	England
Tia Electric Co Princeton	N J
Tipptronic Inc Chagrin Falls	Ohio
TPC Div Webb Press Eng Cedarburg	Wisc
Trans-Sonics Inc Lexington	Mass
Tylan Corp Torrance	Cal
Ulanet Co, George Newark	N J
United Aircraft Products Inc Dayton	Ohio
United Control Corp Redmond	Wash
United Electric Controls Co Watertown	Mass
U S Gauge Div Ametek Inc Sellersville	Pa
Vapor Corp Chicago	Ill
Victory Engineering Corp Springfield	N J
Vulcan Electric ITT Danvers	Mass
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Wavetronics Industries Inc West Pittston	Pa
Waynco Inc Winona	Minn
Westcott Electronics Clifton	NJ
Westinghouse Electric Corp, Aerospace Electrical Div Lima	Ohio
West Instrument Div Gulton Ind Inc Schiller Park	Ill
Yellow Springs Instrument Co Inc Yellow Springs	Ohio

CONTROLS—TENSION

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Advance Electronics Ltd Ilford Essex	England
Audn Corp Hamburg	N Y
Automatic Timing & Controls, Inc King of Prussia	Pa
Bailey Meter Co Wickliffe	Ohio
Coltron Industries, Inc Charlotte	N C
Consolidated Electric Corp Seattle	Wash
Control Systems Research Inc Pittsburgh	Pa
Electro-Devices Inc Servospeed Div Paterson	N J
Floyd Drives Co Denver	Colo
Foxboro Co Foxboro	Mass
General Electric Co, ECSO Schenectady	N Y
Hurletron Inc Danville	Ill
Industrial Electronetics Corp Satellite Beach	Fla
Industrial Winding Machinery Corp River Edge	N J
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh	Pa
LEM Instrument Corp Farmingdale	N Y
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Luft Instruments Inc Lincoln	Mass
Magnetic Technology Inc Canoga Park	Cal
Martin-Decker Corp Santa Ana	Cal
Nash & Harrison Ltd Ottawa 3	Ont
Norbatrol Electronics Corp Murrysville	Pa
Orbitran Co, Inc Lakeside	Cal
Photobell Co Inc New York	N Y
Plessey Airborne Corp Hillside	NJ
Robicon Corp Pittsburgh	Pa
Schaevitz Engineering Pennsauken	N J
Sensor Corp Greenwich	Conn
Singer Co, Diehl Div Somerville	N J
Tensitron Inc Harvard	Mass
Transducer Controls Corp Covina	Cal
Warner Electric Brake & Clutch Co Beloit	Wisc
Weldotron Corp Newark	N J
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

CONTROLS—TENTERING

See **Controls—Photoelectric**

CONTROLS, THICKNESS—ELECTROMAGNETIC

COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
Advanced Technology & Systems Corp Riverside	Conn
Automatic Timing & Controls, Inc King of Prussia	Pa
Bionic Instruments Inc Bala Cynwyd	Pa
C-E Electronics Div Ametek Feasterville	Pa
Computer Instruments Corp Hempstead	N Y
De-Tec-Tronic Corp Chicago	Ill
Gardner Lab Inc Bethesda	Md
Hurletron Inc Danville	Ill
Hyde Park Electronics Inc Dayton	Ohio
Industrial Control Co Farmingdale	N Y
Industrial Electronetics Corp Satellite Beach	Fla
Industrial Gauging & Control Inc Norwalk	Conn
Lion Research Corp Newton	Mass
Measuring Instrument Controls Inc Berkeley Heights	N J
Microwave Instruments Co Corona del Mar	Cal
MTI- Mechanical Technology Inc Latham	NY
Muirhead Instruments Inc Mountainside	N J
Nash & Harrison Ltd Ottawa 3	Ont
RIL Electronics Inc Southampton	Pa
Stevenson Engineering & Mfg Co Portland	Ore
Sunshine Scientific Instruments Inc Philadelphia	Pa
Unit Process Assemblies Inc Woodside	N Y
Wayne Kerr Co c/o Southfield Electronics Southfield	Mich

CONTROLS, THICKNESS—RADIATION

American Atomics Corp Tucson	Ariz
Audn Corp Hamburg	N Y
Decker Corp Bala Cynwyd	Pa
Fuji Electric Co Ltd Tokyo	Japan
Industrial Gauging & Control Inc Norwalk	Conn
In-Val-Co Tulsa	Okla
Landis & Gyr, Inc New York	N Y
Landis & Gyr AG Zug	Switzerland
Microwave Instruments Co Corona del Mar	Cal
Milletron, Inc Pittsburgh	Pa
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Ohmart Corp Cincinnati	Ohio
Ovitron Corp Industrial Syst Div Cheshire	Conn
RIL Electronics Inc Southampton	Pa
Sel-Rex International S A Geneva	Switzerland
Tracerlab, Div Lab for Electronics Inc Waltham	Mass
Unit Process Assemblies Inc Woodside	N Y

CONTROLS, THICKNESS—ULTRASONIC

Alcatel Paris 8eme	France
Audn Corp Hamburg	N Y
Automation Products, Inc Houston	Tex
Coltron Industries, Inc Charlotte	N C
Gilardoni S p A Mandello Lario Como	Italy
Haydu Products Inc Opa Locka	Fla
Nuclear Enterprises Ltd Edinburgh	Scotland

CONTROLS, THICKNESS—X-RAY

AMERICANA X-RAY CO ENGLEWOOD	**N J**
Americana X-Ray Co Englewood	N J
Bicron Electronics Co Canaan	Conn
Electron Machine Corp. Umatilla	Fla
Gilardoni S p A Mandello Lario Como	Italy
Industrial Gauging & Control Inc Norwalk	Conn
Keleket-CGR Corp Waltham	Mass
Molecular Research Inc Palm Beach Gardens	Fla
Nuclear Enterprises Ltd Edinburgh	Scotland
Picker Nuclear White Plains	N Y

CONTROLS—TIMING

See **Timers**

CONTROLS—TORQUE, ELECTRONIC

B & B MOTOR & CONTROL CORP NEW YORK	**N Y**
BODINE ELECTRIC CO CHICAGO	**ILL**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
ELECTRO-CRAFT CORP HOPKINS	**MINN**
B & B Motor & Control Corp New York	N Y
Bergen Lab, Inc Paterson	N J
Bodine Electric Co Chicago	Ill
C-E Electronics Div Ametek Feasterville	Pa
Coltron Industries, Inc Charlotte	N C
Compudyne Corp Hatboro	Pa
Computer Instruments Corp Hempstead	N Y
Controlotron Corp Farmingdale	N Y
Control Systems Research Inc Pittsburgh	Pa
Daytronic Corp Dayton	Ohio
Decker Corp Bala Cynwyd	Pa
Doric Scientific Corp San Diego	Cal
Dynamic Controls Corp South Windsor	Conn
Dynamic Precision Controls Corp Hagerstown	Ind
Electro-Craft Corp Hopkins	Minn
Electro-Devices Inc Servospeed Div Paterson	N J
Electroid Corp Union	N J
Electronic Control Corp Detroit	Mich
Elmek Div Electro Mechanics Inc New Britain	Conn
Fuji Electric Co Ltd Tokyo	Japan
General Thermodynamics Corp North Wilmington	Mass
Glentek Inc Santa Monica	Cal
Industrial Electronetics Corp Satellite Beach	Fla
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	Conn
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh	Pa
Integrated Motorcontrol Inc Palo Alto	Cal
Kahn & Co Inc Wethersfield	Conn
Lear Siegler Inc Santa Monica	Cal
Ledex Div Ledex Inc Dayton	Ohio
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Lundy Electronics & Systems Inc Glen Head	N Y
Lutron Electronics Co Inc Coopersburg	Pa
Magnetic Technology Inc Canoga Park	Cal
Maricopa Controls Scottsdale	Ariz
Martin-Decker Corp Santa Ana	Cal
McNab Inc New York	N Y
Measurement Systems Inc Norwalk	Conn
Norbatrol Electronics Corp Murrysville	Pa
O'Brien Inc, D G Framingham	Mass
Pegasus Labs Inc Berkley	Mich
Power Instruments Inc Skokie	Ill
Reliance Electric Co Cleveland	Ohio
Rundel Electric Co Sub Magnetics Inc Millbrae	Cal
Schaevitz Engineering Pennsauken	N J
Seneca Falls Machine Co Seneca Falls	N Y
Siemon Mfg Co Wayne	Ill
Singer Co, Diehl Div Somerville	N J
Sweo Associates Inc Redwood City	Cal
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Tek-Sel Labs Inc Saddle Brook	N J
Telstar Electronics Corp Southold	N Y
Thorn Automation Ltd Rugeley, Staffs	England
Tipptronic Inc Chagrin Falls	Ohio
Vari Tech Co Grand Rapids	Mich
Warner Electric Brake & Clutch Co Beloit	Wisc
Wer Industrial Corp Grand Island	N Y
Westamp Inc Santa Monica	Cal
West Coast Research Corp Los Angeles	Cal
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

CONTROLS, TRAFFIC—COMPUTER

EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT	**IOWA**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
SIEMENS AMERICA INC NEW YORK	**N Y**
Automatic Signal Div Lab for Electronics, Inc Norwalk	Conn
Automation Development Co Culver City	Cal
Control Logic Inc Natick	Mass
Digital Products San Pedro	Cal
Eagle Signal A Gulf & Western Co Davenport	Iowa
Ferranti, Ltd Lancashire	England
Fischer & Porter Co Warminster	Pa
Gammatronix Inc Dublin	Ohio
General Railway Signal Co Rochester	N Y
Honeywell Inc, Computer Control Div Framingham	Mass
IBM Corp White Plains	N Y
IBM Data Processing Div White Plains	N Y
Inelco S p A Tavernerio	Italy
Kameco Electronics Ltd. Montreal	Que
Link Div Singer Co Binghamton	N Y
Micro-Magnetic Industries Inc Palo Alto	Cal
Moore Associates Div Rucker Co San Carlos	Cal
Nippon Electric Co Ltd Tokyo	Japan
Philco-Ford Corp Washington	D C
Plessey Co Ltd Ilford Essex	England
Quindar Electronics Inc, Controls Div Springfield	NJ
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Siemens America Inc New York	N Y
Trepac Corp of America Englewood	N J
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham	England

CONTROLS, TRAFFIC—RADAR

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Automatic Signal Div Lab for Electronics, Inc Norwalk	Conn
Bell Aerosystems Co Buffalo	N Y
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
Cooke Engineering Co Alexandria	Va
Cosmos Industries Inc Brooklyn	N Y
Decatur Electronics Inc Decatur	Ill
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Nippon Electric Co Ltd Tokyo	Japan
Plessey Co Ltd Ilford Essex	England
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Selenia - Industrie Elettroniche Assoc Rome	Italy
Sierra Research Corp Buffalo	N Y
Tasker Industries Los Angeles	Cal

CONTROLS, TRAFFIC—RADIO

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Automatic Signal Div Lab for Electronics, Inc Norwalk	Conn
Canadian Motorola Electronics Ltd Willowdale 425	Ont
Fisher-Akin Co Manhattan Beach	Cal
Fujitsu Ltd Tokyo	Japan
Lane Industries, Electronics Div North Hollywood	Cal
Moore Associates Div Rucker Co San Carlos	Cal
Nippon Electric Co Ltd Tokyo	Japan
Philco-Ford Corp Washington	D C
Radio Corp of America, Comml Elctn Prods Div Camden	N J
RCA, Defense Electronic Products Moorestown	N J
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz

CONTROLS—TURBIDITY

***See* Controls—Photoelectric**

CONTROLS—ULTRASONIC

***See* Ultrasonic Equipment**

CONTROLS—VACUUM

COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
GAGNE ASSOCIATES INC BINGHAMTON	**N Y**
GRANVILLE-PHILIPS CO BOULDER COLO	**ADV PG 696**
Alcatel Paris 8eme	France
Allen-Bradley Co Milwaukee	Wis
Allen-Jones Electronics Div WEMS Inc Gardena	Cal
Amlab Inc Rahway	NJ
Andonian Associates, Inc Waltham	Mass
Automatic Switch Co Florham Park	N J
Bacharach Instrument Co Pittsburgh	Pa
Beach-Russ Co New York	N Y
Beckman Instruments Inc Fullerton,	Cal
Bendix Scientific Instr & Equip Div Rochester	N Y
Bioneers Inc. New Rochelle	NY
Bristol Div, American Chain & Cable Co Waterbury	Conn
Cathey Enterprises Mountain View	Cal
Centorr Associates Inc Suncook	N H
Central Scientific Co Chicago	Ill
CHA Industries, Div Carl Herrmann Assoc Menlo Park	Cal
Cole-Parmer Instrument Co Chicago	Ill
Compudyne Corp Hatboro	Pa
Computer Instruments Corp Hempstead	N Y
Consolidated Controls Corp Bethel	Conn
Cooke Vacuum Products Inc South Norwalk	Conn
Cryolab Div, Statics-Dynamics Inc Los Osos	Cal
Cutler-Hammer Inc Milwaukee	Wisc
Decker Corp Bala Cynwyd	Pa
Dietz Co Inc, Henry G Long Island City	N Y
Dynamic Precision Controls Corp Hagerstown	Ind
Edwards High Vacuum Inc Grand Island	N Y
Edwards High Vacuum (Canada) Ltd Oakville	Ont
Electro-Sonic-Control Manteca	Cal
Ellison Instrument Div Dieterich Std Corp New Buffalo	Mich
Energy Beams Inc Haskell	N J
Fairchild Controls Hicksville	N Y
Ferranti, Ltd Lancashire	England
Fischer & Porter Co Warminster	Pa
Foxboro Co Foxboro	Mass
Fredericks Co Huntingdon Valley	Pa
Fuji Electric Co Ltd Tokyo	Japan
Fulton Sylphon Div Robertshaw Controls Co Knoxville	Tenn
Gagne Associates Inc Binghamton	N Y
Gilmont Instruments Inc Roger Great Neck	N Y
Granville-Philips Co Boulder	Colo
Hastings-Raydist A Teledyne Co Hampton	Va
High Vacuum Equipment Corp Hingham	Mass
Honeywell Industrial Div Fort Washington	Pa
Honeywell Resdntl & Coml Sls Divs Minneapolis	Minn
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside	Cal
Hydra-Electric Co Burbank	Cal
Kinney Vacuum Co Boston	Mass
Lion Research Corp Newton	Mass
Luft Instruments Inc Lincoln	Mass
Malaker Corp High Bridge	N J
Matheson Gas Products East Rutherford	N J
Mini-Flex Corp Van Nuys	Cal
MKS Instruments Inc Burlington	Mass
Norton Co Vacuum Equip Div Newton	Mass
Nuclear Corp of America, Nuclear Div Denville	N J
Nuclide Corp, AGV Div Acton	Mass
Precision Scientific Co Sub GCA Corp Chicago	Ill
Research Industrolectronics Roslyn	Pa
RIL Electronics Inc Southampton	Pa
Silver Glo Picture Tubes Ltd Edmonton	Alb
Skinner Electric Valve Div New Britain	Conn
Sloan Instruments Corp Santa Barbara	Cal
Tapeswitch Corp of America Farmingdale	N Y
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Ultek Div Perkin-Elmer Palo Alto	Cal
Ulvac Corp Tokyo	Japan
United Electric Controls Co Watertown	Mass
U S Gauge Div Ametek Inc Sellersville	Pa
Vactronic Lab Equipment Inc East Northport	N Y
Vacuum Accessories Corp of America Huntington Station	N Y
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y
Volumetrics Inglewood	Cal

CONTROLS—VISCOSITY

Audn Corp Hamburg	N Y
Automation Products, Inc Houston	Tex
Bioneers Inc. New Rochelle	NY
Bionic Instruments Inc Bala Cynwyd	Pa
Bristol Div, American Chain & Cable Co Waterbury	Conn
Brookfield Engineering Labs Inc Stoughton	Mass
Decker Corp Bala Cynwyd	Pa
Electron Machine Corp. Umatilla	Fla
Ferranti, Ltd Lancashire	England
Fischer & Porter Co Warminster	Pa
Fish-Schurman Corp New Rochelle	N Y
Foxboro Co Foxboro	Mass
Gam Rad Inc Detroit	Mich
Gardner Lab Inc Bethesda	Md
Hallikainen Instruments Richmond	Cal
Photobell Co Inc New York	N Y
RIL Electronics Inc Southampton	Pa
Schaffner, Hans - Elektronische Bauteile Luterbach Sq	Switz
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Tipptronic Inc Chagrin Falls	Ohio

CONTROLS—VOLUME & TONE

CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
MALLORY & CO INC, P R INDIANAPOLIS	**IND**
STACKPOLE COMPONENTS CO RALEIGH	**N C**
Allen-Bradley Co Milwaukee	Wis
Centralab, Div Globe-Union Inc Milwaukee	Wis
Clarostat Mfg Co Inc Dover	N H
Components Specialties Inc Freeport	N Y
Decker Corp Bala Cynwyd	Pa
Impectron Inc New York	N Y
Japan Resistor Mfg Co Ltd Tokyo	Japan
Mallory & Co Inc, P R Indianapolis	Ind
Mallory Controls Co Frankfort	Ind
Philmore Mfg Co Inc Richmond Hill	N Y
Randam Electronics Inc Cincinnati	Ohio
Stackpole Components Co Raleigh	N C
Telefunken Sales Corp Garden City	N Y

CONTROLS—WELDING

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE	**N J**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
TEMPO INSTRUMENT INC IND DIV PLAINVIEW	**N Y**
Amtron Inc Sub Republic Corp Midlothian	Ill
Automatic Switch Co Florham Park	N J
Delonics Corp New York	N Y
Eisler Engineering Co Newark	N J
Electron-Ohio Inc Cleveland	Ohio
Energy Beams Inc Haskell	N J
Euro Cedag Milan	Italy
Ewald Instruments Corp Kent	Conn
Federal Tool Engineering Co Div Arvin Inds Cedar Grove	N J
Furnas Electric Co Batavia	Ill
General Electric Co, ECSO Schenectady	N Y
Hughes Aircraft Co Welder Dept Oceanside	Cal
Icon Corp Cambridge	Mass
KSM Welding Sys Div Omark Indus Inc Moorestown	N J
Miller Electric Mfg Co Appleton	Wis
Nuclide Corp, AGV Div Acton	Mass
Precision Arc Co Stratford	Conn
Pyrotel Corp C/O Milletron Inc Pittsburgh	PA
Robotron Corp Detroit	Mich
Sciaky Bros Inc Chicago	Ill
Silver & Assoc Inc G H Newtonville	Mass
Singer-GPE Controls Inc Morton Grove	Ill
Sippican Corp, Ind Prods Div Mattapoisett	Mass
Sorensen Operation, Raytheon Co. Norwalk	Conn
Square D Co Park Ridge	Ill
Syracuse Electronics Corp Syracuse	N Y
Taylor-Winfield Corp Warren	Ohio
Tempo Instrument Inc Ind Div Plainview	N Y
Weldmatic Div Unitek Corp Monrovia	Cal
Wells Electronics Inc, Weltek Div South Bend	Ind
Weltronic Co Southfield	Mich
Western Arctronics South El Monte	Cal
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

CONVERTERS, A-C OUTPUT—A-C TO A-C, ROTARY

GEORATOR CORP MANASSAS	**VA**
Allis-Chalmers Mfg Co Milwaukee	Wis
American Electronics, Inc Fullerton	Cal
Bendix Corp Electric Power Div Eatontown	NJ
Bronson Corp, Sub Kurz & Root Co Appleton	Wisc
Carter Motor Co Chicago	Ill
Consolidated Electric Corp Seattle	Wash
Electric Indicator Co Inc Wilton	Conn
Electric Machinery Mfg Co Minneapolis	Minn
Electric Products Co Cleveland	Ohio
Electronic Resources Inc Tasker Indus Los Angeles	Cal
Electronic Specialty Co, Conn Div Thomaston	Conn
Electro-Pacific Inc Goleta	Cal
Fuji Electric Co Ltd Tokyo	Japan
Gaylord Rives Co Div Amer Elctns Inc Pasadena	Cal
Georator Corp Manassas	Va
Holtzer-Cabot Corp Boston	Mass
Horlick Co Inc, William I Boston	Mass
Ideal Electric & Mfg Co Mansfield	Ohio
Inet Power A Teledyne Co Gardena	Cal
Kato Engineering Co Mankato	Minn
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Kurz & Root Co Appleton	Wis
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Power Equipment Div Cleveland	Ohio
Leland Airborne Products Div AMF Vandalia	Ohio
Louis Allis Co Div Litton Industries Milwaukee	Wisc
McMaster Products Corp Chicago	Ill
Payne Engineering Co South Charleston	W Va
Safety Electrical Equipment Corp New Haven	Conn
Singer Co, Diehl Div Somerville	N J
Sunbeam Electronics Fort Lauderdale	Fla
Task Corp Anaheim	Cal
Thorn Automation Ltd Rugeley, Staffs	England
T M C Systems & Power Corp Springfield	Va

CONVERTERS, A-C OUTPUT—A-C TO A-C, TRANSISTOR

C M L INC PLAINFIELD	**N J**
FORK STANDARDS INC WEST CHICAGO	**ILL**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
INTERELECTRONICS CORP CONGERS	**N Y**
NJE CORP KENILWORTH	**N J**
NORTH HILLS ELECTRONICS INC GLEN COVE	**N Y**
NOVA ELECTRIC MFG CO SADDLE BROOK	**N J**
PLASTIC CAPACITORS INC CHICAGO	**ILL**
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN	**N Y**
TOROTEL, INC GRANDVIEW	**MO**
WAGNER ELECTRIC CORP, TUNG-SOL DIV LIVINGSTON	**N J**
Abbott Transistor Labs, Inc Los Angeles	Cal
ADC Electronics, Inc Harbor City	Cal
Advanced Development Corp Gardena	Cal
Aerospace Research, Inc Boston	Mass
Allis-Chalmers Mfg Co Milwaukee	Wis
American Time Products, Elctns Div Bulova Watch Co Inc Woodside	N Y
AMP Incorporated Harrisburg	Pa
Arnold Magnetics Corp Culver City	Cal
Astro Lab Westminster	Cal
Astro-Metrix Corp Burbank	Cal
Ates Componenti Elettronici SpA Milano	Italy
Atlas Controls Div Atlas Engrg Co Inc Dorchester	Mass
ATR Electronics, Inc St Paul	Minn
Ault, Inc Minneapolis	Minn
Autronics Corp Pasadena	Cal
Avtel Corp Covina	Cal
Ballastran Corp Fort Wayne	Ind
Barden Co Los Angeles	Cal
Basler Electric Co Highland	Ill
Bendix Corp Electric Power Div Eatontown	NJ
Bergen Lab, Inc Paterson	N J
Bronson Corp, Sub Kurz & Root Co Appleton	Wisc
Bulova Watch Co Inc Elctns Div Servo Products Woodside	NY
Bush Transformer Div, Gladding-Keystone Corp Oneonta	NY
California Instruments Corp San Diego	Cal
Canadian Research Institute Don Mills	Ont
Carter Co, J C, Electronics Div Costa Mesa	Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
C M L Inc Plainfield	N J
Coil Co of America Inc Northvale	N J
Control Circuits Inc Middletown	Conn
Controlotron Corp Farmingdale	N Y
Daytron Inc Mountain View	Cal
Del Electronics Corp Mt Vernon	N Y
Dewey Corp, G C New York	N Y
Dynalectron Corp Aerospace Prods Div San Leandro	Cal
Elasco-Eastern Inc Bloomfield	Conn
Electran Mfg Co Constant Voltage Co Div Chicago	Ill
Electro Development Corp Lynnwood	Wash
Electronic Applications Co Pine Brook	N J
Electronic Research Associates Inc Cedar Grove	N J
Electronic Resources Inc Tasker Indus Los Angeles	Cal
Electro-Pacific Inc Goleta	Cal
Elgar Corp San Diego	Cal
Elgin Electronics Inc Erie	Pa
EMD Components Inc Wickliffe	Ohio
Fairlane Electronics, Inc Long Valley	N J
Fork Standards Inc West Chicago	Ill
Freed Transformer Co Inc Brooklyn	N Y
General Dynamics, Electronics Div Rochester	N Y
General Electric Co, ECSO Schenectady	N Y
Geo Space Corp Houston	Tex
Grafix Inc Albuquerque	N Mex
Grand Transformers Inc Grand Haven	Mich
Guardian Electric Mfg Co of Cal Inc Culver City	Ca
Guide Industries Inc Sun Valley	Ca
Hamilton Standard Div UAC Elctns Systems Windsor Locks	Con
Inductor Engineering Inc Lewes	De
Industrial Electronetics Corp Satellite Beach	Fl
Industrial Instruments Ltd Bromley Kent	Englan
Industrial Test Equipment Co Port Washington	N
Inet Power A Teledyne Co Gardena	Ca
Interelectronics Corp Congers	N
Kearfott Div Singer-General Precision Inc Little Falls	N
Labtron Corp of Amer Div KDI Corp Dayton	Ohi
Landis & Gyr AG Zug	Switzerlan
Larago Electronics Mfgrs Inc Melbourne	Fl
Lear Siegler Inc Santa Monica	Ca
Lear Siegler Inc, Power Equipment Div Cleveland	Ohi
Louis Allis Co Div Litton Industries Milwaukee	Wis
Macarr Inc Bronx	N
Magnetic Engineering Corp Danbury	Con
Magnetico Inc East Northport	N
Maricopa Controls Scottsdale	Ar
Metric Engineering Div Greenray Indus Inc Mechanicsburg	P

Mid-Eastern Industries Inc Scotch Plains .... N J
NH Research Inc Santa Ana .... Cal
NJE Corp Kenilworth .... N J
North Electric Co Galion .... Ohio
North Hills Electronics Inc Glen Cove .... N Y
Nova Electric Mfg Co Saddle Brook .... N J
Novatronics Inc Pompano Beach .... Fla
Nuclear Corp of America, Nuclear Div Denville .... N J
Optimation, Inc Sun Valley .... Cal
Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
Pacific Electro Dynamics Inc Bellevue .... Wash
Pioneer Magnetics Inc Santa Monica .... Cal
Plastic Capacitors Inc Chicago Ill
Plessey Airborne Corp Hillside .... NJ
Polyphase Instrument Co Bridgeport .... Pa
Power Control Corp Pittsburgh .... Pa
Power Sources Div, Technical Operations Inc Burlington . Mass
Power Systems Inc Venice .... Cal
P P M Inc Cleveland .... Ohio
Preferred Electronics Inc Westfield .... Mass
Qutronic Transformer Corp Oneonta .... N Y
Rho Engineering Co Los Angeles .... Cal
Roband Electronics Ltd Surrey .... England
SBD Systems Inc Farmingdale .... N Y
Scott Inc, H H Maynard .... Mass
S K G Associates Inc Boston .... Mass
Sodilec SA Salies-S A 91 Palaiseau .... France
Solidstate Controls Inc Columbus .... Ohio
Space Craft Inc Huntsville .... Ala
Spar Aerospace Products Ltd Toronto .... Ont
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Thorn Automation Ltd Rugeley, Staffs .... England
T M C Systems & Power Corp Springfield .... Va
Todd Products Corp Hicksville .... NY
Topaz Inc San Diego .... Cal
Topping Electronics Ltd Scarborough .... Ont
Torotel, Inc Grandview .... Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
Transformer Design Inc of Milwaukee Milwaukee .... Wis
Transistor Devices Inc Cedar Knolls .... N J
Transmagnetics Inc Flushing .... N Y
Triad Transformer Corp Venice .... Cal
Trio Laboratories Inc Plainview .... N Y
Unitron Div Electric Machy Mfg Co Garland .... Tex
Universal Transistor Products Div Link Copiague .... N Y
Varo Inc, Static Power Div Plano .... Tex
Vector Engineering Inc Springfield .... N J
Venus Scientific Inc Farmingdale .... N Y
Vitra Instrument & Electronics Corp Syosset .... N Y
Voltron Products Inc Pasadena .... Cal
Wagner Electric Corp, Tung-Sol Div Livingston .... N J
Westinghouse Electric Corp, Aerospace Electrical Div Lima .... Ohio
Wilmore Electronics Co Inc Durham .... NC
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan

CONVERTERS, A-C OUTPUT—A-C TO A-C, TUBE

C M L INC PLAINFIELD .... N J
INTERELECTRONICS CORP CONGERS .... N Y
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
Basler Electric Co Highland Ill
California Instruments Corp San Diego .... Cal
C M L Inc Plainfield .... N J
Elgar Corp San Diego .... Cal
Guide Industries Inc Sun Valley .... Cal
Industrial Test Equipment Co Port Washington .... N Y
Interelectronics Corp Congers .... N Y
Lear Siegler Inc Santa Monica .... Cal
Optimation, Inc Sun Valley .... Cal
Riverbank Labs, Dept of Engrg Geneva Ill
Scott Inc, H H Maynard .... Mass
Sodilec SA Salies-S A 91 Palaiseau .... France
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Tel-Instrument Electronics Corp Carlstadt .... N J
Thorn Automation Ltd Rugeley, Staffs .... England
Transistor Devices Inc Cedar Knolls .... N J
Universal Ad-Yu Electronics Inc Passaic .... N J
Valradio Ltd Feltham, Mdsx .... Eng
Vitra Instrument & Electronics Corp Syosset .... N Y
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa

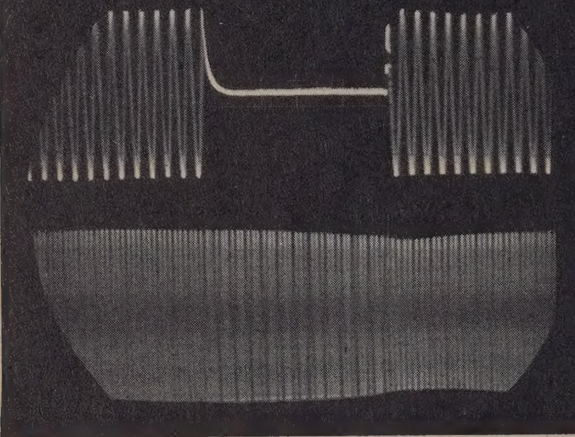
CONVERTERS, A-C OUTPUT—A-C TO A-C, VIBRATOR

TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
ATR Electronics, Inc St Paul .... Minn
Basler Electric Co Highland Ill
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
Control Circuits Inc Middletown .... Conn
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark .... N J
Horlick Co Inc, William I Boston .... Mass
Lear Siegler Inc Santa Monica .... Cal
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
T M C Systems & Power Corp Springfield .... Va
Triad Transformer Corp Venice .... Cal
Vector Engineering Inc Springfield .... N J
Vitra Instrument & Electronics Corp Syosset .... N Y

CONVERTERS—A-C TO D-C

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE .... FLA
B & B MOTOR & CONTROL CORP NEW YORK .... N Y
BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE .... MD
C M L INC PLAINFIELD .... N J
DRESSEN-BARNES ELECTRONICS CORP PASADENA ... CAL
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
GEORATOR CORP MANASSAS VA .... ADV PG 186
HEWLETT-PACKARD PALO ALTO .... CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO .... ADV PG 8
INTERELECTRONICS CORP CONGERS .... N Y
KEPCO INC FLUSHING N Y .... ADV PG 4th Cover
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
NJE CORP KENILWORTH .... N J
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW .... N Y
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
NOVA ELECTRIC MFG CO SADDLE BROOK .... N J
OPAD ELECTRIC CO, INC NEW YORK .... N Y
PLASTIC CAPACITORS INC CHICAGO ILL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
VEGA PRECISION LABS VIENNA .... VA
WAGNER ELECTRIC CORP, TUNG-SOL DIV LIVINGSTON . N J
Abbott Transistor Labs, Inc Los Angeles .... Cal
Acme Electric Corp Cuba .... N Y
Acromag Inc Wixom .... Mich
ADC Electronics, Inc Harbor City .... Cal
ADC Products Minneapolis .... Minn
Advanced Development Corp Gardena .... Cal
Aerospace Avionics Inc Bohemia .... NY
Airpax Electronics Inc, Cambridge Div Cambridge .... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale ..... Fla
Alcatel Paris 8eme .... France
Allis-Chalmers Mfg Co Milwaukee .... Wis
American Machine & Foundry Co Alexandria Div Alexandria .... Va
American Rectifier Corp College Point .... N Y
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
Amglo Corp Chicago Ill
AMP Incorporated Harrisburg .... Pa
AMP Inc, Capitron Div Elizabethtown .... Pa
Analog Technology Corp Pasadena .... Cal
Applied Devices Corp College Point .... n y
Argonaut Associates, Inc Beaverton .... Ore
Arnold Magnetics Corp Culver City .... Cal
Astro-Metrix Corp Burbank .... Cal
Atlas Controls Div Atlas Engrg Co Inc Dorchester ...... Mass
ATR Electronics, Inc St Paul .... Minn
Automatic Data Processing of Mass Inc Boston .... Mass
Autronics Corp Pasadena .... Cal
Avtel Corp Covina .... Cal
Ballastran Corp Fort Wayne .... Ind
Barden Co Los Angeles .... Cal
Basler Electric Co Highland Ill
B & B Motor & Control Corp New York .... N Y
Bendix Corp Electric Power Div Eatontown .... NJ
Bendix Corp Environmental Science Div Baltimore .... Md
Best Electric Div Harry Levinson Co Seattle .... Wash
Bronson Corp, Sub Kurz & Root Co Appleton .... Wisc
Bullock Magnetics Corp Pomona .... Cal
Burr-Brown Research Corp Tucson .... Ariz
Bush Transformer Div, Gladding-Keystone Corp Oneonta .. NY
Cal-Power Corp El Segundo .... Cal
Cambridge Scientific Industries Inc Cambridge .... Md
Canadian Motorola Electronics Ltd Willowdale 425 ...... Ont
Canadian Research Institute Don Mills .... Ont
Carol Electronics Div Weeco Inc Martinsburg .... W Va
Carter Co, J C, Electronics Div Costa Mesa .... Cal
Christie Electric Corp Los Angeles .... Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
Cimron Div Lear Siegler, Inc San Diego .... Cal
C I T E Santa Margherita Ligure .... Italy
Clare-Electroseal Corp Des Plaines Ill
C M L Inc Plainfield .... N J
Cohu Electronics Inc San Diego .... Cal
Coil Co of America Inc Northvale .... N J
Components Specialties Inc Freeport .... N Y
Component Technology Corp Sunnyvale .... Cal
Computer Conversions Corp East Northport .... N Y
Computer Logic Corp Santa Monica .... Cal
Control Circuits Inc Middletown .... Conn
Controlled Power Corp Farmington .... Mich
Controlotron Corp Farmingdale .... N Y
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark .... N J
Daytron Inc Mountain View .... Cal
Del Electronics Corp Mt Vernon .... N Y
DeSoto Electrical Products DeSoto .... Mo
Digital Instruments Co Inc Shawnee-Mission .... Kans
Dowa Trading Co Ltd Kobe .... Japan
Dressen-Barnes Electronics Corp Pasadena .... Cal
Dynalectron Corp Aerospace Prods Div San Leandro ..... Cal
Dynalog Corp Fort Lauderdale .... Fla
Dynamco.Ltd Chertsey Surrey .... Eng
Eastern Delta Corp Fair Lawn .... N J
Ectron Corp San Diego .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Elasco-Eastern Inc Bloomfield .... Conn
Elcor, Div Halliburton Co Silver Spring .... Md
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electric Indicator Co Inc Wilton .... Conn
Electric Products Co Cleveland .... Ohio
Electro Development Corp Lynnwood .... Wash
Electroid Corp Union .... N J
Electronic Components Corp Addison Ill
Electronic Design Labs Inc Philadelphia .... Pa
Electronic Research Associates Inc Cedar Grove .... N J
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Electro-Pacific Inc Goleta .... Cal
Electro Products Labs Inc Power Supply Div Chicago Ill
Electro-Standards Labs Inc Miami .... Fla
Electro Windings & Components Inc Kenilworth .... N J
Elgin Electronics Inc Erie .... Pa
EMP Electronics Inc Tempe .... Ariz
EMR Telemetry Sarasota .... Fla
Fairlane Electronics, Inc Long Valley .... N J
Ferranti, Ltd Lancashire .... England
Field Electronics Inc Chatham .... N J
Firing Circuits Div Marathon Electric Mfg Co Norwalk ... Conn
Forney Industries Inc Fort Collins .... Colo
Freed Transformer Co Inc Brooklyn .... N Y
Fuji Electric Co Ltd Tokyo .... Japan
Fujitsu Ltd Tokyo .... Japan
Furnas Electric Co Batavia Ill
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co, ECSO Schenectady .... N Y
Genisco Technology Corp Compton .... Cal
Georator Corp Manassas .... Va
Geo Space Corp Houston .... Tex
Grafix Inc Albuquerque .... N Mex
Grand Transformers Inc Grand Haven .... Mich
Green Electric Corp Fairlawn .... NJ
Green Rectifier Corp Fair Lawn .... N J
Guardian Electric Mfg Co of Cal Inc Culver City .... Cal
Guide Industries Inc Sun Valley .... Cal
Gulton Industries Inc Metuchen .... N J
Hallmark Standards Inc Mount Vernon .... N Y
Hamilton Standard Div UAC Elctns Systems Windsor Locks .... Conn
Hartman Systems Co Inc Huntington Station .... N Y
Hewlett-Packard Palo Alto .... Cal
Holtzer-Cabot Corp Boston .... Mass
Honeywell Test Instruments Div Denver .... Colo
Horlick Co Inc, William I Boston .... Mass
Hybridyne Inc Los Angeles .... Cal
Inductor Engineering Inc Lewes .... Del
Industrial Electronetics Corp Satellite Beach .... Fla
Industrial Instruments Ltd Bromley Kent .... England
Inet Power A Teledyne Co Gardena .... Cal
Information Control Corp El Segundo .... Cal
Interelectronics Corp Congers .... N Y
Jefferson Electric Co Bellwood Ill
Julie Research Labs, Inc New York .... N Y
Kato Engineering Co Mankato .... Minn
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Kepco Inc Flushing .... N Y
Kikusui Electronics Corp Kanagawa City .... Kanagawa Pref Japan
Kurz & Root Co Appleton .... Wis
Kuwano Electrical Instruments Co Ltd Kawasaki .... Kanagawa Pref
Larago Electronics Mfgrs Inc Melbourne .... Fla
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Cimron Div San Diego .... Cal
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Macarr Inc Bronx .... N Y
Magnetic Engineering Corp Danbury .... Conn
Magnetico Inc East Northport .... N Y
Maricopa Controls Scottsdale .... Ariz
Measuring Instrument Controls Inc Berkeley Heights ..... N J
Mid-Eastern Industries Inc Scotch Plains .... N J
MIL Associates Hudson .... NH
3M Company St Paul .... Minn
Motor Generator Div Hobart Bros Co Troy .... Ohio
Natel Electronic Industries Inc. Van Nuys .... Cal
NH Research Inc Santa Ana .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
NJE Corp Kenilworth .... N J
Non-Linear Systems Inc Del Mar .... Cal
Norbatrol Electronics Corp Murrysville .... Pa
North Atlantic Industries Inc Plainview .... N Y
North Electric Co Galion .... Ohio
North Hills Electronics Inc Glen Cove .... N Y
Nova Electric Mfg Co Saddle Brook .... N J
Novatronics Inc Pompano Beach .... Fla
Nuclear Corp of America, Nuclear Div Denville .... N J
Opad Electric Co, Inc New York .... N Y
Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
Pacific Instrument Co Oakland .... cal
Pacific Measurements Inc Palo Alto .... Cal
Payne Engineering Co South Charleston .... W Va
Peco Corp Mountain View .... Cal
Pioneer Magnetics Inc Santa Monica .... Cal
Plastic Capacitors Inc Chicago Ill
Plessey Airborne Corp Hillside .... NJ
Power Control Corp Pittsburgh .... Pa
Powercube Corp Waltham .... Mass
Power Sources Div, Technical Operations Inc Burlington . Mass
Power Systems Inc Venice .... Cal
Powertec Div, Airtronics Corp Chatsworth .... Cal
Precision Transformer Anaheim .... Cal
Preferred Electronics Inc Westfield .... Mass
Prentice Electronics Corp Palo Alto .... Cal
Princeton Applied Research Corp Princeton .... N J
Qutronic Transformer Corp Oneonta .... N Y
Ramapo Instrument Co Inc Bloomingdale .... NJ
Ratelco Inc Seattle .... Wash
Reaction Research Labs of America Groton .... Conn
Rectifier Engineering & Supply Co Inc St Louis .... Mo
Reliance Electric Co Cleveland .... Ohio
Resdel Engineering Corp Pasadena .... Cal
Rho Engineering Co Los Angeles .... Cal
RO Associates Inc Menlo Park .... Cal
Roband Electronics Ltd Surrey .... England
Robicon Corp Pittsburgh .... Pa
Robins Electronics La Mesa .... Cal
Safety Electrical Equipment Corp New Haven .... Conn
SBD Systems Inc Farmingdale .... N Y
Schauer Mfg Corp Cincinnati .... Ohio
Scientific Instruments Co Chatsworth .... Cal
Scott Electronics Corp Orlando .... Fla
Seco Electronics Corp Hopkins .... Minn
Sel-Rex Corp & Sub The Meaker Co Nutley .... N J
Servo-Tek Products Co, Marine Div Hawthorne .... N J
Servo-Tek Products Co Hawthorne .... N J
Shigoto Industries Ltd New York .... N Y
Singer Co Instr Div Ballantine Oper Boonton .... N J
Singer Co Instru Div Gertsch Oper Los Angeles .... Cal
S K G Associates Inc Boston .... Mass
Sodilec SA Salies-S A 91 Palaiseau .... France
Sola Electric Div Sola Basic Industries Elk Grove Village Ill

isolated power for computers and numerical controls



Upper trace—Input voltage 60 Hz. Lower trace—Output voltage 180 Hz. Note that with complete power failure for several cycles, energy is still being delivered to the load. Naturally, high frequency Noise or Transients or Voltage Changes are similarly filtered.

NOBRUSH® PERMANENT MAGNET GENERATORS

An exclusive design utilizing Permanent Magnet excitation gives NOBRUSH® Motor Generators their outstanding performance. Absolute electrical isolation between input and output circuits is assured. Motors will accept long-term voltage transients of ±10% with less than 1% change in output and short-term transients of ±30% with less than 1% output variation.

In addition to superior line isolation, NOBRUSH® units offer many design, performance and economic advantages over other methods of power generation and frequency conversion.

High Frequency Output—typically 400 cycle, 3 phase but can be 180 Hz to 840 Hz.

Power Range—150 VA to 25 KVA

Multiple Outputs—eliminates the need for transformers

Very Low Audible Noise and almost Vibration Free Performance

High Overload Capacity

Extremely Low RFI and EMI

Short Circuit Proof

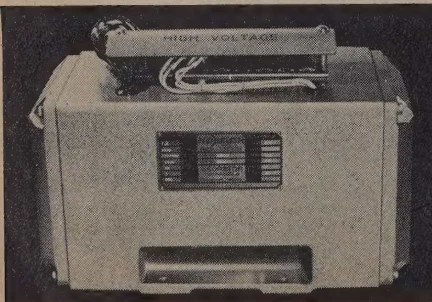
Cool Operation

High Ripple Frequency—makes filter components substantially smaller in size and cost

Small Size—unit may be easily mounted in cabinet as an integral part of entire system

Simplicity of Design (one rotating part) and Rugged Construction assure Highest Reliability and Minimum Maintenance

Units Custom Fabricated to your exact specifications



For complete information on using NOBRUSH® Motor Generators in your application, contact:

GEORATOR CORPORATION

315 TUDOR LANE, MANASSAS, VIRGINIA 22110
(703) 368-2101

Solidstate Controls Inc Columbus .... Ohio
Solid State Electronics Corp Sepulveda .... Cal
Space Craft Inc Huntsville .... Ala
Spar Electronics Inc San Diego .... Cal
Spectral Dynamics Corp of San Diego San Diego .... Cal
Standard Telephones & Cables Ltd London WC 2 .... England
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Takeda Riken Industry Co Ltd Tokyo .... Japan
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Technipower Inc, Sub Benrus Watch Co Inc Ridgefield .... Conn
Techno Products Co Los Angeles .... Cal
Terado Corp St Paul .... Minn
Thiem-Transrex Inc Torrance .... Cal
Thorn Automation Ltd Rugeley, Staffs .... England
Tilton Electronics Corp Winnisquam .... N H
T M C Systems & Power Corp Springfield .... Va
Todd Products Corp Hicksville .... NY
Topping Electronics Ltd Scarborough .... Ont
Touch-Plate Electro-Systems Inc Paramount .... Cal
Transcom Electronics Inc La Mesa .... Cal
Transformer Design Inc of Milwaukee Milwaukee .... Wis
Transistor Devices Inc Cedar Knolls .... N J
Transmagnetics Inc Flushing .... N Y
Transval Electronics Div Jetronic Indus Inc Gardena .... Cal
Trepac Corp of America Englewood .... N J
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia .... Pa
Triad Transformer Corp Venice .... Cal
Trio Laboratories Inc Plainview .... N Y
Trott Electronics Inc Rochester .... N Y
Unholtz-Dickie Corp Hamden .... Conn
United Systems Corp Dayton .... Ohio
Unitron Div Electric Machy Mfg Co Garland .... Tex
Universal Transistor Products Div Link Copiague .... N Y
Varo Inc, Static Power Div Plano .... Tex
Vega Precision Labs Vienna .... Va
Venus Scientific Inc Farmingdale .... N Y
Virginia Electronics Co Inc Falls Church .... Va
Vitra Instrument & Electronics Corp Syosset .... N Y
Voltron Products Inc Pasadena .... Cal
VP Co Pasadena .... Cal
Wagner Electric Corp, Tung-Sol Div Livingston .... N J
Wanlass Electric Co Santa Ana .... Cal
Warren Communications Div Sola Basic Ind Littleton .... Mass
Waveforms North Hollywood .... Cal
Weltronic Co Southfield .... Mich
Westinghouse Electric Corp, Aerospace Electrical Div Lima .... Ohio
Weston Lexington Weston Instruments Div Lexington .... Mass
Workman Electronic Products Inc Sarasota .... Fla
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan

CONVERTERS—ANALOG TO DIGITAL

AIRFLYTE ELECTRONICS CO BAYONNE N J .... ADV PG 573
BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE .... MD
BOWMAR INSTRUMENT CORP FORT WAYNE .... IND
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL .... PA
COMPUTER LABS GREENSBORO N C .... ADV PG 187
COMPUTER PRODUCTS INC FORT LAUDERDALE FLA .... ADV PG 487
DATASCAN INC CLIFTON .... N J
DATA TECHNOLOGY, INC WATERTOWN .... MASS
DIGITRAN CO PASADENA .... CAL
HEWLETT-PACKARD PALO ALTO .... CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO .... ADV PG 8
HYBRID SYSTEMS CORP BURLINGTON .... MASS
INTRONICS INC NEWTON MASS .... ADV PG 39
KINELOGIC CORP PASADENA .... CA
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
NON-LINEAR SYSTEMS INC DEL MAR .... CA
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW .... N
SCIENTIFIC-ATLANTA INC ATLANTA .... G
SIEMENS AMERICA INC NEW YORK .... N
SYSTRON-DONNER CORP CONCORD .... CA
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N
THETA INSTRUMENT CORP FAIRFIELD .... N
TRACOR INC AUSTIN .... TE
VEGA PRECISION LABS VIENNA V
Adage Inc Boston .... Mas
A D Data Systems Inc Rochester .... N
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ .... U
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park .... N
Airflyte Electronics Co Bayonne .... N
American Astrionics Inc Palo Alto .... Ca
Amtron Inc Sub Republic Corp Midlothian .... T
Anadex Instruments, Inc Van Nuys .... Ca
Analogic Corp Wakefield .... Mas
Analog Technology Corp Pasadena .... Ca
Ann Arbor Computer Corp Ann Arbor .... Mic
Applied Devices Corp College Point .... n
Applied Dynamics, Inc Ann Arbor .... Mic
Astrodata Inc Anaheim C
Astrosystems Inc New Hyde Park .... N
Audn Corp Hamburg .... N
Automatic Data Processing of Mass Inc Boston .... Ma
Automation Development Co Culver City C
Autonetics Div North American Rockwell Corp Anaheim C
Avco Electronics Div Cincinnati .... Oh
Baldwin Electronics Inc Little Rock .... A
Beckman Instruments Inc Fullerton, ... C
Beckman Instruments Intl SA 1207 Geneva .... Switzerla
Bendix Corp Environmental Science Div Baltimore .... M
Bendix Corp Navigation & Control Div Teterboro, ... N
Bio-Medical Electronics Inc Rockville .... M
Bolt Beranek & Newman, Data Equip Div Santa Ana C
Bowmar Instrument Corp Fort Wayne I
Brown Engineering-A Teledyne Co Huntsville .... A
Bunker-Ramo Corp Defense Systems Div Canoga Park C
Burr-Brown Research Corp Tucson .... A
Cae Industries Ltd, Elctns Div Montreal 3 .... Q
California Instruments Corp San Diego C
California Systems Components, Inc Chatsworth C
Calma Co Sunnyvale C

Cambridge Thermionic Corp Cambridge	Mass
Canadian Research Institute Don Mills	Ont
Canberra Industries Meriden	Conn
Canoga Industries Los Angeles	Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
C & N Electrical Ltd Gosport	Hampshire Eng
Cohu Electronics Inc San Diego	Cal
Coleman Engineering Co Inc Santa Ana	Cal
Collectron Corp New York	N Y
Compudyne Corp Hatboro	Pa
Computer Conversions Corp East Northport	N Y
Computer Labs Greensboro	N C
Computer Products Inc Fort Lauderdale	Fla
Conductron-Missouri St Charles	Mo
Conrac Corp New York	N Y
Control Logic Inc Natick	Mass
Data Device Corp Hicksville	N Y
Datascan Inc Clifton	N J
Data Technology Corp Palo Alto	Cal
Data Technology, Inc Watertown	Mass
Datatron Inc Santa Ana	Cal
Datum Inc Anaheim	Cal
Daytron Inc Mountain View	Cal
Del Electronics Corp Mt Vernon	N Y
Dero Research & Devel Corp Huntington	N Y
Digiac Corp Plainview	N Y
Digital Equipment Corp Maynard	Mass
Digital Instruments Co Inc Shawnee-Mission	Kans
Digital Products Corp Fort Lauderdale	Fla
Digitran Co Pasadena	Cal
Disc Instruments Inc Santa Ana	Cal
Ditran Div Clifton/Litton Ind Burlington	Mass
Doric Scientific Corp San Diego	Cal
Dynamco Ltd Chertsey Surrey	Eng
Dynamics Instrumentation A Multitech Co Monterey Park	Cal
Dynamic System Electronics Corp Tempe	Ariz
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando	Fla
Dytro Corp Hicksville	NY
Electro-Mec Instrument Corp Watertown	Conn
Electronic Associates Inc West Long Branch	N J
Electronic Design Labs Inc Philadelphia	Pa
Electronic Engineering Co of Cal Santa Ana	Cal
Electronic Resources Inc Tasker Indus Los Angeles	Cal
Electro-Technical Labs Div Mandrel Indus Inc Houston	Tex
E & L Instruments Inc Derby	Conn
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EMR Div Weston Instruments Inc Princeton	N J
EMR Telemetry Sarasota	Fla
E N M Co Chicago	Ill
Epsco Inc Westwood	Mass
Evans Associates Berkeley	Cal
Fairchild Controls Hicksville	N Y
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View	Cal
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset	NY
Fenlow Electronics Ltd Weybridge	England
Ferranti, Ltd Lancashire	England
Fifth Dimension Inc Princeton	N J
Flight Research Div Geotel Inc Richmond	Va
Foxboro Co Foxboro	Mass
Frequency Engineering Labs Farmingdale	N J
Fujitsu Ltd Tokyo	Japan
Gap Instrument Corp Westbury	N Y
General Devices Inc, Instrumentation Div Princeton	N J
General Dynamics, Electronics Div Rochester	N Y
General Electric Co Info Sys Equip Div Phoenix	Ariz
General Instrument Corp, Semiconductor Prods Grp Hicksville	N Y
Genisco Technology Corp Compton	Cal
Geo Space Systems Inc St Petersburg	Fla
Giannini-Voltex-Radex-Irvine Whittier	Cal
Gralex Industries Inc Copiague	N Y
Gulton Industries Inc Metuchen	N J
Harris-Intertype Corp Cleveland	Ohio
Hartman Systems Co Inc Huntington Station	N Y
Hewlett-Packard Palo Alto	Cal
Honeywell Inc, Computer Control Div Framingham	Mass
Honeywell Test Instruments Div Denver	Colo
Howell Instruments Co Fort Worth	Tex
Humphrey Electronics Inc Raleigh	N C
Hybrid Systems Corp Burlington	Mass
Hybridyne Inc Los Angeles	Cal
IBM Corp White Plains	N Y
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Infomax Palo Alto	Cal
Information Control Corp El Segundo	Cal
Information Instruments, Inc Ann Arbor	Mich
Infotronics Corp Houston	Tex
Intercontinental Electronics Corp East Rochester	N Y
International Components Corp Asbury Park	N J
International Contronics Inc Sunnyvale	Cal
Intersil Inc Cupertino	Cal
Intertechnique Plaisir 78	France
Intronics Inc Newton	Mass
Itek Corp Lexington	Mass
Itek Corp, Wayne George Div Newton	Mass
ITT Aerospace, Optical Div Fort Wayne	Ind
Kahl Scientific Instrument Corp El Cajon	Cal
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Keik Ltd, George Don Mills	Ont
Keltron Corp Waltham	Mass
Kicksort, Inc Alsip	Ill
Kinelogic Corp Pasadena	Cal
Kollsman Instrument Corp Syosset	N Y
Kuwano Electrical Instruments Co Ltd Kawasaki	Kanagawa Pref
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Lear Siegler Inc, Cimron Div San Diego	Cal
Lear Siegler Inc, Instrument Div Grand Rapids	Mich
LeCroy Research Systems Corp West Nyack	N Y
Leeds & Northrup Co North Wales	Pa
Lehigh Valley Electronics Inc Fogelsville	Pa
LEM Instrument Corp Farmingdale	N Y
LFE Electronics Waltham	Mass
Logic Corp Haddonfield	N J
Loral Electronic Systems, Div Loral Corp New York	NY
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Mandrel Industries Inc Houston	Tex
Maricopa Controls Scottsdale	Ariz
Marstan Electronics Orange	N J
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Matrix Corp Beech Grove	Ind
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Measurement Technology Corp Canoga Park	Cal
Micro Instrument Co Hawthorne	Cal
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Milletron, Inc Pittsburgh	Pa
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Norden Div, United Aircraft Corp Norwalk	Conn
North Atlantic Industries Inc Plainview	N Y
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Northern Scientific Inc Middleton	Wis
Nuclear-Chicago Des Plaines	Ill
Nuclear Data Inc Palatine	Ill
Nuclear Enterprises Ltd Edinburgh	Scotland
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Plessey Airborne Corp Hillside	NJ
Plessey Co Ltd Ilford Essex	England
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P P M Inc Cleveland	Ohio
Preston Scientific, Inc Anaheim	Cal
Princeton Applied Research Corp Princeton	N J
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Siltronics Inc Oakmont	Pa
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Space & Tactical Systems Corp Burlington	Mass
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Stelma Inc Stamford	Conn
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Takeda Riken Industry Co Ltd Tokyo	Japan
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Technical Materiel Corp Mamaroneck	N Y
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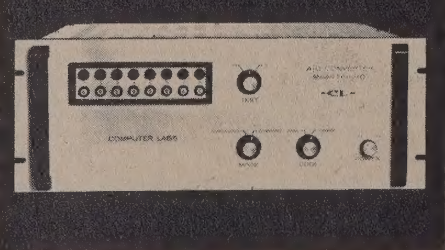

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General Dynamics, Electronics Div Rochester .... N Y
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VP Co Pasadena .... Cal
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THETA INSTRUMENT CORP FAIRFIELD .... N
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Adage Inc Boston .... Mas
A D Data Systems Inc Rochester .... N
American Astrionics Inc Palo Alto .... Ca
Amtron Inc Sub Republic Corp Midlothian I
Analogic Corp Wakefield .... Mas
Analog Technology Corp Pasadena .... Ca
Ann Arbor Computer Corp Ann Arbor .... Mic
Applied Dynamics, Inc Ann Arbor .... Mic
Astrodata Inc Anaheim .... Ca
Astrosystems Inc New Hyde Park .... N
Audn Corp Hamburg .... N
Automatic Data Processing of Mass Inc Boston .... Ma
Automation Development Co Culver City C
Automation Management, Inc Westboro .... Ma
Autonetics Div North American Rockwell Corp Anaheim .. C
Avco Electronics Div Cincinnati .... Oh
Ball Brothers Research Corp Boulder .... Co
Beckman Instruments Inc Fullerton, ... C
Beckman Instruments Inc, Helipot Div Fullerton C
Bendix Corp Electrodynamics Div North Hollywood C
Bendix Corp Environmental Science Div Baltimore .... M
Bowmar Instrument Corp Fort Wayne I
Brooks Instrument Div Emerson Elec Canada Ltd Markham .... O
Bunker-Ramo Corp Defense Systems Div Canoga Park .. C
Burr-Brown Research Corp Tucson .... A
B & W Electronic Research Labs Dallas .... T
California Systems Components, Inc Chatsworth C
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Flow Technology Inc Tempe	Ariz
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Honeywell Inc, Computer Control Div Framingham	Mass
Honeywell Test Instruments Div Denver	Colo
Hybrid Systems Corp Burlington	Mass
Hybridyne Inc Los Angeles	Cal
IBM Corp White Plains	N Y
Icon Corp Cambridge	Mass
Industrial Control Co Farmingdale	N Y
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Information Control Corp El Segundo	Cal
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Instrumentation Technology Corp Northridge	Cal
International Components Corp Asbury Park	N J
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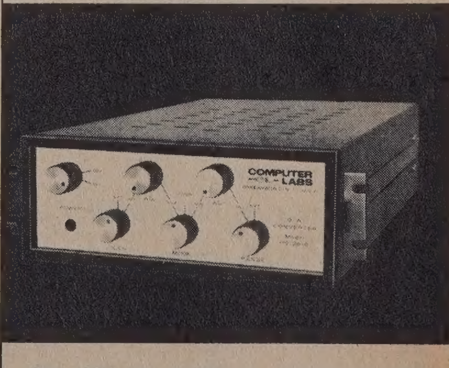
Librascope Singer-General Precision Inc Glendale	Cal
Logic Corp Haddonfield	N J
Lorch Electronics Corp Englewood	N J
Marstan Electronics Orange	N J
Massey Dickinson Co Inc Saxonville	Mass
McMaster Products Corp Chicago	Ill
Measurement Technology Corp Canoga Park	Cal
Mepco Inc Morristown	N J
Metric Systems Corp Fort Walton Beach	Fla
Micro Metrics Inc Paterson	N J
Milgo Electronic Corp Miami	Fla
Monitor Systems Inc an Aydin Co Fort Washington	Pa
Monsanto Electronic Instruments West Caldwell	N J
Moore Products Co Spring House	Pa
NanoFast, Inc Chicago	Ill
Navcor Inc Div KDI Corp Norristown	Pa
Nippon Electric Co Ltd Tokyo	Japan
Norden Div, United Aircraft Corp Norwalk	Conn
North Atlantic Industries Inc Plainview	N Y
Northern Precision Labs Inc Fairfield	N J
Nuclear Enterprises Ltd Edinburgh	Scotland
Nytronics Inc, Precision Resistor Div Kutztown	Pa
Pacific Data & Controls San Carlos	Cal
Pacific Electro Dynamics Inc Bellevue	Wash
Pastoriza Div Analog Devices Cambridge	Mass
Performance Measurements Co Detroit	Mich
Perkin-Elmer, Electronic Prods Div Wilton	Conn
Philco-Ford Corp Washington	D C

We argued about where this ad should be.

People couldn't agree where this ad should go. Some said it HAD to be in the D/A Converter section, because it's an ad for the HS-2000 Series D/A line. Others said it should go in the function generator section, or the modulator section, or the programmable attenuator section. And so it went.

Why all the discussion? Because our HS-2000 Series D/A Converters can convert from 4 bits at 25 HMz to 9 bits at 10 MHz and be 0.1% accurate in less than 90 nanoseconds. But they can also accommodate external bias and reference signals from dc to 25 MHz, making them useful for a lot of other things. Prices range from $1480 to $1760, for any of six models. With all that, people couldn't agree where the ad should be.

If you don't like where it is, tell the boss. He made the final decision.



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Synchro to Digital Converters $1,000

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Powertec Div, Airtronics Corp Chatsworth . . . . Cal
P P M Inc Cleveland . . . . Ohio
Preston Scientific, Inc Anaheim . . . . Cal
Radix Electronics Corp Anaheim . . . . Cal
Raytheon Computer Santa Ana . . . . Cal
RC-95 Inc New York . . . . N Y
Reaction Instruments Inc Vienna . . . . Va
Redcor Corp Canoga Park . . . . Cal
Reeves Instrument Div, DCA Garden City . . . . N Y
Reflectone. Inc, Englewood Cliffs . . . . N J
Reliance Electric Co Cleveland . . . . Ohio
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Saturn Electronics Corp Garland . . . . Tex
Science Accessories Corp Southport . . . . Conn
Scientific Data Systems Inc El Segundo . . . . Cal
Sensor Corp Greenwich . . . . Conn
Servonetics Inc Northridge . . . . Cal
Sierra Research Corp Buffalo . . . . N Y
Sigma Instruments Inc Braintree . . . . Mass
Signet Controls Inc Tulsa . . . . Okla
Siltronics Inc Oakmont . . . . Pa
Simpson Electric Co Chicago Ill
Singer Co Instru Div Gertsch Oper Los Angeles . . . . Cal
Solid State Electronics Corp Sepulveda . . . . Cal
Solid State Radiations Inc Los Angeles . . . . Cal
Space Craft Inc Huntsville . . . . Ala
Space & Systems Div General Time Corp Stamford . . . . . Conn
Space & Tactical Systems Corp Burlington . . . . Mass
Sprague Electric Co North Adams . . . . Mass
Stellarmetrics Inc Santa Barbara . . . . Cal
Stelma Inc Stamford . . . . Conn
Superior Electric Co The Bristol . . . . Conn
Superior Mfg & Instrument Co Long Island City . . . . N Y
Systems Engineering Labs. Ft Lauderdale . . . . Fla
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Takeda Riken Industry Co Ltd Tokyo . . . . Japan
Technical Materiel Corp Mamaroneck . . . . N Y
Teledata Inc Queens Village . . . . N Y
Tele-Dynamics Div, American Bosch Arma Corp
  Philadelphia . . . . Pa
Teledyne Systems Control Sys A Teledyne Co El Segundo . . Cal
Teledyne Telemetry Co Los Angeles . . . . Cal
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Texas Instruments Incorporated Dallas . . . . Tex
Texas Instruments Inc Indl Prods Div Houston . . . . Tex
Theta Instrument Corp Fairfield . . . . N J
Thorn Automation Ltd Rugeley, Staffs . . . . England
Towson Labs, Dept E Baltimore . . . . Md
Transmagnetics Inc Flushing . . . . N Y
TRW Systems Group Redondo Beach . . . . Cal
Tyco Instrument Div Waltham . . . . Mass
Veeder-Root Hartford . . . . Conn
Vega Precision Labs Vienna . . . . Va
Vernitron Corp Precision Comp Group Farmingdale . . . . . . N Y
Vidar Corp Mountain View . . . . Cal
Vitro Labs Div Sub Automation Ind Inc Silver Spring . . . . . Md
Vitro Labs Div Vitro Corp of America W Orange . . . . N J
Watesta Electronics Ltd Loughton Essex . . . . England
Welwyn Electric Ltd Northumberland . . . . England
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa
Wyle Laboratories El Segundo . . . . Cal
Yaskawa Electric Mfg Co Ltd Tokyo . . . . Japan
Zeltex Inc Sub Redcor Corp Concord . . . . Cal

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CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
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NORTH ATLANTIC INDUSTRIES INC PLAINVIEW
** N Y . . . . ADV PG 190**
REACTION INSTRUMENTS INC VIENNA . . . . VA
SCIENTIFIC-ATLANTA INC ATLANTA . . . . GA
SERVO CORP OF AMERICA HICKSVILLE . . . . N Y
THETA INSTRUMENT CORP FAIRFIELD N J . . . . ADV PG 190
Analogic Corp Wakefield . . . . Mass
Astrosystems Inc New Hyde Park . . . . N Y
Automation Development Co Culver City . . . . Cal
Avien, Inc Woodside . . . . N Y
Bendix Corp Environmental Science Div Baltimore . . . . Md
Clifton Div Litton Industries Litton Prec Prods Inc
  Drexel Hill . . . . Pa
Computer Conversions Corp East Northport . . . . N Y
Conrac Corp New York . . . . N Y
Data Device Corp Hicksville . . . . N Y
Ditran Div Clifton/Litton Ind Burlington . . . . Mass
Dynamic System Electronics Corp Tempe . . . . Ariz
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Measurement Technology Corp Canoga Park . . . . Cal
Milgo Electronic Corp Miami . . . . Fla
Moore Products Co Spring House . . . . Pa
North Atlantic Industries Inc Plainview . . . . N Y
Northern Precision Labs Inc Fairfield . . . . N J
RC-95 Inc New York . . . . N Y
Reaction Instruments Inc Vienna . . . . Va
Saturn Electronics Corp Garland . . . . Tex
Scientific-Atlanta Inc Atlanta . . . . Ga
Servo Corp of America Hicksville . . . . N Y
Servo Development Corp Hicksville . . . . NY
Singer Co Instru Div Gertsch Oper Los Angeles . . . . Cal
Theta Instrument Corp Fairfield . . . . N J
Thorn Automation Ltd Rugeley, Staffs . . . . England
Towson Labs, Dept E Baltimore . . . . Md
Transmagnetics Inc Flushing . . . . N Y

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- to 17 bits binary

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- short-circuit proof

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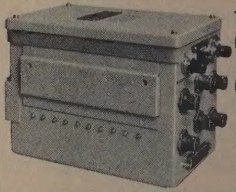

Typical
6 channels
13 bits
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7.5 lbs.
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Ferranti, Ltd Lancashire ..... England
General Dynamics, Electronics Div Rochester ..... N Y
Infomax Palo Alto ..... Cal
International Components Corp Asbury Park ..... N J
International Scanatron Systems Corp Wyandanch ..... N Y
Northern Radio Co Inc New York ..... N Y
Philco-Ford Corp Washington ..... D C
Plessey Airborne Corp Hillside ..... NJ
Racal Electronics Ltd Bracknell Berks ..... England
Rixon Electronics Inc Silver Spring ..... Md
Sanders Assoc Inc, Microwave Div Nashua ..... N H
Tuck Electronics New Cumberland ..... Pa

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B & B MOTOR & CONTROL CORP NEW YORK ..... N Y
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL ..... PA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ..... ADV PG 7
HEWLETT-PACKARD PALO ALTO ..... CAL
INTERELECTRONICS CORP CONGERS ..... N Y
NIPPON ELECTRIC CO LTD TOKYO ..... JAPAN
NORTH HILLS ELECTRONICS INC GLEN COVE ..... N Y
NOVA ELECTRIC MFG CO SADDLE BROOK ..... N J
SIEMENS AMERICA INC NEW YORK ..... N Y
SYSTRON-DONNER CORP CONCORD ..... CAL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN ..... N Y
TUCK ELECTRONICS NEW CUMBERLAND ..... PA
WAGNER ELECTRIC CORP, TUNG-SOL DIV LIVINGSTON ..... N J
Abbott Transistor Labs, Inc Los Angeles ..... Cal
Acromag Inc Wixom ..... Mich
ADC Products Minneapolis ..... Minn
Airpax Electronics Inc, Cambridge Div Cambridge ..... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale ..... Fla
Ajax Magnethermic Corp Warren ..... Ohio
Allis-Chalmers Mfg Co Milwaukee ..... Wis
American Astrionics Inc Palo Alto ..... Cal
American Machine & Foundry Co Alexandria Div Alexandria ..... Va
A & M Instruments Inc Great Neck ..... N Y
AMP Incorporated Harrisburg ..... Pa
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Astrodata Inc Anaheim ..... Cal
Astro-Metrix Corp Burbank ..... Cal
Audn Corp Hamburg ..... N Y
Autronics Corp Pasadena ..... Cal
Avtel Corp Covina ..... Cal
Avtron Mfg, Inc Cleveland ..... Ohio
Barden Co Los Angeles ..... Cal
Basler Electric Co Highland Ill
B & B Motor & Control Corp New York ..... N Y
Beckman Instruments Inc Fullerton, ... Cal
Bronson Corp, Sub Kurz & Root Co Appleton ..... Wisc
Bush Transformer Div, Gladding-Keystone Corp Oneonta ..... NY
B & W Electronic Research Labs Dallas ..... Tex
Cal-Power Corp El Segundo ..... Cal
Cambridge Scientific Industries Inc Cambridge ..... Md
Canadian Motorola Electronics Ltd Willowdale 425 ..... Ont
Carol Electronics Div Weeco Inc Martinsburg ..... W Va
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ..... Pa
Coil Co of America Inc Northvale ..... N J
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Consolidated Controls Corp Bethel ..... Conn
Consolidated Electric Corp Seattle ..... Wash
Control Circuits Inc Middletown ..... Conn
Cox Instruments Div Lynch Corp Detroit ..... Mich
Daytron Inc Mountain View ..... Cal
Diamond Repeater Co Madison ..... N J
Dynalog Corp Fort Lauderdale ..... Fla
E I L Instrument Div Unitec Industries Timonium ..... Md
Elasco-Eastern Inc Bloomfield ..... Conn
Elastronics Labs Tarzana ..... Cal
Electric Indicator Co Inc Wilton ..... Conn
Electric Machinery Mfg Co Minneapolis ..... Minn
Electric Products Co Cleveland ..... Ohio
Electro Development Corp Lynnwood ..... Wash
Electronic Design Labs Inc Philadelphia ..... Pa
Electronic Research Associates Inc Cedar Grove ..... N J
Electronic Resources Inc Tasker Indus Los Angeles ..... Cal
Fairlane Electronics, Inc Long Valley ..... N J
Fisher-Akin Co Manhattan Beach ..... Cal
Flowcon Co Anaheim ..... Cal
Flow Technology Inc Tempe ..... Ariz
Foxboro Co Foxboro ..... Mass
Foxboro Co Valenica Plant Valencia ..... Cal
General Electric Co, ECSO Schenectady ..... N Y
Giannini-Voltex-Radex-Irvine Whittier ..... Cal
Hartman Systems Co Inc Huntington Station ..... N Y
Hewlett-Packard Palo Alto ..... Cal
Holtzer-Cabot Corp Boston ..... Mass
Horlick Co Inc, William I Boston ..... Mass
Howell Instruments Co Fort Worth ..... Tex
Inductor Engineering Inc Lewes ..... Del
Industrial Electronetics Corp Satellite Beach ..... Fla
Industrial Instruments Ltd Bromley Kent ..... England
Inet Power A Teledyne Co Gardena ..... Cal
Infomax Palo Alto ..... Cal
Interelectronics Corp Congers ..... N Y
Jet Electronics Corp Albuquerque ..... N M
Kato Engineering Co Mankato ..... Minn
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Kurz & Root Co Appleton ..... Wis
Lear Siegler Inc Santa Monica ..... Cal
Leeds & Northrup Co North Wales ..... Pa
Louis Allis Co Div Litton Industries Milwaukee ..... Wisc
Maricopa Controls Scottsdale ..... Ariz
Matrix Corp Beech Grove ..... Ind
Measurement Technology Corp Canoga Park ..... Cal
Microtran Co Inc Valley Stream ..... N Y
Motor Generator Div Hobart Bros Co Troy ..... Ohio
NanoFast, Inc Chicago Ill
Natel Electronic Industries Inc. Van Nuys ..... Cal
Nippon Electric Co Ltd Tokyo ..... Japan
Northern Radio Co Inc New York ..... N Y
North Hills Electronics Inc Glen Cove ..... N Y
Nova Electric Mfg Co Saddle Brook ..... N J
Novatronics Inc Pompano Beach ..... Fla
Nuclear Corp of America, Nuclear Div Denville ..... N J
Nus Corp Paramus ..... N J
Optical Electronics Inc Tuscon ..... Ariz
Pacific Measurements Inc Palo Alto ..... Cal
Pioneer Magnetics Inc Santa Monica ..... Cal
Plessey Airborne Corp Hillside ..... NJ
Powertec Div, Airtronics Corp Chatsworth ..... Cal
P P M Inc Cleveland ..... Ohio
Precision Electronics Inc Amityville ..... N Y
Precision Transformer Anaheim ..... Cal
Radix Electronics Corp Anaheim ..... Cal
Raven Electronics Inc Burbank ..... Cal
Reliance Electric Co Cleveland ..... Ohio
Rho Engineering Co Los Angeles ..... Cal
Richard Lee Co New Providence ..... N J
Roband Electronics Ltd Surrey ..... England
Rohde & Schwarz Sales Co USA Inc Passaic ..... N J
Saturn Electronics Corp Garland ..... Tex
SBD Systems Inc Farmingdale ..... N Y
Sel-Rex Corp & Sub The Meaker Co Nutley ..... N J
Sensor Corp Greenwich ..... Conn
Siemens America Inc New York ..... N Y
Simpson Electric Co Chicago Ill
Solid State Electronics Corp Sepulveda ..... Cal
Space Craft Inc Huntsville ..... Ala
Spar Aerospace Products Ltd Toronto ..... Ont
Spectral Dynamics Corp of San Diego San Diego ..... Cal
Systron-Donner Corp Concord ..... Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen ..... N J
Takeda Riken Industry Co Ltd Tokyo ..... Japan
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn ..... N Y
Technical Materiel Corp Mamaroneck ..... N Y
Techno Products Co Los Angeles ..... Cal
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia ..... Pa
Telstar Electronics Corp Southold ..... N Y
Thorn Automation Ltd Rugeley, Staffs ..... England
Transformer Design Inc of Milwaukee Milwaukee ..... Wis
Transistor Devices Inc Cedar Knolls ..... N J
Transmagnetics Inc Flushing ..... N Y
Tuck Electronics New Cumberland ..... Pa
Tyco Instrument Div Waltham ..... Mass
Unholtz-Dickie Corp Hamden ..... Conn
Unitron Div Electric Machy Mfg Co Garland ..... Tex
Universal Transistor Products Div Link Copiague ..... N Y
Varo Inc, Static Power Div Plano ..... Tex
Venus Scientific Inc Farmingdale ..... N Y
Vidar Corp Mountain View ..... Cal
Voltron Products Inc Pasadena ..... Cal
Wac Line Div Simmonds Precision Prods Dayton ..... Ohio
Wagner Electric Corp, Tung-Sol Div Livingston ..... N J
Waveforms North Hollywood ..... Cal

CONVERTERS—KEYING

TELE-SIGNAL CORP SUB SINGER CO WOODBURY ..... N Y
TUCK ELECTRONICS NEW CUMBERLAND ..... PA
Advanced Technology Corp Chambersburg ..... Pa
American Astrionics Inc Palo Alto ..... Cal
Digitech Inc Ridgefield ..... Conn
Hathaway Pacific Palo Alto ..... Cal
Infomax Palo Alto ..... Cal
International Scanatron Systems Corp Wyandanch ..... N Y
Northern Radio Co Inc New York ..... N Y
Pulse Communications Inc Falls Church ..... Va
Racal Electronics Ltd Bracknell Berks ..... England
Rixon Electronics Inc Silver Spring ..... Md
Stelma Inc Stamford ..... Conn
Technical Materiel Corp Mamaroneck ..... N Y
Teledata Inc Queens Village ..... N Y
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Teledyne Telemetry Co Los Angeles ..... Cal
Tele-Signal Corp Sub Singer Co Woodbury ..... N Y
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DISCON CORP FORT LAUDERDALE ..... FLA
DRANETZ ENGINEERING LABS INC PLAINFIELD N J ..... ADV PG 191
INTRONICS INC NEWTON MASS ..... ADV PG 397
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW ..... N Y
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ..... Pa
Discon Corp Fort Lauderdale ..... Fla
Dranetz Engineering Labs Inc Plainfield ..... N J
Fisher-Akin Co Manhattan Beach ..... Cal
General Electrodynamics Corp Garland ..... Tex
Hartman Systems Co Inc Huntington Station ..... N Y
Intronics Inc Newton ..... Mass
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
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Servonetics Inc Northridge ..... Cal
Singer Co Instru Div Gertsch Oper Los Angeles ..... Cal
Superior Mfg & Instrument Co Long Island City ..... N Y
Transmagnetics Inc Flushing ..... N Y
Vitro Labs Div Vitro Corp of America W Orange ..... N J

CONVERTERS—PUNCHED CARD TO TAPE

NIPPON ELECTRIC CO LTD TOKYO ..... JAPAN
A D Data Systems Inc Rochester ..... N Y
Ann Arbor Computer Corp Ann Arbor ..... Mich
Automatic Data Processing of Mass Inc Boston ..... Mass
Cae Industries Ltd, Elctns Div Montreal 3 ..... Que
Connecticut Technical Corp Hartford ..... Conn
Control Logic Inc Natick ..... Mass
Digi-Data Corp Bladensburg ..... Md
Digital Automation Co Pennington ..... N J
Electronic Engineering Co of Cal Santa Ana ..... Cal
Fisher-Akin Co Manhattan Beach ..... Cal
Friden Div Singer Co San Leandro ..... Cal
Fujitsu Ltd Tokyo ..... Japan
General Dynamics, Electronics Div Rochester ..... N Y
General Electric Co Info Sys Equip Div Phoenix ..... Ariz
Honeywell EDP Div Wellesley Hills ..... Mass
IBM Corp White Plains ..... N Y
Infomax Palo Alto ..... Cal
Instrumentation Technology Corp Northridge ..... Cal
Logic Corp Haddonfield ..... N J
Measurement Technology Corp Canoga Park ..... Cal
Milgo Electronic Corp Miami ..... Fla
Motorola Instrumentation & Control Inc Phoenix ..... Ariz
Nippon Electric Co Ltd Tokyo ..... Japan
Oki Electric Industry Co Ltd Tokyo ..... Japan
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville ..... Pa
Tally Corp Seattle ..... Wash
Tally Corp, Business Systems Seattle ..... Wash

CONVERTERS, SIGNAL—A-M TO SINGLE SIDEBAND

LEL DIV VARIAN ASSOCIATES COPIAGUE ..... N Y
NIPPON ELECTRIC CO LTD TOKYO ..... JAPAN
SIEMENS AMERICA INC NEW YORK ..... N Y
Advanced Technology Corp Chambersburg ..... Pa
Anaren Microwave Inc Syracuse ..... N Y
Anzac-Waltham, Div Adams-Russell Waltham ..... Mass
Avco Electronics Div Cincinnati ..... Ohio
Comdel Inc Beverly ..... Mass
Cosmos Industries Inc Brooklyn ..... N Y

General Dynamics, Electronics Div Rochester .... N Y
Gopic Designs Co San Diego .... Cal
Hammarlund Mfg Co Inc, The Mars Hill .... N C
Kahn Research Labs Inc Freeport .... N Y
Lel Div Varian Associates Copiague .... N Y
Microwave Products Group Inc Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Racal Electronics Ltd Bracknell Berks .... England
R F Communications Inc Rochester .... N Y
Siemens America Inc New York .... N Y
Sonoma Engineering & Rsch Inc Santa Rosa .... Cal
Summit Engineering Corp Bozeman .... Mont
Technical Materiel Corp Mamaroneck .... N Y
Telstar Electronics Corp Southold .... N Y
VP Co Pasadena .... Cal
Wilcox Electric Co Kansas City .... Mo

CONVERTERS, SIGNAL—MORSE TO TELETYPEWRITER

C & K COMPONENTS INC WATERTOWN .... MASS
C & K Components Inc Watertown .... Mass
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Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .. Fla
Ecco Electronic Components Corp Mount Vernon .... N Y
Fisher-Akin Co Manhattan Beach .... Cal
Frederick Electronics Corp Frederick .... Md
Infomax Palo Alto .... Cal
International Components Corp Asbury Park .... N J
Racal Electronics Ltd Bracknell Berks .... England
Stelma Inc Stamford .... Conn
Vitro Labs Div Vitro Corp of America W Orange .... N J
Wiltek, Inc Wilton .... Conn

CONVERTERS, SIGNAL—SHORTWAVE TO BROADCAST BAND

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Automatic Radio Sales Inc Melrose .... Mass
Comdel Inc Beverly .... Mass
Electronic Applications Co Pine Brook .... N J
Emcee Electronics Inc New Castle .... Del
Microwave Products Group Inc Plainview .... N Y
Mobil Electronics Inc Anderson .... Ind
Nippon Electric Co Ltd Tokyo .... Japan
Petersen Radio Co Inc Council Bluffs .... Iowa
Salch & Co Herbert Mkt Div Tompkins Radio Prods
  Woodsboro .... Tex

CONVERTERS, SIGNAL—SHORTWAVE TO SHORTWAVE

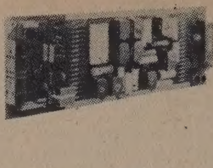
HEATH CO BENTON HARBOR .... MICH
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Aerospace Research, Inc Boston .... Mass
Comdel Inc Beverly .... Mass
Electronic Applications Co Pine Brook .... N J
Heath Co Benton Harbor .... Mich
Industrial Electronetics Corp Satellite Beach .... Fla
Melabs Palo Alto .... Cal
Microwave Products Group Inc Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Symetrics Engineering Corp Satellite Beach .... Fla

CONVERTERS, SIGNAL—SINGLE TO DOUBLE SIDEBAND

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
Advanced Technology Corp Chambersburg .... Pa
Aerospace Research, Inc Boston .... Mass
Ampar Div Adams-Russell Waltham .... Mass
Anaren Microwave Inc Syracuse .... N Y
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Avco Electronics Div Cincinnati .... Ohio
Comdel Inc Beverly .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Gopic Designs Co San Diego .... Cal
Kahn Research Labs Inc Freeport .... N Y
Microwave Products Group Inc Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
R F Communications Inc Rochester .... N Y
Siemens America Inc New York .... N Y
Telstar Electronics Corp Southold .... N Y
Transmagnetics Inc Flushing .... N Y
VP Co Pasadena .... Cal

CONVERTERS, SIGNAL— TELEMETERING, DATA INSERTION

BOWMAR INSTRUMENT CORP FORT WAYNE .... IND
C & K COMPONENTS INC WATERTOWN .... MASS
LEL DIV VARIAN ASSOCIATES COPIAGUE .... N Y
SIEMENS AMERICA INC NEW YORK .... N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY
  N Y .... ADV PG 192
Aeromarine Electronics, Inc San Diego .... Cal
AMBAC Industries Inc Garden City .... N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Applied Research, Inc Port Washington .... N Y
Astrodata Inc Anaheim .... Cal
Avantek Inc Santa Clara .... Cal
Bell Aerosystems Co Buffalo .... N Y
Bowmar Instrument Corp Fort Wayne .... Ind



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Conic Corp San Diego .... Cal
Dorsett Electronics Inc Tulsa .... Okla
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .. Fla
E I L Instrument Div Unitec Industries Timonium .... Md
EMR Div Weston Instruments Inc Princeton .... N J
Fifth Dimension Inc Princeton .... N J
General Devices Inc, Instrumentation Div Princeton .... N J
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Gulton Industries Inc Metuchen .... N J
Hathaway Pacific Palo Alto .... Cal
Industrial Electronetics Corp Satellite Beach .... Fla
Infomax Palo Alto .... Cal
International Scanatron Systems Corp Wyandanch .... N Y
Intertechnique Plaisir 78 .... France
Laben S p A Milan .... Italy
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
Landis & Gyr AG Zug .... Switzerland
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . Cal
Lel Div Varian Associates Copiague .... N Y
Mayberry Electronics Co Inglewood .... Cal
Microwave Associates Inc Burlington .... Mass
Microwave Products Group Inc Plainview .... N Y
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Motorola, Govt Electronics Div Scottsdale .... Ariz
Novatronics Inc Pompano Beach .... Fla
Philco-Ford Corp Washington .... D C
RC-95 Inc New York .... N Y
Rixon Electronics Inc Silver Spring .... Md
Rochester Instrument Systems Inc Rochester .... N Y
Siemens America Inc New York .... N Y
Solid State Electronics Corp Sepulveda .... Cal
Sonex Inc Philadelphia .... Pa
Space Craft Inc Huntsville .... Ala
Stelma Inc Stamford .... Conn
Symetrics Engineering Corp Satellite Beach .... Fla
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Tele-Dynamics Div, American Bosch Arma Corp
  Philadelphia .... Pa
Teledyne Telemetry Co Los Angeles .... Cal
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Topping Electronics Ltd Scarborough .... Ont
Towson Labs, Dept E Baltimore .... Md
Transystems Electronic Co Fort Lee .... N J
TRF Inc Springfield .... Va
Utility Communication Systems Inc West Chester .... Pa
Vidar Corp Mountain View .... Cal
Washington Technological Assoc Inc Rockville .... Md
Westinghouse Brake & Signal Co Ltd Automation Div
  Chippenham .... England
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan

EBG — the industry's store.

Your marketplace for products

CONVERTERS, SIGNAL— TELEMETERING, MODULATION

AIRPAX ELECTRONICS INC SEMINOLE DIV
  FORT LAUDERDALE .... FLA
BELL, INC F W COLUMBUS .... OHIO
INTRONICS INC NEWTON MASS .... ADV PG 397
LEL DIV VARIAN ASSOCIATES COPIAGUE .... N Y
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
SUPERIOR ELECTRIC CO THE BRISTOL .... CONN
TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
Advanced Measurement Instruments, Inc Somerville .... Mass
Aeromarine Electronics, Inc San Diego .... Cal
Aertech Industries Sunnyvale .... Cal
Airpax Electronics Inc, Cambridge Div Cambridge .... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale .... Fla
AMBAC Industries Inc Garden City .... N Y
Anaren Microwave Inc Syracuse .... N Y
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Applied Research, Inc Port Washington .... N Y
Astrodata Inc Anaheim .... Cal
Avantek Inc Santa Clara .... Cal
Bell, Inc F W Columbus .... Ohio
Bendix Corp Electrodynamics Div North Hollywood .... Cal
CEI Div, Watkins-Johnson Co Rockville .... Md
Cie De Signaux Et D'Entreprises Electriques
  Paris 17eme .... France
Conic Corp San Diego .... Cal
Data-Control Systems Inc Danbury .... Conn
Defense Electronics Div DEI Industries Rockville .... Md
Diamond Repeater Co Madison .... N J
Dorsett Electronics Inc Tulsa .... Okla
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .. Fla
Electrac Inc Anaheim .... Ca
EMR Div Weston Instruments Inc Princeton .... N
Fifth Dimension Inc Princeton .... N
General Devices Inc, Instrumentation Div Princeton .... N
Genisco Technology Corp Compton .... Ca
Giannini-Voltex-Radex-Irvine Whittier .... Ca
Gulton Industries Inc Metuchen .... N
Hathaway Pacific Palo Alto .... Ca
Industrial Electronetics Corp Satellite Beach .... Fl
Infomax Palo Alto .... Ca
International Microwave Corp Cos Cob .... Con
International Scanatron Systems Corp Wyandanch .... N
Intertechnique Plaisir 78 .... Franc
Intronics Inc Newton .... Mas
Laben S p A Milan .... Ital
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... Franc
Landis & Gyr AG Zug .... Switzerlan
Lear Siegler Inc Santa Monica C
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . C
Lel Div Varian Associates Copiague .... N
Microwave Associates Inc Burlington .... Ma
Microwave Products Group Inc Plainview .... N
Monitor Systems Inc an Aydin Co Fort Washington .... P
Motorola, Govt Electronics Div Scottsdale .... Ar
Nippon Electric Co Ltd Tokyo .... Japa
Novatronics Inc Pompano Beach .... F
Philco-Ford Corp Washington .... D
Portchester Instrument Corp Port Chester .... N
Reach Electronics Inc Lexington .... N
Rixon Electronics Inc Silver Spring .... M
Siemens America Inc New York .... N
Sierra Research Corp Buffalo .... N
Solid State Electronics Corp Sepulveda C
Sonex Inc Philadelphia ....
Space Craft Inc Huntsville .... A
Superior Electric Co The Bristol .... Co
Symetrics Engineering Corp Satellite Beach .... F
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N
Tele-Dynamics Div, American Bosch Arma Corp
  Philadelphia ....
Teledyne Systems Control Sys A Teledyne Co El Segundo ..
Teledyne Telemetry Co Los Angeles ....
Tele-Signal Corp Sub Singer Co Woodbury .... N
Transystems Electronic Co Fort Lee .... N
TRF Inc Springfield ....
Utility Communication Systems Inc West Chester ....
Vidar Corp Mountain View ....
Video Research Corp Rockville ....
Washington Technological Assoc Inc Rockville ....
Yaskawa Electric Mfg Co Ltd Tokyo .... Jap

CONVERTERS, SIGNAL—UHF TO VHF T

DX ANTENNA CO LTD HYOGO-KU, KOBE .... JAP
LEL DIV VARIAN ASSOCIATES COPIAGUE ....
NIPPON ELECTRIC CO LTD TOKYO .... JAP
Advance Ross Electronics Corp Chicago ....
Ampar Div Adams-Russell Waltham .... M
Anaren Microwave Inc Syracuse ....
Anzac-Waltham, Div Adams-Russell Waltham .... M
Benco Television Assoc Div Redifon Can Ltd Rexdale ....
Blonder-Tongue Labs Inc Newark ....
CEI Div, Watkins-Johnson Co Rockville ....
Dalto Electronics Corp Norwood ....
Delta Electronics Ltd Rexdale ....
DX Antenna Co Ltd Hyogo-Ku, Kobe .... Ja
Entron Inc Silver Spring ....
Finney Co Bedford ....
Gavin Instruments Inc Somerville ....
General Instrument of Canada Ltd Waterloo ....
Hayakawa Electric Co Ltd Osaka .... Ja
Hopt KG, R E Rottweil a Neckar .... Gern

Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lel Div Varian Associates Copiague .... N Y
Melabs Palo Alto .... Cal
Micro State Electronics Oper Raytheon Co Murray Hill ... N J
Microwave Associates Inc Burlington .... Mass
Microwave Products Group Inc Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Radio Corp of America, Comml Elctn Prods Div Camden .. N J
RMS Electronics Inc Bronx .... N Y
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
S & A Electronics Inc Toledo .... Ohio
Sanders Assoc Inc, Microwave Div Nashua .... N H
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Standard Components Div Std Kollsman Ind Inc Melrose Park Ill
Symetrics Engineering Corp Satellite Beach .... Fla
TRF Inc Springfield .... Va
Winegard Co Burlington .... Iowa

CONVERTERS—TAPE TO MICROFILM

Infomax Palo Alto .... Cal

CONVERTERS—TAPE TO PRINTER

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
A D Data Systems Inc Rochester .... N Y
Automatic Data Processing of Mass Inc Boston .... Mass
Connecticut Technical Corp Hartford .... Conn
Control Logic Inc Natick .... Mass
Data Products Corp Woodland Hills .... Cal
Di/An Controls Inc Boston .... Mass
Digital Products San Pedro .... Cal
Fisher-Akin Co Manhattan Beach .... Cal
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co Info Sys Equip Div Phoenix .... Ariz
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
Infomax Palo Alto .... Cal
Information Control Corp El Segundo .... Cal
Instrumentation Technology Corp Northridge .... Cal
Invac Corp Div Digitronics Corp Waltham .... Mass
Kameco Electronics Ltd. Montreal .... Que
Keltron Corp Waltham .... Mass
Laben S p A Milan .... Italy
Measurement Technology Corp Canoga Park .... Cal
Micro Metrics Inc Paterson .... N J
Mid-West Metal Products Inc Kansas City .... Kans
Milgo Electronic Corp Miami .... Fla
Nippon Electric Co Ltd Tokyo .... Japan
Potter Instrument Co, Inc Plainview .... N Y
P P M Inc Cleveland .... Ohio
Pulse Communications Inc Falls Church .... Va
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville .... Pa
Siemens America Inc New York .... N Y
Space Craft Inc Huntsville .... Ala
Teletype Corp Skokie Ill
Thermionic Products Electronics Ltd Southampton ... England
Wiltek, Inc Wilton .... Conn

CONVERTERS—TAPE TO PUNCHED CARD

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
A D Data Systems Inc Rochester .... N Y
Automatic Data Processing of Mass Inc Boston .... Mass
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
Connecticut Technical Corp Hartford .... Conn
Control Logic Inc Natick .... Mass
Digital Automation Co Pennington .... N J
Electronic Engineering Co of Cal Santa Ana .... Cal
Fischer & Porter Co Warminster .... Pa
Fisher-Akin Co Manhattan Beach .... Cal
Friden Div Singer Co San Leandro .... Cal
Fujitsu Ltd Tokyo .... Japan
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Hayakawa Electric Co Ltd Osaka .... Japan
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
Infomax Palo Alto .... Cal
Instrumentation Technology Corp Northridge .... Cal
Kahl Scientific Instrument Corp El Cajon .... Cal
Kameco Electronics Ltd. Montreal .... Que
Laben S p A Milan .... Italy
Logic Corp Haddonfield .... N J
Measurement Technology Corp Canoga Park .... Cal
Metric Systems Corp Fort Walton Beach .... Fla
Milgo Electronic Corp Miami .... Fla
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Potter Instrument Co, Inc Plainview .... N Y
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville .... Pa
Siemens America Inc New York .... N Y
Space Craft Inc Huntsville .... Ala
Wiltek, Inc Wilton .... Conn

CONVERTERS—TAPE TO TAPE, CODE CHANGING

C & K COMPONENTS INC WATERTOWN .... MASS
E D P CORP ORLANDO .... FLA
A D Data Systems Inc Rochester .... N Y
Advanced Space Age Products Inc Alexandria .... Va
Ann Arbor Computer Corp Ann Arbor .... Mich
Automatic Data Processing of Mass Inc Boston .... Mass
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
C & K Components Inc Watertown .... Mass
Communitype Corp New York .... N Y
Conductron-Missouri St Charles .... Mo
Connecticut Technical Corp Hartford .... Conn
Control Logic Inc Natick .... Mass
Datum Inc Anaheim .... Cal
Digi-Data Corp Bladensburg .... Md
Digital Products San Pedro .... Cal
Digitronics Corp Albertson .... N Y
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .. Fla
E D P Corp Orlando .... Fla
Fisher-Akin Co Manhattan Beach .... Cal
Friden Div Singer Co San Leandro .... Cal
Fujitsu Ltd Tokyo .... Japan
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co, Information Devices Dept. Oklahoma City .... Okla
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Infomax Palo Alto .... Cal
Information Control Corp El Segundo .... Cal
Instrumentation Technology Corp Northridge .... Cal
Invac Corp Div Digitronics Corp Waltham .... Mass
IRA Systems Inc Waltham .... Mass
Kahl Scientific Instrument Corp El Cajon .... Cal
Kameco Electronics Ltd. Montreal .... Que
Keltron Corp Waltham .... Mass
Laben S p A Milan .... Italy
Logic Corp Haddonfield .... N J
Measurement Technology Corp Canoga Park .... Cal
Metric Systems Corp Fort Walton Beach .... Fla
Microwave/Systems Inc East Syracuse .... N Y
Mid-West Metal Products Inc Kansas City .... Kans
Milgo Electronic Corp Miami .... Fla
Navcor Inc Div KDI Corp Norristown .... Pa
Oki Electric Industry Co Ltd Tokyo .... Japan
Potter Instrument Co, Inc Plainview .... N Y
P P M Inc Cleveland .... Ohio
Pulse Communications Inc Falls Church .... Va
Scientific Resources Corp Mauchly Computer Tech Gr Montgomeryville .... Pa
Space Craft Inc Huntsville .... Ala
Summit Engineering Corp Bozeman .... Mont
Tally Corp Seattle .... Wash
Technology Inc Dayton .... Ohio
Teletype Corp Skokie Ill
Wiltek, Inc Wilton .... Conn

CONVERTERS—TAPE TO X-Y PLOT

DATA TECHNOLOGY, INC WATERTOWN .... MASS
DISCON CORP FORT LAUDERDALE .... FLA
SUPERIOR ELECTRIC CO THE BRISTOL .... CONN
Ann Arbor Computer Corp Ann Arbor .... Mich
Automatic Data Processing of Mass Inc Boston .... Mass
Boston Digital Corp Ashland .... Mass
Coldspring Instrument Corp Huntington .... N Y
Concord Control Inc Boston .... Mass
Control Logic Inc Natick .... Mass
Cosmos Industries Inc Brooklyn .... N Y
Data Technology, Inc Watertown .... Mass
Digital Systems Inc Covina .... Cal
Discon Corp Fort Lauderdale .... Fla
Faul-Coradi Inc Skaneateles .... N Y
Fisher-Akin Co Manhattan Beach .... Cal
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Gerber Scientific Instrument Co Hartford .... Conn
IBM Data Processing Div White Plains .... N Y
Infomax Palo Alto .... Cal
Information Control Corp El Segundo .... Cal
Instrumentation Technology Corp Northridge .... Cal
Keltron Corp Waltham .... Mass
Measurement Technology Corp Canoga Park .... Cal
Milgo Electronic Corp Miami .... Fla
Space Craft Inc Huntsville .... Ala
Summit Engineering Corp Bozeman .... Mont
Superior Electric Co The Bristol .... Conn
Taylor-Winfield Corp Warren .... Ohio
Thermionic Products Electronics Ltd Southampton ... England
Unimetrics Corp Houston .... Tex

CONVERTERS—THERMIONIC

HEWLETT-PACKARD PALO ALTO .... CAL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon .... Ohio
Consolidated Controls Corp El Segundo .... Cal
Consolidated Controls Corp Bethel .... Conn
Hewlett-Packard Palo Alto .... Cal
Philips Metalonics Mount Vernon .... N Y
Plessey Airborne Corp Hillside .... NJ
Radio Corp of America, Electronic Components Harrison .. N J
RCA, Defense Electronic Products Moorestown .... N J
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Thermo Electron Engineering Corp Waltham .... Mass

CONVERTERS—VOLTAGE TO FREQUENCY

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE .... FLA
C M L INC PLAINFIELD N J .... ADV PGS 438,439
DATASCAN INC CLIFTON .... N J
HEWLETT-PACKARD PALO ALTO .... CAL
HYBRID SYSTEMS CORP BURLINGTON .... MASS
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
NOVA ELECTRIC MFG CO SADDLE BROOK .... N J
SIEMENS AMERICA INC NEW YORK .... N Y
SYSTRON-DONNER CORP CONCORD .... CAL
Airpax Electronics Inc, Cambridge Div Cambridge .... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale .... Fla
A & M Instruments Inc Great Neck .... N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Anadex Instruments, Inc Van Nuys .... Cal
Analogic Corp Wakefield .... Mass
Astro-Metrix Corp Burbank .... Cal
Autronics Corp Pasadena .... Cal
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Bush Transformer Div, Gladding-Keystone Corp Oneonta .. NY
California Systems Components, Inc Chatsworth .... Cal
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
C M L Inc Plainfield .... N J
Coldspring Instrument Corp Huntington .... N Y
Control Circuits Inc Middletown .... Conn
Cosmos Industries Inc Brooklyn .... N Y
Datascan Inc Clifton .... N J
Data Technology Corp Palo Alto .... Cal
Digital Instruments Co Inc Shawnee-Mission .... Kans
Doric Scientific Corp San Diego .... Cal
Elasco-Eastern Inc Bloomfield .... Conn
Electronic Design Labs Inc Philadelphia .... Pa
Electronic Modules Corp Timonium .... Md
Electronic Research Associates Inc Cedar Grove .... N J
E & L Instruments Inc Derby .... Conn
EMR Div Weston Instruments Inc Princeton .... N J
Fairlane Electronics, Inc Long Valley .... N J
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Guardian Electric Mfg Co of Cal Inc Culver City .... Cal
Hartman Systems Co Inc Huntington Station .... N Y
Hathaway Pacific Palo Alto .... Cal
Hewlett-Packard Palo Alto .... Cal
Horlick Co Inc, William I Boston .... Mass
Hybrid Systems Corp Burlington .... Mass
Industrial Electronetics Corp Satellite Beach .... Fla
Infomax Palo Alto .... Cal
Kato Engineering Co Mankato .... Minn
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Laben S p A Milan .... Italy
Lear Siegler Inc Santa Monica .... Cal
Maricopa Controls Scottsdale .... Ariz
Measurement Technology Corp Canoga Park .... Cal
Micro State Electronics Oper Raytheon Co Murray Hill ... N J
Microwave Products Group Inc Plainview .... N Y
NanoFast, Inc Chicago Ill
Non-Linear Systems Inc Del Mar .... Cal
North Hills Electronics Inc Glen Cove .... N Y
Nova Electric Mfg Co Saddle Brook .... N J
Novatronics Inc Pompano Beach .... Fla
Nus Corp Paramus .... N J
Optical Electronics Inc Tuscon .... Ariz
Perfectone Sound Labs Allendale .... NJ
Pioneer Magnetics Inc Santa Monica .... Cal
Plessey Airborne Corp Hillside .... NJ
P P M Inc Cleveland .... Ohio
Raven Electronics Inc Burbank .... Cal
Reflectone. Inc, Englewood Cliffs .... N J
Rho Engineering Co Los Angeles .... Cal
Richard Lee Co New Providence .... N J
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Royson Engineering Co Hatboro .... Pa
Siemens America Inc New York .... N Y
Sodilec SA Salies-S A 91 Palaiseau .... France
Solid State Electronics Corp Sepulveda .... Cal
Space Craft Inc Huntsville .... Ala
Spectral Dynamics Corp of San Diego San Diego .... Cal
Systron-Donner Corp Concord .... Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Takeda Riken Industry Co Ltd Tokyo .... Japan
Techmetric Co Redwood City .... Cal
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia .... Pa
Teledyne Telemetry Co Los Angeles .... Cal
Thorn Automation Ltd Rugeley, Staffs .... England
Transistor Devices Inc Cedar Knolls .... N J
Tyco Instrument Div Waltham .... Mass
Varo Inc, Static Power Div Plano .... Tex
Vector Engineering Inc Springfield .... N J
Vidar Corp Mountain View .... Cal
Voltron Products Inc Pasadena .... Cal

COOLANTS—DIELECTRIC LIQUID

Air Products & Chemicals, Inc Allentown .... Pa
Bel-Ray Co, Inc Farmingdale .... N J
CRC Chemicals Dresher .... Pa
Dow Corning Corp Midland .... Mich
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Electro Impulse Lab Inc Red Bank .... N J
General Electric Co Silicone Prods Dept Waterford .... N Y
Humble Oil & Refining Co Houston .... Tex
3M Company St Paul .... Minn
Monsanto Co St Louis .... Mo
Nye, Inc, William F New Bedford .... Mass
Red Point Corp Burbank .... Cal
Stauffer Wacker Silicone Corp New York .... N Y

COOLING UNITS CIRCULATING LIQUID

BARNSTEAD CO DIV SYBRON CORP BOSTON .... MASS
BLUE M ENGINEERING CO BLUE ISLAND ILL
MCLEAN ENGINEERING LABS PRINCETON JUNCTION ... N J
Airflow Co Gaithersburg .... Md
Air Products & Chemicals, Inc Allentown .... Pa
American Instrument Co, Inc Silver Spring .... Md
Avco Aerostructures Div Nashville .... Tenn
Barnstead Co Div Sybron Corp Boston .... Mass
Benson Mfg Div E C I Inc Kansas City .... Mo
Blue M Engineering Co Blue Island Ill
Brinkmann Instruments Inc Westbury .... N Y
Brooks & Perkins Inc Detroit .... Mich
Cincinnati Sub-Zero Products Inc Cincinnati .... Ohio
Cole-Parmer Instrument Co Chicago Ill
Conrad-Missimer Corte Madera .... Cal

CVI Corp Columbus....Ohio
Eastern Industries Div Lab for Electronics Inc Hamden....Conn
Eimac Div, Varian Associates San Carlos....Cal
Electro Impulse Lab Inc Red Bank....N J
Forma Scientific Inc Marietta....Ohio
Gardner Lab Inc Bethesda....Md
Harris Mfg Co Inc Cambridge....Mass
Industrial Refrigeration Co Inc Los Angeles....Cal
International Electronic Research Corp Burbank....Cal
Janitrol Aero Div Midland-Ross Corp Columbus....Ohio
Jersey Technical Consultants Morristown....NJ
Kahn & Co Inc Wethersfield....Conn
Lear Siegler Inc, Romec Div Elyria....Ohio
Ling Electronics Div LTV Altec Inc Anaheim....Cal
Lockhart Industries Inc Paramount....Cal
Magnedyne Inc Carlsbad....Cal
Matsushita Electric Industrial Co Ltd Osaka....Japan
McLean Engineering Labs Princeton Junction....N J
Pall Corp, Environmental Control Systems Div
  Long Island City....NY
PinFin Inc Waltham....Mass
Porter H K Co Electrical Div Pittsburgh....Pa
Ramyr Mfg Co Buena Park....Cal
Red Point Corp Burbank....Cal
Reeve Electronics Inc Chicago....Ill
REF Dynamics Div UOP Mineola....N Y
Tafa Div Humphreys Corp Concord....N H
Tenney Engineering Inc Union....N J
United Aircraft Products Inc Dayton....Ohio
U S Philips Corp., Cryogenic Div. Ashton....R I
Wakefield Engineering Inc Wakefield....Mass
Zero Mfg Co Burbank....Cal

COOLING UNITS—EVAPORATIVE

Air Products & Chemicals, Inc Allentown....Pa
Benson Mfg Div E C I Inc Kansas City....Mo
Cincinnati Sub-Zero Products Inc Cincinnati....Ohio
CRC Chemicals Dresher....Pa
Eastern Industries Div Lab for Electronics Inc Hamden....Conn
Eimac Div, Varian Associates San Carlos....Cal
Electro Impulse Lab Inc Red Bank....N J
Electrolube Ltd Slough....England
Hafstrom Technical Products Inc San Diego....Cal
International Electronic Research Corp Burbank....Cal
Janitrol Aero Div Midland-Ross Corp Columbus....Ohio
Lear Siegler Inc Santa Monica....Cal
Pall Corp, Environmental Control Systems Div
  Long Island City....NY
PinFin Inc Waltham....Mass
Porter H K Co Electrical Div Pittsburgh....Pa
United Aircraft Products Inc Dayton....Ohio
U S Philips Corp., Cryogenic Div. Ashton....R I

COOLING UNITS—FIN TYPE

Ancrona Corp New York....N Y
Astrodyne Inc Burlington....Mass
Avco Aerostructures Div Nashville....Tenn
Benson Mfg Div E C I Inc Kansas City....Mo
Birtcher Corp, Industrial Div Monterey Park....Cal
Brooks & Perkins Inc Detroit....Mich
Eastern Industries Div Lab for Electronics Inc Hamden....Conn
Electro Impulse Lab Inc Red Bank....N J
International Electronic Research Corp Burbank....Cal
Janitrol Aero Div Midland-Ross Corp Columbus....Ohio
Lear Siegler Inc Santa Monica....Cal
Lockhart Industries Inc Paramount....Cal
Lytron Inc Woburn....Mass
Matsushita Electric Industrial Co Ltd Osaka....Japan
Mullard Ltd London, WC 1....Eng
Pall Corp, Environmental Control Systems Div
  Long Island City....NY
PinFin Inc Waltham....Mass
Porter H K Co Electrical Div Pittsburgh....Pa
United Aircraft Products Inc Dayton....Ohio
Van-Air Inc Erie....Pa
Vemaline Products Co, Inc Wycoff....N J
Wakefield Engineering Inc Wakefield....Mass

COOLING UNITS—REFRIGERATOR TYPE

BLUE M ENGINEERING CO BLUE ISLAND....ILL
MCLEAN ENGINEERING LABS PRINCETON JUNCTION....N J
Airflow Co Gaithersburg....Md
Air Products & Chemicals, Inc Allentown....Pa
American Instrument Co, Inc Silver Spring....Md
Benson Mfg Div E C I Inc Kansas City....Mo
Blue M Engineering Co Blue Island....Ill
Cambridge Systems Inc Newton....Mass
Cincinnati Sub-Zero Products Inc Cincinnati....Ohio
Cole-Parmer Instrument Co Chicago....Ill
Conrad-Missimer Corte Madera....Cal
Cosmodyne Corp Torrance....Cal
CVI Corp Columbus....Ohio
Eastern Industries Div Lab for Electronics Inc Hamden....Conn
Electro Impulse Lab Inc Red Bank....N J
500 Inc Waltham....Mass
Gardner Lab Inc Bethesda....Md
Hafstrom Technical Products Inc San Diego....Cal
Harris Mfg Co Inc Cambridge....Mass
Industrial Refrigeration Co Inc Los Angeles....Cal
Jersey Technical Consultants Morristown....NJ
Kooltronic Fan Co Princeton....N J
Lear Siegler Inc Santa Monica....Cal
Magnedyne Inc Carlsbad....Cal
Matsushita Electric Industrial Co Ltd Osaka....Japan
McLean Engineering Labs Princeton Junction....N J
Molecular Research Inc Palm Beach Gardens....Fla
Pall Corp, Environmental Control Systems Div
  Long Island City....NY
PinFin Inc Waltham....Mass
Porter H K Co Electrical Div Pittsburgh....Pa
Red Point Corp Burbank....Cal
Reeve Electronics Inc Chicago....Ill
Roberts & Associates Inc, E V Culver City....Cal
Servo-Tek Products Co, Marine Div Hawthorne....N J
Servo-Tek Products Co Hawthorne....N J
Task Corp Anaheim....Cal
Tenney Engineering Inc Union....N J
Tia Electric Co Princeton....N J
United Aircraft Products Inc Dayton....Ohio
U S Philips Corp., Cryogenic Div. Ashton....R I
Vacuum/Atmospheres Corp N Hollywood....Cal

COOLING UNITS—THERMOELECTRIC

TECHNICAL APPARATUS BUILDERS DIV POWER
** ALTERNATING DIRECT CORP BROOKLYN....N Y**
Alcatel Paris 8eme....France
American Instrument Co, Inc Silver Spring....Md
Bailey Co Washington....D C
Borg-Warner, Thermoelectric Div Des Plaines....Ill
Cambridge Thermionic Corp Cambridge....Mass
Cole-Parmer Instrument Co Chicago....Ill
Dynatech Products Co Div Dynatech Corp Burlington....Mass
Eastern Industries Div Lab for Electronics Inc Hamden....Conn
E G & G Inc, Electronic Prods Div Boston....Mass
General Instrument Corp Thermoelectric Div Newark....N J
International Energy Conversion Div Nuclear Sys Inc
  Garland....Tex
Jersey Technical Consultants Morristown....NJ
Lek-Trol, Inc Grapevine....Tex
London Co Westlake....Ohio
Magnedyne Inc Carlsbad....Cal
Materials Electronic Products Corp Trenton....N J
Ohio Semitronics Inc Columbus....Ohio
Pall Corp, Environmental Control Systems Div
  Long Island City....NY
PinFin Inc Waltham....Mass
Products for Research, Inc Danvers....Mass
RCA, Defense Electronic Products Moorestown....N J
Schoeffel Instrument Corp Westwood....NJ
Task Corp Anaheim....Cal
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn....N Y
Thomson-CSF 78 Versailles....France
Tia Electric Co Princeton....N J
Wakefield Engineering Inc Wakefield....Mass

COOLING UNITS—TUBE (INCL. HEAT RADIATING SHIELDS)

Avco Aerostructures Div Nashville....Tenn
Birtcher Corp, Industrial Div Monterey Park....Cal
Eimac Div, Varian Associates San Carlos....Cal
International Electronic Research Corp Burbank....Cal
Lear Siegler Inc, Romec Div Elyria....Ohio
Lockhart Industries Inc Paramount....Cal
Pall Corp, Environmental Control Systems Div
  Long Island City....NY
PinFin Inc Waltham....Mass
Risk Industries Inc, George Columbus....Neb
United Aircraft Products Inc Dayton....Ohio
Vemaline Products Co, Inc Wycoff....N J
Waterbury Pressed Metal Co Waterbury....Conn

COPPER

CHESTER CABLE CO DIV TENNESSEE CORP CHESTER....N Y
Alpha Metals Inc Jersey City....NJ
American Metal Climax Inc New York....N Y
American Silver Co Div Flushing....N Y
American Smelting & Refining Co New York....N Y
Anaconda American Brass Co Waterbury....Conn
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
  Corp Carle Place....N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
  Roslyn Heights....NY
Bram Metallurgical Chemical Co Philadelphia....Pa
Cerac Inc Butler....Wis
Cerro Corp New York....NY
Cerro Sales Corp New York....NY
Chase Brass & Copper Co Cleveland....Ohio
Chase Metals Service Div Chase Brass & Copper Co
  Cleveland....Ohio
Chester Cable Co Div Tennessee Corp Chester....N Y
Cominco American Inc Electronic Matls Div Spokane....Wash
Eastern Rolling Mills Inc Bronx....N Y
Electronic Space Products Inc Los Angeles....Cal
General Findings Co Industrial Div Attleboro....Mass
Hamilton Precision Metals Div Hamilton Watch Co
  Lancaster....Pa
Janney Cylinder Co Sub Edgewater Corp Philadelphia....Pa
Koch Light Labs Ltd Colnbrook, Bucks....England
Leach & Garner Co, Industrial Div Attleboro....Mass
Mackay Inc, A D New York....N Y
Materials Research Corp Orangeburg....N Y
MDC Industries Philadelphia....Pa
Metal Ceram Inc Mount Vernon....N Y
Montgomery Co Windsor Locks....Conn
Nippert Electric Products Co Delaware....Ohio
NPC Electronics Canoga Park....Cal
Revere Copper & Brass, Inc New York....N Y
Semi-Alloys Inc Mt Vernon....N Y
Semi-Elements Inc Saxonburg....Pa
Somers Thin Strip Inc Sub Olin Waterbury....Conn
Steel Heddle Mfg Co Philadelphia....Pa
Uniform Tubes Inc Collegeville....Pa
United Mineral & Chemical Corp New York....N Y
Var-Lac-Oid Chemical Co Elizabeth....N J
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***See* Beryllium Copper**

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CORDIERITE

***See* Ceramics**

CORDS—DIAL

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G C Electronics Div, Hydrometals Inc Rockford....Il
Gudebrod Bros Silk Co Inc Electronics Div Philadelphia....Pa
Hackensack Cable Corp Hackensack....N J
Jackson Brothers (London) Ltd New York....N Y
Philmore Mfg Co Inc Richmond Hill....N Y
Ross Matthews Corp Fall River....Mas
Stromberg-Carlson Sub Gen Dynamics Rochester....N Y
Victor Electric Wire & Cable Corp West Warwick....R

CORD SETS

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DABURN ELECTRONICS & CABLE CORP BRONX....N
DEARBORN WIRE & CABLE CO CHICAGO....IL
Abbott & Co Prospect....Ohi
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Apex Wire & Cable Corp Hauppauge....N
Atlas Wire & Cable Co. Inc. Yonkers....N
Avionics, Inc South Bend....In
Barker Products Co Saugus....Mas
Birnbach Co Inc Freeport....N
Cable Electric Products Inc Providence....R
Carol Cable Co Pawtucket....R
Carol Cable Co West Glendale....C
Carol Electronics Div Weeco Inc Martinsburg....W V
Columbia Wire Products Co Chicago....
Condor Industrial Corp Wheaton....
Cordex, Inc Mount Eaton....Oh
Daburn Electronics & Cable Corp Bronx....N
Dearborn Wire & Cable Co Chicago....
Eagle Electric Mfg Co Inc Long Island City....N
Electri-Cord Mfg Co Inc Westfield....
Empire Electronics Co Inc Paterson....N
Florida General Electronics Inc Ormond Beach....F
General Cable Corp New York....N
Ideas Inc Laramie....W
IRC Div TRW Inc Los Angeles....C
ITT Wire & Cable Div Royal Products Pawtucket....
Leviton Mfg Co Inc Brooklyn....N
Miller Electric Co Woonsocket....
M-T Electronics Co San Leandro....C
Pacific Electricord Co Gardena....
Paraplegics Mfg Co Inc Bensenville....
Permoflux Div American Comset Inc Glendale....
Phalo Corp Shrewsbury....Ma
Plastic Wire & Cable Corp Sub Triangle Indus Inc
  Jewett City....Co
Pomona Electronics Co Inc Pomona....
Positive Connector Co Derby....Co
Roanwell Corp New York....N
Shigoto Industries Ltd New York....N
Smith Inc, Herman H Brooklyn....N
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Sta-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington....
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Victor Electric Wire & Cable Corp West Warwick....
Viking Instruments Inc East Haddam....C
Waber Electronics Inc Philadelphia....
Waldom Electronics Inc Chicago....
Western Insulated Wire A Teledyne Co Los Angeles....

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rlin Mfg Co Inc Lowell .... Mass
entley-Harris Mfg Co Conshohocken .... Pa
irnbach Co Inc Freeport .... N Y
hemplast Inc Wayne .... N J
aburn Electronics & Cable Corp Bronx .... N Y
odge Industries Sub Oak Electro/Netics Corp
Hoosick Falls .... N Y
lexible Circuits Inc Warrington .... Pa
udebrod Bros Silk Co Inc Electronics Div Philadelphia .... Pa
leal-Hellerman Canada Ltd Ajax .... Ontario
C Div TRW Inc Los Angeles .... Cal
inen Thread Co, Div Indian Head Mills Inc Blue Mountain . Ala
anduit Corp Tinley Park Ill
ort Plastics Inc Montebello .... Cal
oss Matthews Corp Fall River .... Mass
mith Inc, Herman H Brooklyn .... N Y
uflex Corp Woodside .... N Y
homas & Betts Co Elizabeth .... N J
rimtex Inc Williamsport .... Pa
yton Corp of America Metuchen .... N J
arflex Corp Rome .... N Y
/yomissing Corp Reading .... Pa

ORDS—LINE

***See* Wire—Line Cord**

ORDS—PATCH

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ction Systems Co Div Conn Consolidated Inds Inc
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DC Products Minneapolis .... Minn
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lden Products Co, Inc Brockton .... Mass
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pplied Dynamics, Inc Ann Arbor .... Mich
tlas Wire & Cable Co. Inc. Yonkers .... NY
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arker Products Co Saugus .... Mass
irnbach Co Inc Freeport .... N Y
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-Cemco Inc Burbank .... Cal
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olland Electronics Brooklyn .... N Y
C Div TRW Inc Los Angeles .... Cal
ynn Electronics Corp Philadelphia .... Pa
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lassey Dickinson Co Inc Saxonville .... Mass
lethode Electronics Inc Chicago Ill
l-T Electronics Co San Leandro .... Cal
araplegics Mfg Co Inc Bensenville Ill
hilmore Mfg Co Inc Richmond Hill .... N Y
lastic Wire & Cable Corp Sub Triangle Indus Inc
Jewett City .... Conn
lastoid Corp Long Island City .... N Y
omona Electronics Co Inc Pomona .... Cal
adio Corp of America, Comml Elctn Prods Div Camden .. N J
obins Industries Corp Flushing .... N Y
unzel Cord & Wire Co Chicago Ill
ye Industries, Inc Mamaroneck .... N Y
AE Advanced Packaging Inc Santa Ana .... Cal
even Associates Inc Sunnyvale .... Cal
mith Inc, Herman H Brooklyn .... N Y
tandard Wire & Cable Co Los Angeles .... Cal
tromberg-Carlson Sub Gen Dynamics Rochester .... N Y
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eletronics Labs Inc El Segundo .... Cal
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Philmore Mfg Co Inc Richmond Hill .... N Y
Plastic Wire & Cable Corp Sub Triangle Indus Inc
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Pomona Electronics Co Inc Pomona .... Cal
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Smith Inc, Herman H Brooklyn .... N Y
Standard Wire & Cable Co Los Angeles .... Cal
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Victor Electric Wire & Cable Corp West Warwick .... R I

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G-L Industries Inc, G-L Electronics Div Westville .... N J
Inter-Technical Group Inc Irvington-on-Hudson .... N Y
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Magnetic Metals Co Camden .... N J
Michigan Magnetics Vermontville .... Mich
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Thomas & Skinner Inc Indianapolis .... Ind
Westinghouse Electric Corp, Spec Transf Div Greenville ... Pa

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G-L Industries Inc, G-L Electronics Div Westville .... N J
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Ferroxcube Corp Saugerties	N Y
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Connolly & Co Inc Mountain View	Cal
Custom Components Inc Caldwell	N J
Electro-Mechanics Co Austin	Tex
Fair-Rite Products Corp Wallkill	N Y
Ferricore Div Natl Moldite Co Inc Newark	N J
Ferroxcube Corp Saugerties	N Y
Fuji Electrochemical Co Ltd Tokyo	Japan
General Instrument Corp Automatic Mfg Div Newark	N J
Impectron Inc New York	N Y
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Lake Engineering Co Ltd Scarborough	Ont
La Radiotechnique Compelec Paris 11e	France
Metal Ceram Inc Mount Vernon	N Y
Mullard Ltd London, WC 1	Eng
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Permag Corp Jamaica	N Y
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Siemens America Inc New York	N Y
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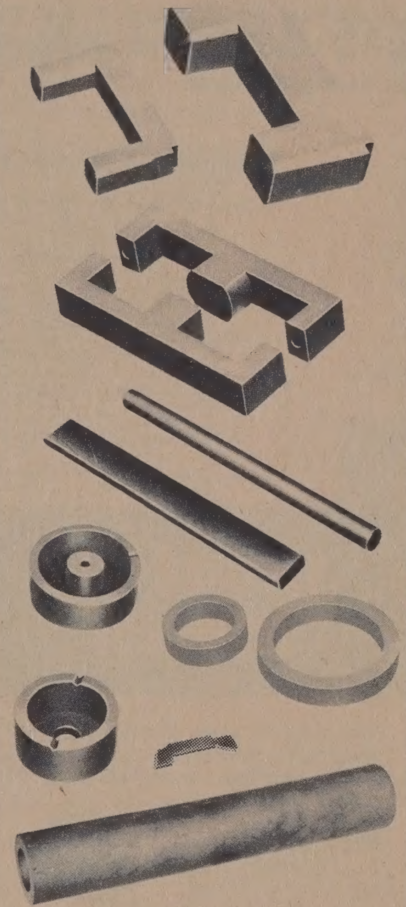

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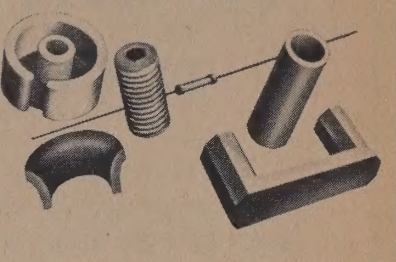

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Fuji Electrochemical Co Ltd Tokyo	Japan
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Indiana General Corp Electronics Div/Ferrites Keasbey	N J
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Mullard Ltd London, WC 1	Eng
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Steward Mfg Co, D M Chattanooga	Tenn
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Tohoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan

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SIEMENS AMERICA INC NEW YORK	**N Y**
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO JAPAN	**ADV PG 198**
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Applied Magnetics Corp Drum & Disc Head Div Goleta	Cal
Burroughs Corp Electronic Components Div Plainfield	N J
Data Products Corp Woodland Hills	Cal
Data-Ram Corp Princeton	N J
Electronic Memories Inc Hawthorne	Cal
Fabri-Tek Inc Minneapolis	Minn
Ferricore Div Natl Moldite Co Inc Newark	N J
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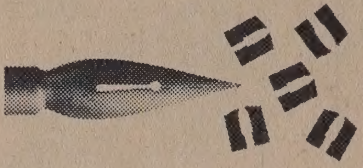
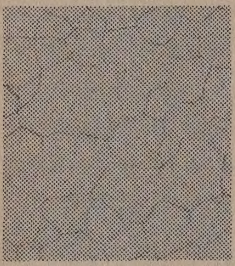
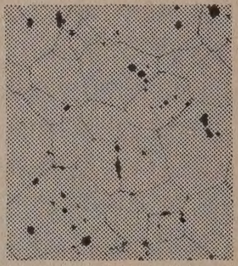


NEW HIGH-DENSITY FERRITE (Ni-Zn) 1,000power



CONVENTIONAL FERRITE (Ni-Zn) 1,000power



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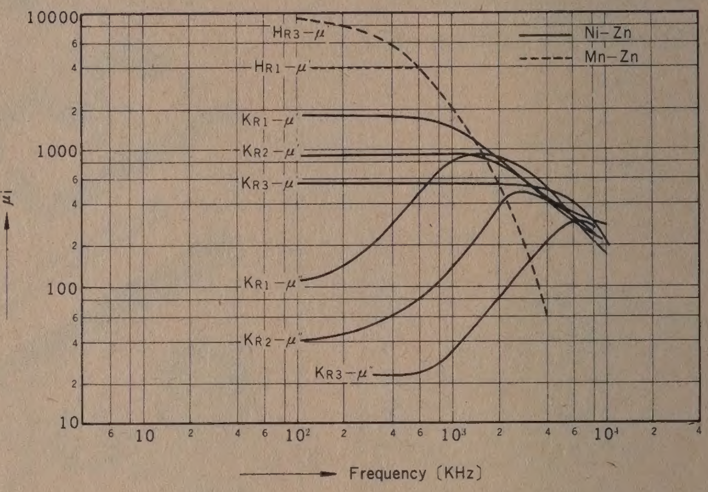

Characteristics of Mn-Zn and Ni-Zn ferrites

Item	Unit	Ni-Zn			Mn-Zn	
		K_{R1}	K_{R2}	K_{R3}	H_{R1}	H_{R3}
Initial permeability μi at 100 KHz	KHz	1800	900	500	4000	7000
Saturation flux density Bs at 15 oe	gauss	3700	3900	4600	4300	4300
Residual flux density Br	gauss	2100	3100	3800	1500	1500
Coersive force Hc	oersted	0.12	0.30	0.75	0.1	0.1
Curie temperature Tc	°C	>180	>250	>250	>130	>120
Resistivity ρ	ohm-cm	10^6	10^6	10^6	20	10
Specific density d	g/cm³	5.30	5.28	5.25	4.97	5.02
Vickers hardness Hv		650	650	600	500	550

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Raytheon Computer Santa Ana . . . . Cal
Siemens America Inc New York . . . . N Y
TDK Electronics Co Ltd Chiyoda-ku, Tokyo . . . . Japan
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Custom Components Inc Caldwell . . . . N J
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Impectron Inc New York . . . . N Y
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Magnetic Core Corp Newburgh . . . . N Y
Magnetic Metals Co Camden . . . . N J
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Orega Electronique & Mecanique Vincennes, Seine . . . . France
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Polymer Corp Reading . . . . Pa
Pyroferric-New York, Inc New York . . . . N Y
Quality Components Inc St Marys . . . . Pa
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Fair-Rite Products Corp Wallkill . . . . N Y
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Ferroxcube Corp Saugerties . . . . N Y
General Instrument Corp Automatic Mfg Div Newark . . . . . N J
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Magnetic Core Corp Newburgh . . . . N Y
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Plessey Co Ltd Ilford Essex . . . . England
Polymer Corp Reading . . . . Pa
Pyroferric-New York, Inc New York . . . . N Y
Quality Components Inc St Marys . . . . Pa
Sanyo Electric Co Ltd Osaka . . . . Japan
Seacor Inc Norwood . . . . NJ
Stackpole Carbon Co, Electronic Components Div St Marys . . . . Pa
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo . . . . Japan

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PERMAG CORP JAMAICA . . . . N Y
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Ferricore Div Natl Moldite Co Inc Newark . . . . N J
Ferroxcube Corp Saugerties . . . . N Y
General Instrument Corp Automatic Mfg Div Newark . . . . . N J
Impectron Inc New York . . . . N Y
Indiana General Corp Electronics Div/Ferrites Keasbey . . . N J
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Mullard Ltd London, WC 1 . . . . Eng
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CORROSION INHIBITORS

***See* Packaging Materials**

COUNTERMEASURE RECEIVERS

***See* Receivers—Panoramic**

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Borders Electronics Co Inc Medford . . . . NJ
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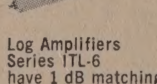

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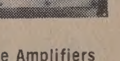

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COUNTERMEASURE TRANSMITTERS

***See* Transmitters—Jamming & Countermeasure**

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Cramer Div Conrac Corp Old Saybrook . . . . Conn
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Tokyo Electric Co Ltd Tokyo	Japan
Veeder-Root Hartford	Conn

COUNTERS, ELECTROMAGNETIC—PRINT OUT

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Durant Digital Instruments A C-H Co Milwaukee	Wis
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Grason Stadler Co Inc West Concord	Mass
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Heuer Electronics Corp Norwalk	Conn
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Keltron Corp Waltham	Mass
Kessler-Ellis Products Co Atlantic Highlands	N J
Landis & Gyr, Inc New York	N Y
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Rockwell Mfg Co, Msmt & Control Div Pittsburgh	Pa
Royson Engineering Co Hatboro	Pa
Simplex Time Recorder Co Gardner	Mass
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia	Pa
Stoelting Co, C H Chicago	Ill
Tech Serv Inc Beltsville	Md
Telecontrol Div Vogue Instrument Corp Plainview	NY
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Towner Systems Co Alameda	Cal
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American Micro-Systems, Inc Santa Clara	Cal
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Ball Brothers Research Corp Boulder	Colo
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Chrono-Log Corp Broomall	Pa
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Space Craft Inc Huntsville	Ala
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Takeda Riken Industry Co Ltd Tokyo	Japan
Techmetric Co Redwood City	Cal
Theta Instrument Corp Fairfield	N J
Tokyo Electric Co Ltd Tokyo	Japan
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Tyco Instrument Div Waltham	Mass
Veeder-Root Hartford	Conn
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Vernitron Corp Precision Comp Group Farmingdale	N Y
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Weltronic Co Southfield	Mich
Zehntel, Inc Berkeley	Cal

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SYSTRON-DONNER CORP CONCORD	**CAL**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
Acoustronics Inc Huntington	N Y
Amelco Semiconductor, A Teledyne Co Mountain View	Cal
American Astrionics Inc Palo Alto	Cal
American Micro-Systems, Inc Santa Clara	Cal
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Amtron Inc Sub Republic Corp Midlothian	Ill
Anadex Instruments, Inc Van Nuys	Cal
Applied Dynamics, Inc Ann Arbor	Mich
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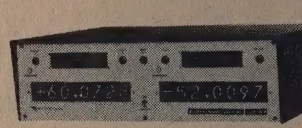

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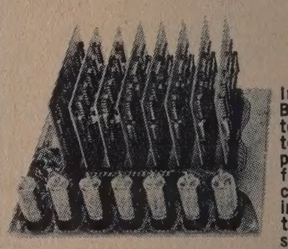
Integrated-Circuit, Bi-Directional Counters have been designed specifically for instrumentation and process-control systems or for any application requiring the net accumulation of bi-directional increments. Counters furnish +12V or +5V encoder supply.



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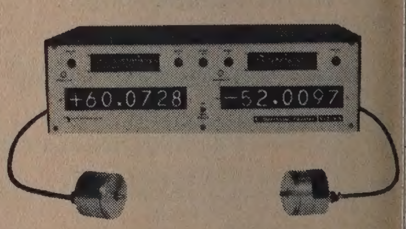

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Chadwick Helmuth Co Inc Monrovia ..... Cal
Chronetics Inc Mount Vernon ..... N Y
Chrono-Log Corp Broomall ..... Pa
Clare & Co, C P Chicago Ill
CMC/Rutherford San Fernando ..... Cal
Coldspring Instrument Corp Huntington ..... N Y
Collins & Assoc Don L Glendale ..... Cal
Compagnie Generale de Metrologie Haute Savoie ..... France
Components Corp Denville ..... NJ
Computer Logic Corp Santa Monica ..... Cal
Computer Products Inc Fort Lauderdale ..... Fla
Control Logic Inc Natick ..... Mass
Co-Ord Div LVC Industries Inc Corona ..... NY
Cramer Div Conrac Corp Old Saybrook ..... Conn
Creative Electric Inc Auburn ..... N Y
Datascan Inc Clifton ..... N J
Data Technology, Inc Watertown ..... Mass
DatCon Electronics Corp Mt Vernon ..... NY
Dawe Instruments Ltd London W3 ..... England
Denson Electronics Corp Rockville ..... Conn
Digital Instruments Co Inc Shawnee-Mission ..... Kans
Digital Products San Pedro ..... Cal
Digital Products Corp Fort Lauderdale ..... Fla
Discon Corp Fort Lauderdale ..... Fla
Dyna Metric Inc Pasadena ..... Cal
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Ebauches SA Dept Oscilloquartz 2001 Neuchatel ..... Switz
E D P Corp Orlando ..... Fla
Edwin Industries Corp Silver Spring ..... Md
Eldorado Electronics Concord ..... Cal
Electronic Counters Inc Englewood ..... N J
Electronic Modules Corp Timonium ..... Md
Electro-Sonic-Control Manteca ..... Cal
Elesta Ltd Electronics Bad Ragaz ..... Switzerland
E & L Instruments Inc Derby ..... Conn
EMI Electronics Ltd Hayes ..... Middlesex Eng
E N M Co Chicago Ill
EON Corp Brooklyn ..... N Y
Fairchild Instrumentation Sunnyvale ..... Cal
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View ..... Cal
Fisher-Akin Co Manhattan Beach ..... Cal
Fork Standards Inc West Chicago Ill
Foster & Allen Inc Chatham ..... N J
General Equipment & Mfg Co Louisville ..... Ky
General Radio Co West Concord ..... Mass
Guardian Electric Mfg Co of Cal Inc Culver City ..... Cal
Heath Co Benton Harbor ..... Mich
Hecon Corp New Shrewsbury ..... N J
Hewlett-Packard Palo Alto ..... Cal
Hird-Brown Ltd Bolton, Lancs ..... England
Holland Electronics Brooklyn ..... N Y
Honeywell Inc, Computer Control Div Framingham ..... Mass
Humphrey Electronics Inc Raleigh ..... N C
Icon Corp Cambridge ..... Mass
IKL Inc Newport Beach ..... Cal
Industrial Systems & Controls USEM Div Emerson Elec Co Milford ..... Conn
Information Control Corp El Segundo ..... Cal
Information Instruments, Inc Ann Arbor ..... Mich
Instrument Displays Inc Sub Burns & Towne Inc Haverhill ..... Mass
Integrated Circuit Electronics Div Datatronics Waltham . Mass
Intercontinental Electronics Corp East Rochester ..... N Y
International Laser Systems Inc Orlando ..... Fla
ITT Decca Marine Inc New York ..... NY
ITT Europe Inc Components Gp Brussels 1 ..... Belgium
Iwatsu Electric Co Ltd Suginami-ku Tokyo ..... Japan
J A C Electronics Ltd Camberley ..... England
Keltron Corp Waltham ..... Mass
Kessler-Ellis Products Co Atlantic Highlands ..... N J
Laben S p A Milan ..... Italy
Landis & Gyr, Inc New York ..... N Y
Landis & Gyr AG Zug ..... Switzerland
La Radiotechnique Compelec Paris 11e ..... France
La Telemecanique Electrique 92 Rueil ..... France
LeCroy Research Systems Corp West Nyack ..... N Y
Lehigh Valley Electronics Inc Fogelsville ..... Pa
Louis Allis Co Div Litton Industries Milwaukee ..... Wisc
Ludlum Measurements Inc Sweetwater ..... Tex
Machinery Electrification Inc Northboro ..... Mass
Mesa Co Bristol ..... Pa
Metox Paris 20 ..... France
Micro Instrument Co Hawthorne ..... Cal
Milletron, Inc Pittsburgh ..... Pa
Monitor Systems Inc an Aydin Co Fort Washington ..... Pa
Monsanto Electronic Instruments West Caldwell ..... N J
Motorola Semiconductor Products Inc Phoenix ..... Ariz
Nanosecond Systems Inc Fairfield ..... Conn
National Semiconductor Corp Santa Clara ..... Cal
Navcor Inc Div KDI Corp Norristown ..... Pa
NPC Electronics Canoga Park ..... Cal
Nuclear-Chicago Des Plaines Ill
Nuclear Enterprises Ltd Edinburgh ..... Scotland
Nuclear Equipment Chemical Corp Farmingdale ..... N Y
Nuclear Supplies Encino ..... Cal
Nus Corp Paramus ..... N J
Parabam Inc Compton ..... Cal
Park Lane Research Labs New Milford ..... Conn
Peco Corp Mountain View ..... Cal
Performance Measurements Co Detroit ..... Mich
Philco-Ford Corp Washington ..... D C
Pinlites, Inc Fairfield ..... N J
Post Electronics Products Inc Beverly ..... Mass
Presin Co Inc Shelton ..... Conn
Racal Electronics Ltd Bracknell Berks ..... England
Radix Electronics Corp Anaheim ..... Cal
RC-95 Inc New York ..... N Y
Richard Lee Co New Providence ..... N J
RIL Electronics Inc Southampton ..... Pa
Schneider Radio-Television Div Ivry ..... France
Sensor Corp Greenwich ..... Conn
Space Craft Inc Huntsville ..... Ala
Space & Systems Div General Time Corp Stamford ..... Conn
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia ..... Pa
Stern Co Inc M L Charlotte ..... N C
Stevens Mfg Co Inc, Geo Chicago Ill
Stoelting Co, C H Chicago Ill
Strandberg Engineering Labs Inc Greensboro ..... N C
Systron-Donner Corp Concord ..... Cal
Takeda Riken Industry Co Ltd Tokyo ..... Japan
Techmetric Co Redwood City ..... Cal
The Nucleus, Inc Oak Ridge ..... Tenn
Theta Instrument Corp Fairfield ..... N J
Thorn Automation Ltd Rugeley, Staffs ..... England
Time Systems Corp Mountain View ..... Cal
Toledo Scale Co Div Reliance Elec Co Toledo ..... Ohio
Troxler Electronic Labs Inc Raleigh ..... N C
Tyco Instrument Div Waltham ..... Mass
Universal Mfg Co Inc Irvington ..... N J
Veeder-Root Hartford ..... Conn
Venner Electronics Ltd New Malden, Surrey ..... Eng
Vitro Labs Div Sub Automation Ind Inc Silver Spring ..... Md
Vitro Labs Div Vitro Corp of America W Orange ..... N J
Walkirt Co Los Angeles ..... Cal
Watesta Electronics Ltd Loughton Essex ..... England
Wer Industrial Corp Grand Island ..... N Y
Weston Lexington Weston Instruments Div Lexington ... Mass
Zehntel, Inc Berkeley ..... Cal

COUNTERS, ELECTRONIC—EVENT

ANRITSU ELECTRIC CO LTD TOKYO ..... JAPAN
BOWMAR INSTRUMENT CORP FORT WAYNE IND ..... ADV PG 201
DATASCAN INC CLIFTON ..... N J
DATA TECHNOLOGY, INC WATERTOWN ..... MASS
E D P CORP ORLANDO ..... FLA
FORK STANDARDS INC WEST CHICAGO ILL
HEATH CO BENTON HARBOR ..... MICH
HEWLETT-PACKARD PALO ALTO CAL ..... ADV PG 202
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ... OHIO
MECHANICS FOR ELECTRONICS INC CAMBRIDGE ... MASS
SYSTRON-DONNER CORP CONCORD ..... CAL
Allied Computer Technology Inc Santa Monica ..... Cal
American Astrionics Inc Palo Alto ..... Cal
Amtron Inc Sub Republic Corp Midlothian Ill
Anadex Instruments, Inc Van Nuys ..... Cal
Anritsu Electric Co Ltd Tokyo ..... Japan
Arizona Modular Electronic Systems Tempe ..... Ariz
Automatic Timing & Controls, Inc King of Prussia ..... Pa
Avtron Mfg, Inc Cleveland ..... Ohio
Baird-Atomic, Inc Cambridge ..... Mass
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Bio-Medical Electronics Inc Rockville ..... Md
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica .. Cal
Bowmar Instrument Corp Fort Wayne ..... Ind
Canberra Industries Meriden ..... Conn
Chronetics Inc Mount Vernon ..... N Y
Chrono-Log Corp Broomall ..... Pa
Clare & Co, C P Chicago Ill
Coldspring Instrument Corp Huntington ..... N Y
Compagnie Generale de Metrologie Haute Savoie ..... France
Computer Logic Corp Santa Monica ..... Cal
Conrac Corp New York ..... N Y
Control Logic Inc Natick ..... Mass
Cooke Engineering Co Alexandria ..... Va
Co-Ord Div LVC Industries Inc Corona ..... NY
Cox Instruments Div Lynch Corp Detroit ..... Mich
Cramer Div Conrac Corp Old Saybrook ..... Conn
Creative Electric Inc Auburn ..... N Y
Datascan Inc Clifton ..... N J
Data Technology, Inc Watertown ..... Mass
DatCon Electronics Corp Mt Vernon ..... NY
Dawe Instruments Ltd London W3 ..... England
Di/An Controls Inc Boston ..... Mass
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Digital Products San Pedro ..... Cal
Dyna Metric Inc Pasadena ..... Cal
Dynapar Corp Sub Louis Allis Co Gurnee Ill
E D P Corp Orlando ..... Fla
Edwin Industries Corp Silver Spring ..... Md
Eldorado Electronics Concord ..... Cal
Electronic Counters Inc Englewood ..... N J
Elesta Ltd Electronics Bad Ragaz ..... Switzerland
E & L Instruments Inc Derby ..... Conn
EON Corp Brooklyn ..... N Y
Fairchild Instrumentation Sunnyvale ..... Cal
Fork Standards Inc West Chicago Ill
General Equipment & Mfg Co Louisville ..... Ky
General Time, Industrial Controls Div Torrington ..... Conn
Grason Stadler Co Inc West Concord ..... Mass
Guardian Electric Mfg Co of Cal Inc Culver City ..... Cal
Harvard Apparatus Co Inc Millis ..... Mass
Hathaway Pacific Palo Alto ..... Cal
Heath Co Benton Harbor ..... Mich
Hecon Corp New Shrewsbury ..... N J
Heuer Electronics Corp Norwalk ..... Conn
Hewlett-Packard Palo Alto ..... Cal
Hickok Electrical Instrument Co Cleveland ..... Ohio
Hickok Teaching Systems Inc Woburn ..... Mass
Hird-Brown Ltd Bolton, Lancs ..... England
Holland Electronics Brooklyn ..... N Y
Honeywell Industrial Div Fort Washington ..... Pa
Honig Laboratories Inc Westbury ..... N Y
Humphrey Electronics Inc Raleigh ..... N C
IKL Inc Newport Beach ..... Cal
Industrial Systems & Controls USEM Div Emerson Elec Co Milford ..... Conn
Instrumentation & Control Systems Inc Addison Ill
Integrated Circuit Electronics Div Datatronics Waltham . Mass
Intercontinental Electronics Corp East Rochester ..... N Y
Iwatsu Electric Co Ltd Suginami-ku Tokyo ..... Japan
J A C Electronics Ltd Camberley ..... England
Jovil Mfg Co Inc Danbury ..... Conn
Kahl Scientific Instrument Corp El Cajon ..... Cal
Kameco Electronics Ltd. Montreal ..... Que
Keltron Corp Waltham ..... Mass

Bowmar
Precision
COUNTERS

S
N
1 4 6 7
2 5 7 8
3 6 8 9

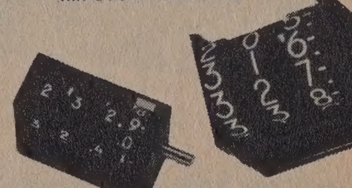
BOWMAR REVERSING
NAVIGATIONAL COUNTER

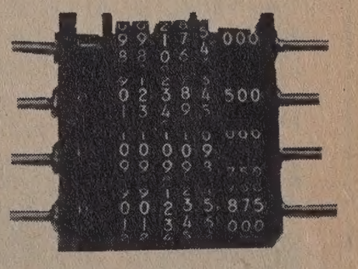
The Ultimate In:
HIGH-SPEED
LOW-TORQUE
LIGHT-WEIGHT
MINIATURIZED RELIABILITY

Single-Bank display of latitude or longitude, and other navigational or decimal information is provided in Bowmar reversing counters; which reverse automatically with same direction of shaft rotation at zero or high points. Two to six drums.

Bowmar has unsurpassed capabilities in the design, manufacturing, and testing of:

REVERSING COUNTERS
ELAPSED TIME INDICATORS
EXTERNAL PINION COUNTERS
INTERNAL PINION COUNTERS
VARIATION COUNTERS
IMPULSE COUNTERS



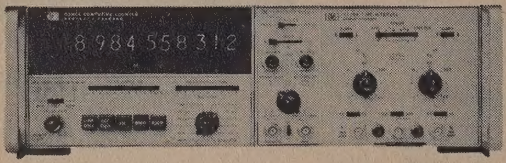


Bowmar offers counters which satisfy every type equipment and application conceivable in electro-mechanical counting instrumentation. Bowmar's position of excellence has been earned through proven engineering competence, highly refined manufacturing and quality assurance programs. We also have the techniques and physical facilities to respond to critical needs, environmental testing and delivery requirements.

Additional Data Available From

BOWMAR
INSTRUMENT CORPORATION
8000 Bluffton Road
Fort Wayne, Indiana 46809

ELECTRONIC COUNTERS



5360A

A revolutionary instrument for greatest measuring capability

Internal computer makes measurements more automatic and solves equations whose variables are the counter's measurements. Can convert counter into a completely different instrument (e.g. phase meter).

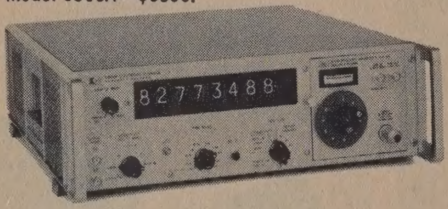
1000 times faster than other counters.

Measures pulsed frequencies—even a single pulse, with direct readout.

Up to 300 frequency measurements/s, 1000 time interval measurements/s.

Time interval resolution is 0.1 ns.

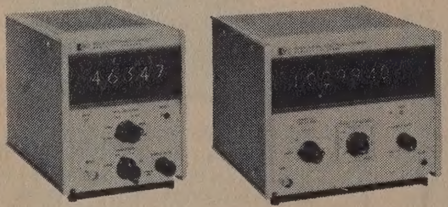
Model 5360A—$6500.



5245M

GENERAL PURPOSE COUNTERS

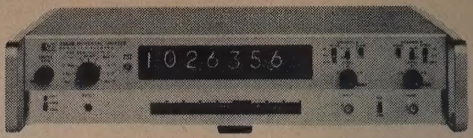
These versatile 50 and 135 MHz counters can use plug-ins for: frequencies to 18 GHz (40 GHz systems available too), measuring intervals to 10 ns, voltage to 1000 V, or for count limit detection and units conversion. Models 5245, 5248—$1800 to $3300.



5221B and 5216A

LOW COST COUNTERS

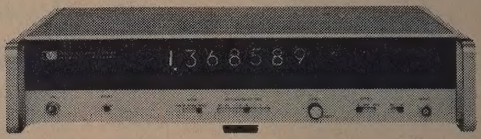
Economy without sacrificing quality . . . 10 MHz counting and accurate timing as low as $425 (Model 5221A). More versatile units available too: 5221B ($775) and 5216B ($985).



5325B

UNIVERSAL COUNTER

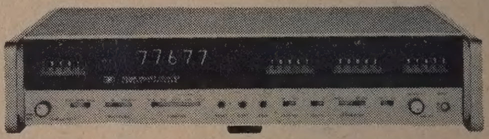
For best versatility at medium cost. Makes frequency measurements to 20 MHz, also ratio, period and highly versatile time interval measurements down to 0.1 μs. Model 5325B—$1300.



5323A

AUTOMATIC COUNTER

Automatic range selection, 0.125 Hz-20 MHz. Gives the speed and accuracy of period measurement but with direct readout in frequency. Excellent for automatic systems or accurate, convenient, low frequency measurement. Model 5323A—$2150.



5330B

PRESET COUNTERS

For normalizing measurements to engineering units, use the 53330A, $1200. Or, to add go-no-go count limit control and pulse generation use 5330B, $1550.

For go-no-go count limit control and digital delay generation, four models: 5331A/B, 5332A/B, $950 to $1200.

REVERSIBLE COUNTER

Adds or subtracts the count on two input channels for position measurement, etc. Model 5280A—$1200.

HEWLETT hp PACKARD

02917

Kessler-Ellis Products Co Atlantic Highlands	N J
Laben S p A Milan	Italy
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Larson Aero Development Concord	Cal
Lehigh Valley Electronics Inc Fogelsville	Pa
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Ludlum Measurements Inc Sweetwater	Tex
Mechanics for Electronics Inc Cambridge	Mass
Mesa Co Bristol	Pa
Milletron, Inc Pittsburgh	Pa
MKC Electronics Corp Kansas City	Kans
Monitor Systems Inc an Aydin Co Fort Washington	Pa
Monsanto Electronic Instruments West Caldwell	N J
NanoFast, Inc Chicago	Ill
Nanosecond Systems Inc Fairfield	Conn
Navcor Inc Div KDI Corp Norristown	Pa
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Parabam Inc Compton	Cal
Park Lane Research Labs New Milford	Conn
P P M Inc Cleveland	Ohio
Racal Electronics Ltd Bracknell Berks	England
Rawco Instruments Inc Fort Worth	Tex
Rockland Labs Inc Blauvelt	N Y
Signet Controls Inc Tulsa	Okla
Space & Systems Div General Time Corp Stamford	Conn
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia	Pa
Stern Co Inc M L Charlotte	N C
Strandberg Engineering Labs Inc Greensboro	N C
Systron-Donner Corp Concord	Cal
Takeda Riken Industry Co Ltd Tokyo	Japan
Techmetric Co Redwood City	Cal
Telecontrol Div Vogue Instrument Corp Plainview	NY
Time Systems Corp Mountain View	Cal
Troxler Electronic Labs Inc Raleigh	N C
Tyco Instrument Div Waltham	Mass
Universal Mfg Co Inc Irvington	N J
Veeder-Root Hartford	Conn
Venner Electronics Ltd New Malden, Surrey	Eng
Vitro Labs Div Sub Automation Ind Inc Silver Spring	Md
Vitro Labs Div Vitro Corp of America W Orange	N J
Watesta Electronics Ltd Loughton Essex	England
Zehntel, Inc Berkeley	Cal

COUNTERS, ELECTRONIC—FREQUENCY

ANRITSU ELECTRIC CO LTD TOKYO JAPAN	**ADV PG 371**
DATASCAN INC CLIFTON	**N J**
DATA TECHNOLOGY, INC WATERTOWN	**MASS**
FORK STANDARDS INC WEST CHICAGO	**ILL**
HEATH CO BENTON HARBOR	**MICH**
HEWLETT-PACKARD PALO ALTO CAL	**ADV PG 202**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
SPEDCOR ELECTRONICS INC GLENDALE	**N Y**
SYSTRON-DONNER CORP CONCORD CAL	**ADV PG 203**
Advance Electronics Ltd Ilford Essex	England
Allen Aircraft Radio Inc Elk Grove Village	Ill
American Astrionics Inc Palo Alto	Cal
Anadex Instruments, Inc Van Nuys	Cal
Ando Electric Co Ltd Ohta-ku, Tokyo	Japan
Anritsu Electric Co Ltd Tokyo	Japan
Applied Electronics Burlingame	Cal
Arizona Modular Electronic Systems Tempe	Ariz
Astro Communication Lab Div Aiken Industries Gaithersburg	Md
Automation Management, Inc Westboro	Mass
Avtron Mfg, Inc Cleveland	Ohio
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Bio-Medical Electronics Inc Rockville	Md
Canberra Industries Meriden	Conn
CEI Div, Watkins-Johnson Co Rockville	Md
CMC/Rutherford San Fernando	Cal
Coldspring Instrument Corp Huntington	N Y
Compagnie Generale de Metrologie Haute Savoie	France
Components Corp Denville	NJ
Computer Logic Corp Santa Monica	Cal
Control Logic Inc Natick	Mass
Cox Instruments Div Lynch Corp Detroit	Mich
Creative Electric Inc Auburn	N Y
Datascan Inc Clifton	N J
Data Technology, Inc Watertown	Mass
DatCon Electronics Corp Mt Vernon	NY
Dawe Instruments Ltd London W3	England
Digital Instruments Co Inc Shawnee-Mission	Kans
Dynamic Precision Controls Corp Hagerstown	Ind
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Edwin Industries Corp Silver Spring	Md
Eldorado Electronics Concord	Cal
Electronic Counters Inc Englewood	N J
E & L Instruments Inc Derby	Conn
EON Corp Brooklyn	N Y
Fairchild Instrumentation Sunnyvale	Cal
Fork Standards Inc West Chicago	Ill
General Radio Co West Concord	Mass
Guardian Electric Mfg Co of Cal Inc Culver City	Cal
Heath Co Benton Harbor	Mich
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
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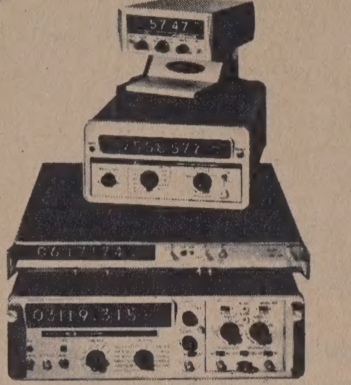
Information Instruments, Inc Ann Arbor	Mich
Integrated Circuit Electronics Div Datatronics Waltham	Mass
Intercontinental Electronics Corp East Rochester	N Y
Iwatsu Electric Co Ltd Suginami-ku Tokyo	Japan
J A C Electronics Ltd Camberley	England
Kay Electric Co Pine Brook	N J
Kinsekisha Lab Ltd Tokyo	Japan
Laben S p A Milan	Italy
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Loral Electronic Systems, Div Loral Corp New York	NY
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Matsushita Communication Industrial Co Ltd Yokohama	Japan
Mesa Co Bristol	Pa
Metric Systems Corp Fort Walton Beach	Fla
Milletron, Inc Pittsburgh	Pa
Monsanto Electronic Instruments West Caldwell	N J
Motorola Communications & Electronics Inc Chicago	Ill
NanoFast, Inc Chicago	Ill
Nanosecond Systems Inc Fairfield	Conn
New London Instrument Co New London	Conn
Northeast Electronics Corp Concord	N H
Nuclear-Chicago Des Plaines	Ill
Nus Corp Paramus	N J
Pace Communications Corp Harbor City	Cal
Philco-Ford Corp Washington	D C
Racal Communications Inc Silver Spring	Md
Racal Electronics Ltd Bracknell Berks	England
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Schneider Radio-Television Div Ivry	France
Simpson Electric Co Chicago	Ill
Solartron Electronic Group Ltd Farnbrough	England
Space Craft Inc Huntsville	Ala
Space & Systems Div General Time Corp Stamford	Conn
Spedcor Electronics Inc Glendale	N Y
Stern Co Inc M L Charlotte	N C
Strandberg Engineering Labs Inc Greensboro	N C
Systems Electronics Inc Cleveland	Ohio
Systron-Donner Corp Concord	Cal
Takeda Riken Industry Co Ltd Tokyo	Japan
Techmetric Co Redwood City	Cal
Time Systems Corp Mountain View	Cal
Tokyo Electric Co Ltd Tokyo	Japan
Transystems Electronic Co Fort Lee	N J
Tyco Instrument Div Waltham	Mass
Universal Ad-Yu Electronics Inc Passaic	N J
Venner Electronics Ltd New Malden, Surrey	Eng
Vidar Corp Mountain View	Cal
Vitro Labs Div Sub Automation Ind Inc Silver Spring	Md
Wang Labs Inc Tewksbury	Mass
Watesta Electronics Ltd Loughton Essex	England
Wer Industrial Corp Grand Island	N Y
Weston Lexington Weston Instruments Div Lexington	Mass
Winslow Tele-Tronics Inc Eatontown	N J
Zehntel, Inc Berkeley	Cal



Electronic counters

Systron-Donner offers a comprehensive line of electronic counters, ranging from simple 12.4 MHz frequency meters (at $395) to fully-automatic microwave counters with range to 40 GHz and time base stability as high as 5 parts in 10¹⁰ per 24 hours. Many counters possess unique measuring capabilities, not available elsewhere in standard off-the-shelf hardware. All recent designs use modern integrated circuits to enhance reliability and reduce cost.

Send for catalog

SYSTRON DONNER

Electronic Instrument Division,
888 Galindo St., Concord, Calif. 94520.
Phone (415) 682-6161. TWX 415-687-3200.

COUNTERS, ELECTRONIC—PULSE

BOWMAR INSTRUMENT CORP FORT WAYNE	**IND**
DATASCAN INC CLIFTON	**N J**
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT IOWA	**ADV PG 641**
E D P CORP ORLANDO	**FLA**
FORK STANDARDS INC WEST CHICAGO	**ILL**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HEWLETT-PACKARD PALO ALTO CAL	**ADV PG 202**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
Advanced Technology Corp Chambersburg	Pa
American Astrionics Inc Palo Alto	Cal
Amtron Inc Sub Republic Corp Midlothian	Ill
Anadex Instruments, Inc Van Nuys	Cal
Ando Electric Co Ltd Ohta-ku, Tokyo	Japan
Applied Electronics Burlingame	Cal
Avtron Mfg, Inc Cleveland	Ohio
Baird-Atomic, Inc Cambridge	Mass
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Binary Electronics of Cal Div Avionic Structures Inc Anaheim	Cal
Bowmar Instrument Corp Fort Wayne	Ind
Burroughs Corp, Defense, Space & Spec Sys Group Paoli	Pa
Canberra Industries Meriden	Conn
Chronetics Inc Mount Vernon	N Y
Chrono-Log Corp Broomall	Pa
CMC/Rutherford San Fernando	Cal
Coldspring Instrument Corp Huntington	N Y
Collins & Assoc Don L Glendale	Cal
Components Corp Denville	NJ
Computer Logic Corp Santa Monica	Cal
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Co-Ord Div LVC Industries Inc Corona	NY
Cox Instruments Div Lynch Corp Detroit	Mich
Creative Electric Inc Auburn	N Y
Datascan Inc Clifton	N J
DatCon Electronics Corp Mt Vernon	NY
De-Tec-Tronic Corp Chicago	Ill
Di/An Controls Inc Boston	Mass
Digital Instruments Co Inc Shawnee-Mission	Kans
Digital Products San Pedro	Cal
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Eagle Signal A Gulf & Western Co Davenport	Iowa
Ebauches SA Dept Oscilloquartz 2001 Neuchatel	Switz
E D P Corp Orlando	Fla
E G & G Inc Laboratory Prods Div Goleta	Cal
Eldorado Electronics Concord	Cal
Electronic Counters Inc Englewood	N J
Electro-Sonic-Control Manteca	Cal
Elesta Ltd Electronics Bad Ragaz	Switzerland
E & L Instruments Inc Derby	Conn
EMI Electronics Ltd Hayes	Middlesex Eng
E N M Co Chicago	Ill
EON Corp Brooklyn	N Y
Fairchild Instrumentation Sunnyvale	Cal
Fisher-Akin Co Manhattan Beach	Cal
Flow Technology Inc Tempe	Ariz
Fork Standards Inc West Chicago	Ill
General Electric Co, ECSO Schenectady	N Y
General Equipment & Mfg Co Louisville	Ky
General Time, Industrial Controls Div Torrington	Conn
Giannini-Voltex-Radex-Irvine Whittier	Cal
Grason Stadler Co Inc West Concord	Mass
Guardian Electric Mfg Co of Cal Inc Culver City	Cal
Hecon Corp New Shrewsbury	N J
Heidenhain Corp Miles	Ill
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Hird-Brown Ltd Bolton, Lancs	England
Holland Electronics Brooklyn	N Y
Honeywell Industrial Div Fort Washington	Pa
Humphrey Electronics Inc Raleigh	N C
Icon Corp Cambridge	Mass
IKL Inc Newport Beach	Cal
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	Conn
Information Instruments, Inc Ann Arbor	Mich
Instrument Displays Inc Sub Burns & Towne Inc Haverhill	Mass
Integrated Circuit Electronics Div Datatronics Waltham	Mass
Intercontinental Electronics Corp East Rochester	N Y
ITT Decca Marine Inc New York	NY
Iwatsu Electric Co Ltd Suginami-ku Tokyo	Japan
J A C Electronics Ltd Camberley	England
Keltron Corp Waltham	Mass
Kessler-Ellis Products Co Atlantic Highlands	N J
Laben S p A Milan	Italy
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Landis & Gyr AG Zug	Switzerland
LeCroy Research Systems Corp West Nyack	N Y
Loral Electronic Systems, Div Loral Corp New York	NY
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Ludlum Measurements Inc Sweetwater	Tex
McKee-Pedersen Instruments Danville	Cal
Mesa Co Bristol	Pa
Metrological Data Corp Garfield	N J
Milgo Electronic Corp Miami	Fla
Milletron, Inc Pittsburgh	Pa
Monsanto Electronic Instruments West Caldwell	N J
NanoFast, Inc Chicago	Ill
Nanosecond Systems Inc Fairfield	Conn
Navcor Inc Div KDI Corp Norristown	Pa
Northeast Electronics Corp Concord	N H
Nuclear-Chicago Des Plaines	Ill
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Nuclear Supplies Encino	Cal
Parabam Inc Compton	Cal
Pennwood Numechron Co Tymeter Electronics Pittsburgh	Pa
Post Electronics Products Inc Beverly	Mass
P P M Inc Cleveland	Ohio
Presin Co Inc Shelton	Conn
Pulse Communications Inc Falls Church	Va
Racal Electronics Ltd Bracknell Berks	England
Richard Lee Co New Providence	N J
RIL Electronics Inc Southampton	Pa
Robertson Instrument Co Azusa	Cal
Rockwell Mfg Co, Msmt & Control Div Pittsburgh	Pa
Science Accessories Corp Southport	Conn
Sensor Corp Greenwich	Conn
Servo Development Corp Hicksville	NY
Simpson Electric Co Chicago	Ill
Space Craft Inc Huntsville	Ala
Space & Systems Div General Time Corp Stamford	Conn
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia	Pa
Stern Co Inc M L Charlotte	N C
Strandberg Engineering Labs Inc Greensboro	N C
Takeda Riken Industry Co Ltd Tokyo	Japan
Techmetric Co Redwood City	Cal

Techrand Corp of America Muskegon . . . . Mich
The Nucleus, Inc Oak Ridge . . . . Tenn
Tokyo Electric Co Ltd Tokyo . . . . Japan
Troxler Electronic Labs Inc Raleigh . . . . N C
Tyco Instrument Div Waltham . . . . Mass
Universal Mfg Co Inc Irvington . . . . N J
Veeder-Root Hartford . . . . Conn
Venner Electronics Ltd New Malden, Surrey . . . . Eng
Vernitron Corp Precision Comp Group Farmingdale . . . . . . N Y
Victoreen Instrument Div Cleveland . . . . Ohio
Vitro Labs Div Sub Automation Ind Inc Silver Spring . . . . . Md
Wang Labs Inc Tewksbury . . . . Mass
Watesta Electronics Ltd Loughton Essex . . . . England
Wer Industrial Corp Grand Island . . . . N Y
Wintriss Controls Div Tyco New York . . . . N Y
Zehntel, Inc Berkeley . . . . Cal

COUNTERS—GEIGER

***See* Counters—Nuclear Particle**

COUNTERS—MECHANICAL

BOWMAR INSTRUMENT CORP FORT WAYNE . . . . IND
CHICAGO DYNAMIC INDUSTRIES INC, PRECISION PRODS DIV CHICAGO ILL
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT IOWA . . . . ADV PG 641
HAYDON SWITCH & INSTRUMENT INC WATERBURY . CONN
MECHANICS FOR ELECTRONICS INC CAMBRIDGE . . . MASS
Amerac, Inc Beverly . . . . Mass
Bowmar Instrument Corp Fort Wayne . . . . Ind
Canberra Industries Meriden . . . . Conn
Chicago Dynamic Industries Inc, Precision Prods Div Chicago Ill
Clare & Co, C P Chicago Ill
Counting Instruments Ltd Hertfordshire . . . . England
Durant Digital Instruments A C-H Co Milwaukee . . . . Wis
Eagle Signal A Gulf & Western Co Davenport . . . . Iowa
Electric Tachometer Corp Philadelphia . . . . Pa
Engler Instrument Co Jersey City . . . . N J
E N M Co Chicago Ill
Ericsson Centrum Inc New York . . . . N Y
Haydon Co The, A W Waterbury . . . . Conn
Haydon Switch & Instrument Inc Waterbury . . . . Conn
Hecon Corp New Shrewsbury . . . . N J
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Kessler-Ellis Products Co Atlantic Highlands . . . . N J
Mast Development Co Davenport . . . . Iowa
Mechanics for Electronics Inc Cambridge . . . . Mass
Melland Gear & Instrument Co Westbury . . . . N Y
Olympic Instruments Inc Vashon . . . . Wash
Orbit Instrument Corp Syosset . . . . N Y
Parabam Inc Compton . . . . Cal
Planet Instrument Div T A Edison Ft Wayne . . . . Ind
Presin Co Inc Shelton . . . . Conn
Radio Corp of America, Comml Elctn Prods Div Camden . . . N J
Redington Counters Inc Windsor . . . . Conn
Robertson Instrument Co Azusa . . . . Cal
Rockwell Mfg Co, Msmt & Control Div Pittsburgh . . . . Pa
Servo Development Corp Hicksville . . . . NY
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Solari & C/Udine Udine . . . . Italy
Space & Systems Div General Time Corp Stamford . . . . . Conn
Sterling Instrument Div, Designatronics Inc Mineola . . . . . N Y
Stevens Mfg Co Inc, Geo Chicago Ill
Sticht Co Inc, Herman H New York . . . . N Y
Tamura Electric Works Ltd Tokyo . . . . Japan
Tokyo Electric Co Ltd Tokyo . . . . Japan
Veeder-Root Hartford . . . . Conn
Zero-Max Co Minneapolis . . . . Minn

COUNTERS—NUCLEAR PARTICLE

***See Also* Chambers—Ionization**

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
HEWLETT-PACKARD PALO ALTO CAL . . . . ADV PG 202
Ambco Electronics Los Angeles . . . . Cal
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Anadex Instruments, Inc Van Nuys . . . . Cal
Analog Technology Corp Pasadena . . . . Cal
Bailey Co Washington . . . . D C
Baird-Atomic, Inc Cambridge . . . . Mass
Beckman Instruments Inc Fullerton, ... Cal
Canadian Research Institute Don Mills . . . . Ont
Canberra Industries Meriden . . . . Conn
Chronetics Inc Mount Vernon . . . . N Y
Collins & Assoc Don L Glendale . . . . Cal
Eberline Instrument Corp Santa Fe . . . . N M
E G & G Inc Laboratory Prods Div Goleta . . . . Cal
Electronic Resources Inc Tasker Indus Los Angeles . . . . Cal
Electrospace Corp Westbury . . . . NY
E & L Instruments Inc Derby . . . . Conn
EMI Electronics Ltd Hayes . . . . Middlesex Eng
EON Corp Brooklyn . . . . N Y
General Electric Co, ECSO Schenectady . . . . N Y
Hewlett-Packard Palo Alto . . . . Cal
Humphrey Electronics Inc Raleigh . . . . N C
Industrial Electronic Hardware Corp New York . . . . N Y
Intertechnique Plaisir 78 . . . . France
Isomet Corp Palisades Park . . . . N J
Isotopes A Teledyne Co Westwood . . . . N J
Johnston Labs, Inc Cockeysville . . . . Md
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Laben S p A Milan . . . . Italy
Landis & Gyr, Inc New York . . . . N Y
Landsverk Electrometer Co Glendale . . . . Cal
LeCroy Research Systems Corp West Nyack . . . . N Y
Lockheed-Georgia Co Marietta . . . . Ga
Ludlum Measurements Inc Sweetwater . . . . Tex
Milletron, Inc Pittsburgh . . . . Pa
Nanosecond Systems Inc Fairfield . . . . Conn
Nuclear-Chicago Des Plaines Ill
Nuclear Corp of America, Nuclear Div Denville . . . . N J
Nuclear Development Lab, Inc Kansas City . . . . Mo
Nuclear Diodes, Inc Prairie View Ill
Nuclear Enterprises Ltd Edinburgh . . . . Scotland
Nuclear Equipment Chemical Corp Farmingdale . . . . N Y
Nuclear Equipment Corp San Carlos . . . . Cal
Nuclear Measurements Corp Indianapolis . . . . Ind
Nuclear Supplies Encino . . . . Cal
Picker Nuclear White Plains . . . . N Y
Randam Electronics Inc Cincinnati . . . . Ohio
Reuter-Stokes Electronic Components Inc Cleveland . . . . Ohio
RIL Electronics Inc Southampton . . . . Pa
Science Accessories Corp Southport . . . . Conn
Solid State Radiations Inc Los Angeles . . . . Cal
Techmetric Co Redwood City . . . . Cal
The Nucleus, Inc Oak Ridge . . . . Tenn
Thomson-CSF 78 Versailles . . . . France
Tracerlab, Div Lab for Electronics Inc Waltham . . . . Mass
Tracerlab-The Instrument Div of ICN Oakland . . . . Cal
Troxler Electronic Labs Inc Raleigh . . . . N C
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Tyco Instrument Div Waltham . . . . Mass
Universal Transistor Products Div Link Copiague . . . . N Y
Victoreen Instrument Div Cleveland . . . . Ohio
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Wood Counter Laboratory Inc, N Chicago Ill

COUNTERS—PHOTOELECTRIC

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
Amtron Inc Sub Republic Corp Midlothian Ill
Anadex Instruments, Inc Van Nuys . . . . Cal
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Baldwin Electronics Inc Little Rock . . . . Ark
Data Sensors Inc Addison Ill
De-Tec-Tronic Corp Chicago Ill
Dolan Jenner Industries Inc Melrose . . . . Mass
Durant Digital Instruments A C-H Co Milwaukee . . . . Wis
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Dyonics Inc Woburn . . . . Mass
Electronic Control Corp Detroit . . . . Mich
Electron Machine Corp. Umatilla . . . . Fla
Elesta Ltd Electronics Bad Ragaz . . . . Switzerland
E & L Instruments Inc Derby . . . . Conn
E N M Co Chicago Ill
Frost Electronics Corp Rockaway . . . . N J
General Electric Co, ECSO Schenectady . . . . N Y
Heuer Electronics Corp Norwalk . . . . Conn
Hird-Brown Ltd Bolton, Lancs . . . . England
Holland Electronics Brooklyn . . . . N Y
Infrared Industries Inc Santa Barbara . . . . Cal
Instrumentation & Control Systems Inc Addison Ill
Integrated Circuit Electronics Div Datatronics Waltham . Mass
ITT Decca Marine Inc New York . . . . NY
J A C Electronics Ltd Camberley . . . . England
Kessler-Ellis Products Co Atlantic Highlands . . . . N J
Landis & Gyr, Inc New York . . . . N Y
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
Machinery Electrification Inc Northboro . . . . Mass
Mandrel Industries Inc Houston . . . . Tex
Melpar Inc, Special Prods Dept Falls Church . . . . Va
Ovitron Corp Industrial Syst Div Cheshire . . . . Conn
Park Lane Research Labs New Milford . . . . Conn
Photobell Co Inc New York . . . . N Y
Post Electronics Products Inc Beverly . . . . Mass
Racal Electronics Ltd Bracknell Berks . . . . England
Remex Electronics Hawthorne . . . . Cal
Richard Lee Co New Providence . . . . N J
RIL Electronics Inc Southampton . . . . Pa
Robertson Instrument Co Azusa . . . . Cal
Science Accessories Corp Southport . . . . Conn
Sensor Corp Greenwich . . . . Conn
Sigma Instruments Inc Braintree . . . . Mass
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia . . . . Pa
Strandberg Engineering Labs Inc Greensboro . . . . N C
Techmetric Co Redwood City . . . . Cal
Universal Mfg Co Inc Irvington . . . . N J
Veeder-Root Hartford . . . . Conn
Watesta Electronics Ltd Loughton Essex . . . . England
Wer Industrial Corp Grand Island . . . . N Y
Wintriss Controls Div Tyco New York . . . . N Y

COUNTERS—PHOTON

Analog Technology Corp Pasadena . . . . Cal
Baird-Atomic, Inc Cambridge . . . . Mass
Engis Equipment Co Morton Grove Ill
E N M Co Chicago Ill
EON Corp Brooklyn . . . . N Y
GCA Technology Div GCA Corp Bedford . . . . Mass
International Light Inc Newburyport . . . . Mass
Nuclear-Chicago Des Plaines Ill
Nuclear Diodes, Inc Prairie View Ill
Nuclear Enterprises Ltd Edinburgh . . . . Scotland
Nuclear Equipment Chemical Corp Farmingdale . . . . N Y
Nuclear Equipment Corp San Carlos . . . . Cal
Reuter-Stokes Electronic Components Inc Cleveland . . . . Ohio
RIL Electronics Inc Southampton . . . . Pa
Science Accessories Corp Southport . . . . Conn
Solid State Radiations Inc Los Angeles . . . . Cal
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England

COUNTER TUBES

***See* Tubes—Counter**

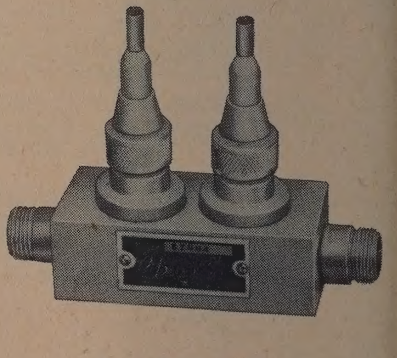
COUNTING-RATE METERS

***See* Meters—Counting-Rate**

COUPLERS—DIRECTIONAL

ALUMINUM DESIGN CORP BROOKFIELD I
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN, IND ADV PG 20
BIRD ELECTRONIC CORP CLEVELAND (SOLON) . . . . OH
HEWLETT-PACKARD PALO ALTO . . . . CA
LEL DIV VARIAN ASSOCIATES COPIAGUE . . . . N
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE I
PREMIER MICROWAVE CORP PORT CHESTER . . . . N
SYSTRON-DONNER CORP CONCORD . . . . CA
VEGA PRECISION LABS VIENNA V
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD . . . . ADV PG 4
Aerospace Research, Inc Boston . . . . Ma
Aircom Inc Union . . . . N
Airtec Inc Roselle . . . . N
Airtron, Div of Litton Industries, Inc Morris Plains . . . . . . N
Alford Mfg Co Winchester . . . . Ma
Allen Aircraft Radio Inc Elk Grove Village . . . .
Alpha Industries Inc Newton Upper Falls . . . . Ma
Altronic Research Corp Cleveland . . . . Oh
Aluminum Design Corp Brookfield . . . .
Ameco Inc Phoenix . . . . Ar
Anaren Microwave Inc Syracuse . . . . N
Antenna Products Co Div Communications Rsch Co Austin , Te
Anzac-Waltham, Div Adams-Russell Waltham . . . . Ma
Applied Microwave Lab, Inc Andover . . . . Ma
Arra, Inc Bay Shore . . . . N
Astrolab Inc Linden . . . . N
Automatic Metal Products Corp Brooklyn . . . . N
Ava Electronics & Machine Corp Upper Darby . . . . P
Aviel Electronics, Inc Burbank C
Barker & Williamson Div Sunshine Mining Co Bristol . . . . . P
Barth Electronics, Inc Cleveland . . . . Oh
Bayly Engineering Ltd Ajax . . . . Or
Bendix Corp, Microwave Devices Div Franklin . . . . In
Bird Electronic Corp Cleveland (Solon) . . . . Oh
Blonder-Tongue Labs Inc Newark . . . . N
Borders Electronics Co Inc Medford . . . . N
Cardwell Condenser Corp Lindenhurst . . . . N
Coax Devices Chelsea . . . . Ma
Delta Electronics Inc Alexandria V
Delta Electronics Ltd Rexdale . . . . Or
Diamond Antenna & Microwave Corp Winchester . . . . . . Ma
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck . . . . N
Eastern Microwave Corp Winchester . . . . Ma
Electromagnetic Technology Corp Mountain View C
Electronic Resources Inc Tasker Indus Los Angeles C
Elpac Inc RF/Microwave Div Irvine C
E & M Labs Westlake Village C
Engelmann Microwave Co Montville . . . . N
General Microwave Corp Farmingdale . . . . N
Gombos Microwave Inc Clifton . . . . N
Guide Industries Inc Sun Valley C
Harris-Intertype Corp Cleveland . . . . Oh
Herley Industries, Inc Syosset . . . . N
Hewlett-Packard Palo Alto C

directional
couplers



For full information,
call or write:
Microwave Devices Division,
The Bendix Corporation
Hurricane Road,
Franklin, Indiana 46131
Tel: 317/736-6136

Bendix

ohnson Co, E F Waseca	Minn
Kruse-Storke Electronics Mountain View	Cal
LDV Electro Science Industries Syracuse	N Y
Lel Div Varian Associates Copiague	N Y
Lieco Inc West Babylon	N Y
Lorch Electronics Corp Englewood	N J
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Meca Electronics, Inc Denville	N J
Meridian Metalcraft Inc Whittier	Cal
Merrimac Research & Development Inc West Caldwell,	N J
Microlab/F X R Livingston	N J
Microphase Corp Cos Cob	Conn
Microwave Associates Inc Burlington	Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Development Labs Inc Needham Heights	Mass
Microwave Filter Co Inc East Syracuse	NY
Microwave Labs of America Brooklyn	N Y
Microwave Products Inc Chatsworth	Cal
Multronics Inc Rockville	Md
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
Oki Electric Industry Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Omega Laboratories Inc Rowley	Mass
Omni Spectra Inc Farmington	Mich
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Peninsula Microwave Labs Mountain View	Cal
Philco-Ford Corp Washington	D C
Portchester Instrument Corp Port Chester	N Y
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Premier Microwave Corp Port Chester	NY
Radiation Systems Inc McLean	Va
Rantec Div Emerson Electric Co Calabasas	Cal
Relcom Mountain View	Cal
RLC Electronics Inc Port Chester	N Y
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Sedco Systems Inc Farmingdale	N Y
Solitron/Microwave Long Island City	N Y
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Space Craft Inc Huntsville	Ala
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Ted Mfg Corp Shawnee Mission	Kans
Thomson-CSF 78 Versailles	France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York	N Y
Transco Products Inc Venice	Cal
Varian Palo Alto	Cal
Vega Precision Labs Vienna	Va
Victor Microwave Inc Wakefield	Mass
Wavecom Inc Chatsworth	Cal
Waveline Inc West Caldwell	N J
Weinschel Engineering Co Inc Gaithersburg	Md
Western Microwave Labs Inc Los Gatos	Cal

COUPLERS—MICROWAVE

See Also **Hybrid Junctions—Microwave**

ALUMINUM DESIGN CORP BROOKFIELD	**ILL**
AMPHENOL DANBURY	**CONN**
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN IND	**ADV PG 204**
HEWLETT-PACKARD PALO ALTO	**CAL**
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE	**ILL**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
PREMIER MICROWAVE CORP PORT CHESTER	**NY**
SYSTRON-DONNER CORP CONCORD	**CAL**
VEGA PRECISION LABS VIENNA	**VA**
Aircom Inc Union	N H
Airtec Inc Roselle	N J
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Alford Mfg Co Winchester	Mass
Alpha Industries Inc Newton Upper Falls	Mass
Aluminum Design Corp Brookfield	Ill
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Amphenol Danbury	Conn
Anaren Microwave Inc Syracuse	N Y
Anzac-Waltham, Div Adams-Russell Waltham	Mass
Applied Microwave Lab, Inc Andover	Mass
Applied Research, Inc Port Washington	N Y
Arra, Inc Bay Shore	NY
Astrolab Inc Linden	N J
Automatic Metal Products Corp Brooklyn	N Y
Ava Electronics & Machine Corp Upper Darby	Pa
Aviel Electronics, Inc Burbank	Cal
Barth Electronics, Inc Cleveland	Ohio
Bendix Corp, Microwave Devices Div Franklin	Ind
Borders Electronics Co Inc Medford	NJ
Cardwell Condenser Corp Lindenhurst	N Y
Coax Devices Chelsea	Mass
Daico Industries Inc Gardena	Cal
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Eastern Microwave Corp Winchester	Mass
Electronic Resources Inc Tasker Indus Los Angeles	Cal
Elpac Inc RF/Microwave Div Irvine	Cal
E & M Labs Westlake Village	Cal
Engelmann Microwave Co Montville	NJ
Fenwick Paris 10	France
General Microwave Corp Farmingdale	N Y
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Harris-Intertype Corp Cleveland	Ohio
Herley Industries, Inc Syosset	N Y
Hewlett-Packard Palo Alto	Cal
Kruse-Storke Electronics Mountain View	Cal
La Radiotechnique Compelec Paris 11e	France
LDV Electro Science Industries Syracuse	N Y
Lieco Inc West Babylon	N Y
Marconi Co Ltd Chelmsford	England
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Meca Electronics, Inc Denville	N J
Meridian Metalcraft Inc Whittier	Cal
Merrimac Research & Development Inc West Caldwell,	N J
Microlab/F X R Livingston	N J
Microphase Corp Cos Cob	Conn
Microwave Associates Inc Burlington	Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Development Labs Inc Needham Heights	Mass
Microwave Filter Co Inc East Syracuse	NY
Microwave Labs of America Brooklyn	N Y
Microwave Products Inc Chatsworth	Cal
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
Nippon Electric Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Omega Laboratories Inc Rowley	Mass
Omni Spectra Inc Farmington	Mich
Peninsula Microwave Labs Mountain View	Cal
Portchester Instrument Corp Port Chester	N Y
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Premier Microwave Corp Port Chester	NY
Radiation Systems Inc McLean	Va
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Ramcor Inc Huntington	NY
Rantec Div Emerson Electric Co Calabasas	Cal
Raytheon Co, Microwave & Power Tube Div Waltham	Mass
R F Systems Inc Cohasset	Mass
RLC Electronics Inc Port Chester	N Y
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Sedco Systems Inc Farmingdale	N Y
Solitron/Microwave Long Island City	N Y
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Space Craft Inc Huntsville	Ala
Specialty Waveguide Corp Burlington	Mass
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Sylvania Electronic Systems Waltham	Mass
Systron-Donner Corp Concord	Cal
Thomson-CSF 78 Versailles	France
Transco Products Inc Venice	Cal
Varian Palo Alto	Cal
Vector Industries A Teledyne Co Palo Alto	Cal
Vega Precision Labs Vienna	Va
Victor Microwave Inc Wakefield	Mass
Vitramon Microwave Corp Middlesex	N J
Wavecom Inc Chatsworth	Cal
Waveline Inc West Caldwell	N J
Western Microwave Labs Inc Los Gatos	Cal

COUPLERS, RECEIVING—ANTENNA (TWO ANTENNAS TO ONE SET)

DX ANTENNA CO LTD HYOGO-KU, KOBE	**JAPAN**
E D P CORP ORLANDO	**FLA**
ELECTRONIC NAVIGATION INDUSTRIES INC ROCHESTER	**NY**
PREMIER MICROWAVE CORP PORT CHESTER	**NY**
Aerolite Electronics Corp Union City	N J
Aerospace Research, Inc Boston	Mass
Anaren Microwave Inc Syracuse	N Y
Anzac-Waltham, Div Adams-Russell Waltham	Mass
Applied Microwave Lab, Inc Andover	Mass
Applied Research, Inc Port Washington	N Y
A R F Products, Inc Raton	N M
Astrolab Inc Linden	N J
Automatic Metal Products Corp Brooklyn	N Y
Ava Electronics & Machine Corp Upper Darby	Pa
Avco Electronics Div Cincinnati	Ohio
Barker & Williamson Div Sunshine Mining Co Bristol	Pa
Benco Television Assoc Div Redifon Can Ltd Rexdale	Ont
Blonder-Tongue Labs Inc Newark	N J
Borders Electronics Co Inc Medford	NJ
Canadian Marconi Co Montreal 16	Quebec
CBC Industries Inc Philadelphia	Pa
Collins Radio Co Dallas	Tex
Daico Industries Inc Gardena	Cal
Decitron Electronics Corp Brooklyn	N Y
Delta Electronics Ltd Rexdale	Ont
Denki Kogyo Co Ltd Tokyo	Japan
DX Antenna Co Ltd Hyogo-Ku, Kobe	Japan
E D P Corp Orlando	Fla
Electronic Navigation Industries Inc Rochester	NY
Elpac Inc RF/Microwave Div Irvine	Cal
Engelmann Microwave Co Montville	NJ
Fedtro Inc Rockville Centre	N Y
Finney Co Bedford	Ohio
Gavin Instruments Inc Somerville	N J
G C Electronics Div, Hydrometals Inc Rockford	Ill
General Coil Products Corp Brooklyn	N Y
General Microwave Corp Farmingdale	N Y
Herley Industries, Inc Syosset	N Y
Hi-Lo Mfg Corp Chicago	Ill
Javex Electronics Cherry Valley	Cal
Jerrold Electronics Corp Philadelphia	Pa
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Lance Antenna Corp Sylmar	Cal
Lance Industries Sylmar	Cal
Lorch Electronics Corp Englewood	N J
MCS Corp Monrovia	Cal
Meridian Metalcraft Inc Whittier	Cal
Microphase Corp Cos Cob	Conn
Microwave Associates Inc Burlington	Mass
Mosley Electronics Inc Bridgeton	Mo
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
Omega-t Systems Inc Richardson	Tex
Parker Metal Goods Co Worcester	Mass
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
Peninsula Microwave Labs Mountain View	Cal
Premier Microwave Corp Port Chester	NY
Racal Electronics Ltd Bracknell Berks	England
Radiation Systems Inc McLean	Va
Ramcor Inc Huntington	NY
Rantec Div Emerson Electric Co Calabasas	Cal
Raven Electronics Inc Burbank	Cal
R F Communications Inc Rochester	N Y
Robins Electronics La Mesa	Cal
Sedco Systems Inc Farmingdale	N Y
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Space Craft Inc Huntsville	Ala
Squires-Sanders Inc Liberty Corner	N J
Symetrics Engineering Corp Satellite Beach	Fla
Technical Materiel Corp Mamaroneck	N Y
Transcom Electronics Inc La Mesa	Cal
Tricraft Products Corp Chicago	Ill
Vikoa Inc Hoboken	N J
Virginia Electronics Co Inc Falls Church	Va
Waber Electronics Inc Philadelphia	Pa
Wald Sound Sun Valley	Cal
Wiltek, Inc Wilton	Conn

COUPLERS, RECEIVING—RECEIVER (TWO OR MORE SETS TO ONE ANTENNA)

DX ANTENNA CO LTD HYOGO-KU, KOBE	**JAPAN**
E D P CORP ORLANDO	**FLA**
ELECTRONIC NAVIGATION INDUSTRIES INC ROCHESTER	**NY**
PREMIER MICROWAVE CORP PORT CHESTER	**NY**
SYSTRON-DONNER CORP CONCORD	**CAL**
TRACOR INC AUSTIN	**TEX**
Aerolite Electronics Corp Union City	N J
Aerospace Research, Inc Boston	Mass
Aircom Inc Union	N H
Anaren Microwave Inc Syracuse	N Y
Antennacraft Co Inc Burlington	Iowa
Antronic Corp Chicago	Ill
Anzac-Waltham, Div Adams-Russell Waltham	Mass
Applied Microwave Lab, Inc Andover	Mass
Applied Research, Inc Port Washington	N Y
A R F Products, Inc Raton	N M
Astrolab Inc Linden	N J
Automatic Metal Products Corp Brooklyn	N Y
Ava Electronics & Machine Corp Upper Darby	Pa
Avco Electronics Div Cincinnati	Ohio
Barker & Williamson Div Sunshine Mining Co Bristol	Pa
Benco Television Assoc Div Redifon Can Ltd Rexdale	Ont
Blonder-Tongue Labs Inc Newark	N J
Borders Electronics Co Inc Medford	NJ
Canadian Marconi Co Montreal 16	Quebec
CEI Div, Watkins-Johnson Co Rockville	Md
Collins Radio Co Dallas	Tex
Daico Industries Inc Gardena	Cal
Dayton Aircraft Products Inc Fort Lauderdale	Fla
Decibel Products Inc Dallas	Tex
Decitron Electronics Corp Brooklyn	N Y
Defense Electronics Div DEI Industries Rockville	Md
Delta Electronics Inc Alexandria	Va
Delta Electronics Ltd Rexdale	Ont
Denki Kogyo Co Ltd Tokyo	Japan
Dewey Corp, G C New York	N Y
DX Antenna Co Ltd Hyogo-Ku, Kobe	Japan
E D P Corp Orlando	Fla
Electronic Communications Inc Div NCR St Petersburg	Fla
Electronic Navigation Industries Inc Rochester	NY
Finney Co Bedford	Ohio
F & M Systems Co, Div Fischbach & Moore, Inc Dallas	Tex
Gavin Instruments Inc Somerville	N J
General Coil Products Corp Brooklyn	N Y
General Dynamics, Electronics Div Rochester	N Y
General Microwave Corp Farmingdale	N Y
Granger Associates Palo Alto	Cal
Hi-Lo Mfg Corp Chicago	Ill
Javex Electronics Cherry Valley	Cal
Joslyn Electronic Systems Div Goleta	Cal
Lafayette Radio Electronics Syosset	NY
Lance Antenna Corp Sylmar	Cal
Lance Industries Sylmar	Cal
Lorch Electronics Corp Englewood	N J
Melabs Palo Alto	Cal
Meridian Metalcraft Inc Whittier	Cal
Microphase Corp Cos Cob	Conn
Microwave Associates Inc Burlington	Mass
Microwave Filter Co Inc East Syracuse	NY
Mosley Electronics Inc Bridgeton	Mo
Neico Microwave Co Waltham	Mass
New-Tronics Corp Brookpark	Ohio
Omega-t Systems Inc Richardson	Tex
Parker Metal Goods Co Worcester	Mass
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
Peninsula Microwave Labs Mountain View	Cal
Philmore Mfg Co Inc Richmond Hill	N Y
Premier Microwave Corp Port Chester	NY
Racal Communications Inc Silver Spring	Md
Racal Electronics Ltd Bracknell Berks	England
Radiation Systems Inc McLean	Va
Ramcor Inc Huntington	NY
Rantec Div Emerson Electric Co Calabasas	Cal
Raven Electronics Inc Burbank	Cal
R F Communications Inc Rochester	N Y
Robins Electronics La Mesa	Cal
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Sedco Systems Inc Farmingdale	N Y
Sinclair Radio Labs Inc Tonawanda	N Y
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Space Craft Inc Huntsville	Ala
Squires-Sanders Inc Liberty Corner	N J
Systron-Donner Corp Concord	Cal
Technical Materiel Corp Mamaroneck	N Y
Ted Mfg Corp Shawnee Mission	Kans
Tracor Inc Austin	Tex
Transcom Electronics Inc La Mesa	Cal
Transco Products Inc Venice	Cal
Tricraft Products Corp Chicago	Ill
Vikoa Inc Hoboken	N J
Virginia Electronics Co Inc Falls Church	Va
Waber Electronics Inc Philadelphia	Pa
Wald Sound Sun Valley	Cal
Wiltek, Inc Wilton	Conn

COUPLERS—TRANSMITTING ANTENNA, WITH PHASING UNITS

ELECTRONIC NAVIGATION INDUSTRIES INC ROCHESTER .NY
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SCIENTIFIC-ATLANTA INC ATLANTA .... GA
SYSTRON-DONNER CORP CONCORD .... CAL
Advanced Communications Inc Sub Conductron Corp Chatsworth .... Cal
Advanced Technology Corp Chambersburg .... Pa
Aerospace Research, Inc Boston .... Mass
Anaren Microwave Inc Syracuse .... N Y
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Applied Microwave Lab, Inc Andover .... Mass
A R F Products, Inc Raton .... N M
Astrolab Inc Linden .... N J
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Brelonix Inc Seattle .... Wash
Cardwell Condenser Corp Lindenhurst .... N Y
C C A Electronics Corp Gloucester .... NJ
Collins Radio Co Dallas .... Tex
Continental Electronics Mfg Co Sub LTV Electrosystems Inc Dallas .... Tex
Daico Industries Inc Gardena .... Cal
Denki Kogyo Co Ltd Tokyo .... Japan
Electronic Communications Inc Div NCR St Petersburg .... Fla
Electronic Navigation Industries Inc Rochester .... NY
Engelmann Microwave Co Montville .... NJ
General Microwave Corp Farmingdale .... N Y
Gombos Microwave Inc Clifton .... N J
Granger Associates Palo Alto .... Cal
Harris-Intertype Corp Cleveland .... Ohio
I T I Electronics Inc Clifton .... N J
Lance Industries Sylmar .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microphase Corp Cos Cob .... Conn
Microwave Associates Inc Burlington .... Mass
Multronics Inc Rockville .... Md
Narda Microwave Corp Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
Phelps Dodge Communications Co North Haven .... Conn
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .... Ont
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Ramcor Inc Huntington .... NY
Rantec Div Emerson Electric Co Calabasas .... Cal
Raven Electronics Inc Burbank .... Cal
R F Communications Inc Rochester .... N Y
Robins Electronics La Mesa .... Cal
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst .... NY
Scientific-Atlanta Inc Atlanta .... Ga
Sedco Systems Inc Farmingdale .... N Y
Sinclair Radio Labs Inc Tonawanda .... N Y
Space Craft Inc Huntsville .... Ala
Squires-Sanders Inc Liberty Corner .... N J
Summit Engineering Corp Bozeman .... Mont
Symetrics Engineering Corp Satellite Beach .... Fla
Systron-Donner Corp Concord .... Cal
Taco (Technical Appliance Corp Sub Jerrold Corp) Sherburne .... NY
Technical Materiel Corp Mamaroneck .... N Y
Ted Mfg Corp Shawnee Mission .... Kans
Thomson-CSF 78 Versailles .... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York .... N Y
Transcom Electronics Inc La Mesa .... Cal
Transco Products Inc Venice .... Cal
TRW Electronic Components Div TRW Inc Camden .... N J
Virginia Electronics Co Inc Falls Church .... Va

COUPLINGS—QUICK DISCONNECT (FLUID & GAS)

AMP Incorporated Harrisburg .... Pa
A & N Corp Clearwater .... Fla
Consolidated Controls Corp El Segundo .... Cal
Consolidated Controls Corp Bethel .... Conn
Control Engineering Div J B Webb Co Detroit .... Mich
De Vilbiss Co Toledo .... Ohio
Futurecraft Corp City of Industry .... Cal
H & H Screw-Products Mfg Co Ashton .... R I
International Controls Corp Cryogenics Div Fairfield .... N J
Intertechnique Plaisir 78 .... France
I-T-E Imperial Corp Philadelphia .... Pa
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Romec Div Elyria .... Ohio
Marman Div Aeroquip Corp Los Angeles .... Cal
Micro Parts Inc Los Angeles .... Cal
Murphy Industries G W Cleco Pneumatic Div Houston .... Tex
Porter H K Co Inc, Thermoid Div Pittsburgh .... Pa
Precision Scientific Co Sub GCA Corp Chicago Ill
SieBelAir Co Los Angeles .... Cal
Vacuum Accessories Corp of America Huntington Station .N Y
Veeco Instruments Inc Plainview .... N Y
Wiggins Inc, E B Los Angeles .... Cal

COUPLINGS, SHAFT—FLEXIBLE

ACCURATE ELECTRONICS CORP ELYRIA .... OHIO
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
HELICAL PRODUCTS CO INC HERMOSA BEACH CAL .... ADV PG 206
SECS, INC LONG ISLAND CITY .... N Y
THETA INSTRUMENT CORP FAIRFIELD .... N J
Accurate Electronics Corp Elyria .... Ohio
Acushnet Co New Bedford .... Mass
Amatom Electronic Hardware New Rochelle .... N Y
Avionics, Inc South Bend .... Ind
Beckman Instruments Inc Fullerton, ... Cal
Belfab A Unit of Bailey Meter Co Daytona Beach .... Fla
Bendix Corp Fluid Power Div Utica .... N Y
Boston Gear Works Quincy .... Mass
Cardwell Condenser Corp Lindenhurst .... N Y
Daburn Electronics & Cable Corp Bronx .... N Y
Disc Instruments Inc Santa Ana .... Cal
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison .... Ohio
Falcon Machine & Tool Co Inc North Wilmington .... Mass
General Instrument of Canada Ltd Waterloo .... Ont
Helical Products Co Inc Hermosa Beach .... Cal
Johnson Co, E F Waseca .... Minn
Koppers Co Inc Pittsburgh .... Pa
Lear Siegler Inc Santa Monica .... Cal
Lord Mfg Co, Div Lord Corp Erie .... Pa
Lovejoy Inc Chicago Ill
Metal Bellows Corp Sharon .... Mass
Micro Parts Inc Los Angeles .... Cal
Millen Mfg Co Inc, James Malden .... Mass
Mini-Flex Corp Van Nuys .... Cal
Naugler Engineering Inc Beverly .... Mass
Nilsen Mfg Co Haines City .... Fla
PIC Design Corp East Rockaway .... N Y
Power Instruments Inc Skokie Ill
Renbrandt Inc Boston .... Mass
Rex Chainbelt Inc Milwaukee .... Wis
Schurter AG, H 6002 Lucerne .... Switzerland
Sealol Inc Providence .... R I
Secs, Inc Long Island City .... N Y
Servometer Corp Clifton .... N J
Smith Inc, Herman H Brooklyn .... N Y
Sterling Instrument Div, Designatronics Inc Mineola .... N Y
Stow Mfg Co Binghamton .... N Y
Theta Instrument Corp Fairfield .... N J
Vemaline Products Co, Inc Wycoff .... N J
Zero-Max Co Minneapolis .... Minn

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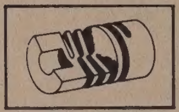

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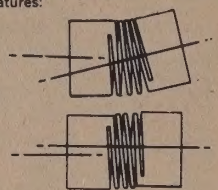

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COUPLINGS, SHAFT—RIGID

ACCURATE ELECTRONICS CORP ELYRIA .... OHIO
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
HELICAL PRODUCTS CO INC HERMOSA BEACH .... CAL
NORTHFIELD PRECISION INSTRUMENT CORP ISLAND PARK .... N Y
SECS, INC LONG ISLAND CITY .... N Y
Accurate Electronics Corp Elyria .... Ohio
Advance Gear & Machine corp Los Angeles .... Cal
Amatom Electronic Hardware New Rochelle .... N Y
Beckman Instruments Inc Fullerton, ... Cal
Bendix Corp Fluid Power Div Utica .... N Y
Boston Gear Works Quincy .... Mass
Cardwell Condenser Corp Lindenhurst .... N Y
Daburn Electronics & Cable Corp Bronx .... N Y
Federal Screw Products Inc Chicago Ill
Helical Products Co Inc Hermosa Beach .... Cal
Instru-Lec Corp Mt Vernon .... N Y
Koppers Co Inc Pittsburgh .... Pa
Lovejoy Inc Chicago Ill
Micro Parts Inc Los Angeles .... Cal
Microwave Associates Inc Burlington .... Mas
Millen Mfg Co Inc, James Malden .... Mas
National Radio Co Inc Melrose .... Mas
Northfield Precision Instrument Corp Island Park .... N
PIC Design Corp East Rockaway .... N
Samarius, Inc Derby .... Con
Secs, Inc Long Island City .... N
Smith Inc, Herman H Brooklyn .... N
Sterling Instrument Div, Designatronics Inc Mineola .... N
Vemaline Products Co, Inc Wycoff .... N

COUPLINGS, SHAFT—UNIVERSAL JOINT

ACCURATE ELECTRONICS CORP ELYRIA .... OHI
HELICAL PRODUCTS CO INC HERMOSA BEACH .... CA
SECS, INC LONG ISLAND CITY .... N
Abacus Electronics Corp Dobbs Ferry .... N
Accurate Electronics Corp Elyria .... Ohi
Bendix Corp Fluid Power Div Utica .... N
Boston Gear Works Quincy .... Mas
Cardwell Condenser Corp Lindenhurst .... N
Curtis Universal Joint Co Springfield .... Mas
Falcon Machine & Tool Co Inc North Wilmington .... Mas
Helical Products Co Inc Hermosa Beach C
Jackson Brothers (London) Ltd New York .... N
Lovejoy Inc Chicago I
Micro Parts Inc Los Angeles C
Millen Mfg Co Inc, James Malden .... Ma
Naugler Engineering Inc Beverly .... Ma
PIC Design Corp East Rockaway .... N
Rex Chainbelt Inc Milwaukee .... W
Secs, Inc Long Island City .... N
Smith Inc, Herman H Brooklyn .... N
Sterling Instrument Div, Designatronics Inc Mineola .... N
Vemaline Products Co, Inc Wycoff .... N

CRAYONS—TEMPERATURE INDICATIN

BRADY CO, W H MILWAUKEE .... WI
Brady Co, W H Milwaukee .... W
Hill Inc E Vernon San Francisco C
Mann Co, Henry Cornwell Heights ....
Markal Co Chicago ....
Unibraze Corp White Plains .... N
United Mineral & Chemical Corp New York .... N

CROSSOVER NETWORKS

***See* Networks**

CRUCIBLES—SEMICONDUCTOR

***See* Boats**

CRYOGENIC EQUIPMENT

Acoustica Associates Inc Los Angeles C
Advanced Kinetics, Inc Costa Mesa C
Air Products & Chemicals, Inc Allentown ....
Airtec Inc Roselle .... N
Alcatel Paris 8eme .... Fran
Alford Mfg Co Winchester .... Ma
Almac Cryogenics Inc Oakland C
Amiproducts Corp New York .... N
Andonian Associates, Inc Waltham .... Ma
Associated Testing Labs, Inc Wayne .... N
Automatic Switch Co Florham Park .... N
Bailey Co Washington .... D
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus .... Oh
Canberra Industries Meriden .... Co
Cincinnati Sub-Zero Products Inc Cincinnati .... Oh
Cole-Parmer Instrument Co Chicago ....
Consolidated Controls Corp Bethel .... Co
Cooke Vacuum Products Inc South Norwalk .... Co
Cosmodyne Corp Torrance C
Cryogenic Engineering Co Denver .... Co
Cryogenic Research Co Inc Boulder .... Co
Cryolab Div, Statics-Dynamics Inc Los Osos C
CVI Corp Columbus .... Oh
Delavan Mfg Co West Des Moines .... Io
Develco, Inc Norwalk .... Co
Electro-Data Inc Garland .... T
Electrolube Ltd Slough .... Engla
Electronics & Alloys Inc Englewood .... N
Energy Beams Inc Haskell .... N
500 Inc Waltham .... Ma
Foxboro Co Foxboro .... Ma
Futurecraft Corp City of Industry C
Glesco Electronics Inc Rockford ....
Goddard Valve Corp. Worcester .... Ma
Goodyear Aerospace Corp Akron .... O
Gruenberg Electric Co Inc Garden City .... N
Harris Mfg Co Inc Cambridge .... Ma
High Vacuum Equipment Corp Hingham .... Ma
Hi-Shear Corp Torrance C
Honeywell Industrial Div Fort Washington ....
Hydra-Electric Co Burbank C
Ikor, Inc Burlington .... Ma
International Controls Corp Cryogenics Div Fairfield .... N
International Equipment Co. Div. Damon Needham Heights .... Ma
Janitrol Aero Div Midland-Ross Corp Columbus .... O
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... Fra
La Radiotechnique Compelec Paris 11e .... Fra
Leeds & Northrup Co North Wales ....
Liquid Carbonic Div, Gen Dynamics Corp Chicago ....
Luft Instruments Inc Lincoln .... Ma
Malaker Corp High Bridge ....

Marconi Co Ltd Chelmsford	England
Maury Microwave Corp Cucamonga	Cal
Nuclear Diodes, Inc Prairie View	Ill
Pall Corp, Environmental Control Systems Div Long Island City	NY
Rawson-Lush Instrument Co Inc Acton	Mass
Seed Electronics Corp Lexington	Mass
Straza Industries Div Ametek Inc El Cajon	Cal
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur	Switzerland
Texas Instruments Inc Indl Prods Div Houston	Tex
TRW Systems Group Redondo Beach	Cal
20th Century Electronics Ltd New Addington Croydon Cr 90 BG	England
Union Carbide Corp, Linde Div New York	N Y
U S Philips Corp., Cryogenic Div. Ashton	R I
Vacuum Barrier Corp Woburn	Mass
Varian Palo Alto	Cal
Ventron Instruments Corp Magnion Div Burlington	Mass
Western Gear Corp Electro Products Div Pasadena	Cal
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh	Pa

CRYSTAL ANALYSIS EQUIPMENT

ELECTRONIC RESEARCH CO, A TEXTRON CO OVERLAND PARK	**KAN**
HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE	**PA**
SIEMENS AMERICA INC NEW YORK	**N Y**
Beckman Instruments Inc Fullerton,	Cal
Electronic Research co, A Textron Co Overland Park	Kan
Electronic Service Co Verona	N J
Hoffman Co PR Div Aiken Industries Carlisle	Pa
Little Inc, Arthur D Cambridge	Mass
Marconi Co Ltd Chelmsford	England
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
RFL Industries Inc, Instrumentation Div Boonton	N J
Savoy Electronics Inc Fort Lauderdale	Fla
Semi-Elements Inc Saxonburg	Pa
Semimetals Inc, Western Div Mountain View	Cal
Siemens America Inc New York	N Y
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y

CRYSTAL BLANKS, UNMOUNTED (FOR TRANSDUCERS, FREQUENCY CONTROL & FILTERS)

ELECTRONIC RESEARCH CO, A TEXTRON CO OVERLAND PARK	**KAN**
HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE PA	**ADV PG 207**
REEVES-HOFFMAN DIV CARLISLE PA	**ADV PG 212**
SHEROLD CRYSTALS DIV TYCO KANSAS CITY	**MO**
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Betron-IRE-SpA Livorno	Italy
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside	N Y
Cathodeon Crystals Ltd Cambridge	Eng
Ceramic Magnetics Inc Fairfield	N J
Channel Industries Inc Santa Barbara	Cal
Clark Crystal Corp Marlboro	Mass
Commander Labs Inc Escondido	Cal
Croven Ltd Whitby	Ont
Crystalab Products Corp Rochelle Park	N J
Edo Western Corp Salt Lake City	Utah
Electra/Midland Corp Kansas City	Kan
Electra Scientific Div Gulton Indus Inc Fullerton	Cal
Electronic Research co, A Textron Co Overland Park	Kan
Erie Technological Products Inc Erie	Pa
Filtaire Inc Div Walter Kidde Co Charlottesville	Va
Haydu Products Inc Opa Locka	Fla
Hoffman Co PR Div Aiken Industries Carlisle	Pa
Kinsekisha Lab Ltd Tokyo	Japan
Koch Light Labs Ltd Colnbrook, Bucks	England
La Radiotechnique Compelec Paris 11e	France
Laser Optics Inc Danbury	Conn
Linden Labs Inc State College	Pa
McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs	Pa
Miller Co Inc, J K Pittsburgh	Pa
Nebel Lab, R E Garden City	N Y
Nihon Dempa Kogyo Co Ltd Tokyo	Japan
Norton Co Vacuum Equip Div Newton	Mass
Pan American Trade Development Corp New York	N Y
Penn Engineering & Mfg Corp Doylestown	Pa
Piezo Crystal Co Carlisle	Pa
Reeves-Hoffman Div Carlisle	Pa
Regency Electronics Inc Indianapolis	Ind
Savoy Electronics Inc Fort Lauderdale	Fla
Sawyer Research Products Inc Eastlake	Ohio
Semiconductor Specialties Corp Fair Lawn	NJ
Semi-Elements Inc Saxonburg	Pa
Semimetals Inc, Western Div Mountain View	Cal
Sherold Crystals Div Tyco Kansas City	Mo
Solar Mfg Corp Los Angeles	Cal
Thermal American Fused Quartz Co Montville	N J
Toyo Communication Equipment Co Ltd Minato-ku Tokyo	Japan
Valpey-Fisher Corp Holliston	Mass
Var-Lac-Oid Chemical Co Elizabeth	N J

CRYSTAL-CUTTING MACHINES

See **Machines—Crystal-Cutting**

CRYSTAL DIODES

See **Diodes—Crystal**

CRYSTAL-DIODE TESTERS

See **Testers—Crystal-Diode**

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See **Machines—Crystal-Growing**

CRYSTAL HOLDERS (INCL. DIODE)

See **Holders**

CRYSTAL-MANUFACTURING MACHINES

See **Machines**

CRYSTAL MIXERS

See **Diodes—Crystal**

CRYSTAL OSCILLATORS

See **Oscillators—R-F**

CRYSTAL OVENS

See **Ovens—Crystal**

CRYSTAL SOCKETS

See **Sockets**

CRYSTALS—GARNET, YTTRIUM-IRON

Airtron, Div of Litton Industries, Inc Morris Plains	N J
Aremco Products Inc Briarcliff Manor	N Y
Broomer Research Corp Plainview	N Y
Ceramic Magnetics Inc Fairfield	N J
Electronic Space Products Inc Los Angeles	Cal
Honig Laboratories Inc Westbury	N Y
Isomet Corp Palisades Park	N J
Koch Light Labs Ltd Colnbrook, Bucks	England
Mackay Inc, A D New York	N Y
Marconi Co Ltd Chelmsford	England
Microwave Associates Inc Burlington	Mass
Perkin-Elmer Corp, Optical Group Norwalk	Conn
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine	France
Quartzite Processing, Inc Malden	Mass
Semi-Elements Inc Saxonburg	Pa
Solitron/Microwave Long Island City	N Y
Spectrum Systems, Inc Waltham	Mass
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J
Xtalonix Products Div Harshaw Chemical Co Columbus	Ohio

CRYSTALS—OPTICAL

Aremco Products Inc Briarcliff Manor	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bausch & Lomb Inc Rochester	N Y
Beckman Instruments Inc Fullerton,	Cal
Broomer Research Corp Plainview	N Y
Chrysler Corp, Missile Div Detroit	Mich
Crystalab Products Corp Rochelle Park	N J
Edo Western Corp Salt Lake City	Utah
Electronic Space Products Inc Los Angeles	Cal
General Diode Corp Framingham	Mass
General Laser Corp Natick	Mass
General Optics Inc Bloomfield	N J
Geoscience Instruments Corp Mt Vernon	N Y
Henley & Co Inc New York	N Y
Horiba Instruments Inc Kyoto	Japan
Industrial Optics Div Yardney Razdow Labs Newark	N J
Isomet Corp Palisades Park	N J
Isotopes A Teledyne Co Westwood	N J
ITT Europe Inc Components Gp Brussels 1	Belgium
Koch Light Labs Ltd Colnbrook, Bucks	England
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Mackay Inc, A D New York	N Y
Meller Co, Adolf Providence	R I
Pan American Trade Development Corp New York	N Y
Quartz & Silice Paris 8 eme	France
Sawyer Research Products Inc Eastlake	Ohio
Semi-Elements Inc Saxonburg	Pa
Spectrum Systems, Inc Waltham	Mass
Thermal American Fused Quartz Co Montville	N J
Toyo Communication Equipment Co Ltd Minato-ku Tokyo	Japan
Wilks Scientific Corp South Norwalk	Conn
Xtalonix Products Div Harshaw Chemical Co Columbus	Ohio

CRYSTALS—PIEZOELECTRIC, RAW

CLEVITE CORP PIEZOELECTRIC DIV BEDFORD	**OHIO**
HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE	**PA**
MICROSONICS DIV WEYMOUTH	**MASS**
SHEROLD CRYSTALS DIV TYCO KANSAS CITY	**MO**
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Betron-IRE-SpA Livorno	Italy
Cambridge Thermionic Corp Cambridge	Mass
Channel Industries Inc Santa Barbara	Cal
Clevite Corp Piezoelectric Div Bedford	Ohio
Columbia Research Labs Inc Woodlyn	Pa
Commander Labs Inc Escondido	Cal
Crystalab Products Corp Rochelle Park	N J
Crystal Research Inc Cambridge	Mass
Crystek Div Whitehall Electronics Ft Myers	Fla
Edo Western Corp Salt Lake City	Utah
Electra/Midland Corp Kansas City	Kan
Electra Scientific Div Gulton Indus Inc Fullerton	Cal
Electronic Space Products Inc Los Angeles	Cal
Filtaire Inc Div Walter Kidde Co Charlottesville	Va
Geoscience Instruments Corp Mt Vernon	N Y
Hill Electronics Inc Erie Freq Control Div Carlisle	Pa
Hoffman Co PR Div Aiken Industries Carlisle	Pa
Isomet Corp Palisades Park	N J
Linden Labs Inc State College	Pa
Mackay Inc, A D New York	N Y
Microsonics Div Weymouth	Mass
Nihon Dempa Kogyo Co Ltd Tokyo	Japan
Pan American Trade Development Corp New York	N Y
Penn Engineering & Mfg Corp Doylestown	Pa
Quartz & Silice Paris 8 eme	France
Regency Electronics Inc Indianapolis	Ind
Sawyer Research Products Inc Eastlake	Ohio
Semi-Elements Inc Saxonburg	Pa
Sherold Crystals Div Tyco Kansas City	Mo
Solar Mfg Corp Los Angeles	Cal
Thermal American Fused Quartz Co Montville	N J
Toyo Communication Equipment Co Ltd Minato-ku Tokyo	Japan
Universal Shellac & Supply Co Inc Brooklyn	N Y

CRYSTALS—SAPPHIRE

See **Sapphire**

CRYSTALS—SCINTILLATION

See Also **Scintillators**

Collins & Assoc Don L Glendale	Cal
Crystalab Products Corp Rochelle Park	N J
Henley & Co Inc New York	N Y
Horiba Instruments Inc Kyoto	Japan
Isomet Corp Palisades Park	N J
Isotopes A Teledyne Co Westwood	N J
Koch Light Labs Ltd Colnbrook, Bucks	England
La Radiotechnique Compelec Paris 11e	France
Mackay Inc, A D New York	N Y
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Nuclear Equipment Corp San Carlos	Cal
Nuclear Supplies Encino	Cal
Pilot Chemicals Inc Watertown	Mass
Polysciences Inc Warrington	Pa
Quartz & Silice Paris 8 eme	France
Semi-Elements Inc Saxonburg	Pa
Var-Lac-Oid Chemical Co Elizabeth	N J

CRYSTALS, SEMICONDUCTOR, GROWN, UNCUT—GERMANIUM

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN . . . . MO
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Active Alloys, Inc Elizabeth . . . . N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . N Y
Eagle-Picher Industries Inc, Electronics Div Joplin . . . . Mo
Electronic Space Products Inc Los Angeles . . . . Cal
General Diode Corp Framingham . . . . Mass
Geoscience Instruments Corp Mt Vernon . . . . N Y
Koch Light Labs Ltd Colnbrook, Bucks . . . . England
La Radiotechnique Compelec Paris 11e . . . . France
Mackay Inc, A D New York . . . . N Y
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
NPC Electronics Canoga Park . . . . Cal
Recticon Corp Conshohocken . . . . Pa
Sanyo Electric Co Ltd Osaka . . . . Japan
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Semi-Elements Inc Saxonburg . . . . Pa
Semimetals Inc Westbury . . . . N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda . . . . . . Pa
Texas Instruments Incorporated Dallas . . . . Tex
United Mineral & Chemical Corp New York . . . . N Y
Var-Lac-Oid Chemical Co Elizabeth . . . . N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa
Wacker Chemical Corp New York . . . . N Y

CRYSTALS, SEMICONDUCTOR, GROWN, UNCUT—INTERMETALLIC

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN . . . . MO
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . N Y
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . Cal
Bram Metallurgical Chemical Co Philadelphia . . . . Pa
Cominco American Inc Electronic Matls Div Spokane . . . Wash
Eagle-Picher Industries Inc, Electronics Div Joplin . . . . Mo
Electronic Space Products Inc Los Angeles . . . . Cal
General Diode Corp Framingham . . . . Mass
Geoscience Instruments Corp Mt Vernon . . . . N Y
Interman Industrial Products Ltd Garden City . . . . NY
Koch Light Labs Ltd Colnbrook, Bucks . . . . England
La Radiotechnique Compelec Paris 11e . . . . France
Materials Research Corp Orangeburg . . . . N Y
Monsanto Co St Peters . . . . Mo
NPC Electronics Canoga Park . . . . Cal
Ohio Semitronics Inc Columbus . . . . Ohio
Sanyo Electric Co Ltd Osaka . . . . Japan
Semi-Elements Inc Saxonburg . . . . Pa
Texas Instruments Incorporated Dallas . . . . Tex
United Mineral & Chemical Corp New York . . . . N Y
Var-Lac-Oid Chemical Co Elizabeth . . . . N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa
Wacker Chemical Corp New York . . . . N Y

CRYSTALS, SEMICONDUCTOR, GROWN, UNCUT—SILICON

Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . N Y
Dow Corning Corp Midland . . . . Mich
Electronic Space Products Inc Los Angeles . . . . Cal
General Diode Corp Framingham . . . . Mass
Geoscience Instruments Corp Mt Vernon . . . . N Y
Interman Industrial Products Ltd Garden City . . . . NY
Koch Light Labs Ltd Colnbrook, Bucks . . . . England
La Radiotechnique Compelec Paris 11e . . . . France
Mackay Inc, A D New York . . . . N Y
Monsanto Co St Peters . . . . Mo
Mullard Ltd London, WC 1 . . . . Eng
NPC Electronics Canoga Park . . . . Cal
Recticon Corp Conshohocken . . . . Pa
Sanyo Electric Co Ltd Osaka . . . . Japan
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Semi-Elements Inc Saxonburg . . . . Pa
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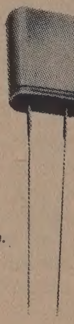


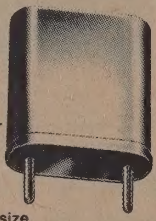
SC-100

Freq. Range } 4-125MHz

Subminiature hermetically-sealed plated unit. Smallest space requirements of any hermetic crystal available. Weight approximately 1/25 ounce. Shown actual size.

SC-106

Identical to SC-100 except designed for plug-in application with .040 diameter pin.



SC-6

Freq. Range } 190 kHz-125 MHz

Metal plated and hermetically-sealed in military type HC-6/U holder. Very low resistance, low drift, rugged construction. Available in 25 military types. Shown actual size.

SC-8

Identical to SC-6 except for 2-inch tinned wire leads for soldered-in applications.

SC-15

SC-17

New popular TO-5 and "Flat Pack" Holders above give maximum feasibility for circuit board mounting.

OTHER HOLDER STYLES ARE AVAILABLE

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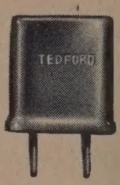

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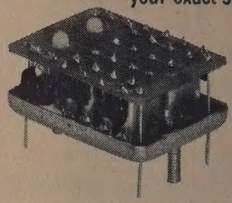

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measures frequencies
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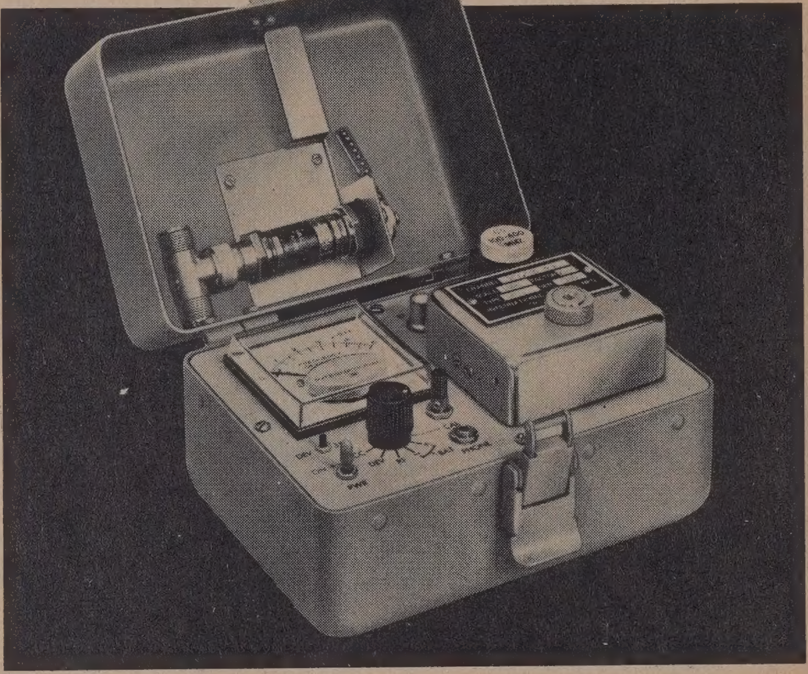

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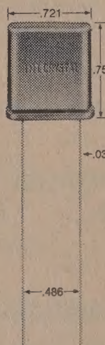
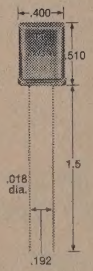
for frequency control 70 KHz to 160 MHz



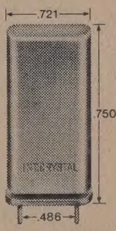
T .316 max

F-700



T .149 max

FM-1



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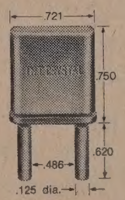
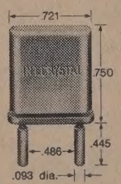
F-13



T .316 max

F-612



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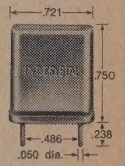
F-609



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F-605

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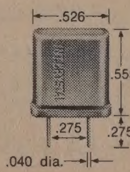
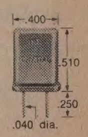


T .200 max

FI-4



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FM-2

Crystals for use in military equipment can be supplied to meet specifications MIL-C-3098E.

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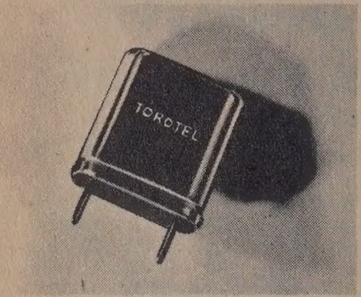

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HERMETICALLY SEALED IN METAL

NE-6 Equivalent to Mil HC-6/U holder. Frequency range 185 Khz to 55 Mhz. Available with wire leads or large pins.

NE-12 Designed to fill size gap between HC-6/U and HC-18/U. Popular with filter manufacturers. Frequency range 3 Mhz to 55 Mhz.

NE-13 Equivalent to Mil HC-13/U holder. Frequency range 3.5 Khz to 250 Khz. Can be extended down to 2.0 Khz with taller versions. Available with wire leads.

NE-18 Equivalent to Mil HC-18/U holder. Available in frequency range 10 Mhz to 55 Mhz.

NE-25 Equivalent to Mil HC-25/U holder. Available in frequency range 10 Mhz to 55 Mhz.

VACUUM SEALED IN GLASS

T-3 Under .400" in diameter. Available in frequency range of 10 Khz to 200 Khz.

T-6 Equivalent to 6AU6 tube in size. Available in frequency range of 6 Khz to 400 Khz.

T-7 Equivalent to 12BH7 tube in size. Frequency range 2 Khz to 400 Khz. Especially popular at 100 KC for precision time base for frequency counters.

T-9 Equivalent in size to 6SN7 tube. Frequency range 800 hz to 200 Khz.

T-12 Equivalent to 6146 tube in size. Frequency range 75 Khz to 120 Khz, & 550 Khz to 1600 Khz.

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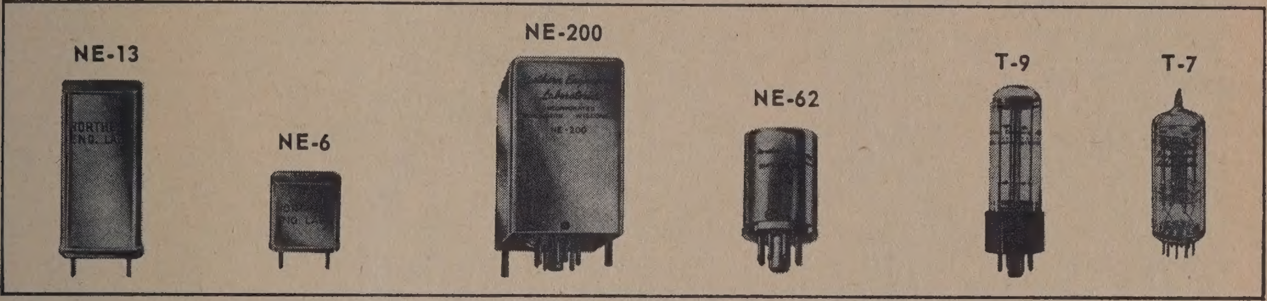

Crystal OVENS Component

NE-62 Capable of holding two HC-6/U crystals, or other components of equivalent size. Popular for voltage reference diodes.

NE-71 For enclosing one T-7 crystal.

NE-132 Capable of holding two HC-13/U crystals, or other components of equivalent size. Popular for voltage reference diodes.

NE-200 With cavity size 2.75" high, 1.75" wide, by 1.375" deep, this oven is very popular for components. Can be adapted to accept plug in cards.

NE-461 Designed to hold one HC-6/U crystal where exceptional stability is required, without high cost of proportional control.

Many other types available as standard production models, or contact us with your special requirements.

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Card OSCILLATORS Package

NE-100TO A stable unit capable of handling a wide variety of applications. Popular at 100 Khz, high or low impedance, sign wave output. Available with A.F.C. terminal. With or without temperature control.

NE-200TO A versatile package for one or two oscillators, or one oscillator and another board for other functions. With or without temperature control.

Hermetically sealed oscillator packages for severe environments. Can be provided with terminal for remote frequency trim. Card oscillators for either plug in or bolt - down mounting. Available with amplifiers and wave shaping circuits. Temperature compensated oscillators for improved performance without the power required for temperature control.

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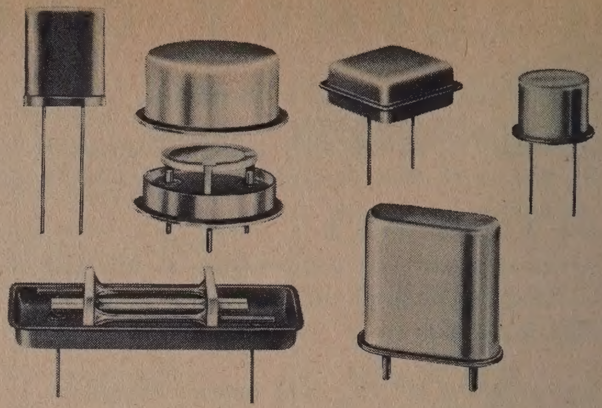
offers engineered quality in production quantities. Described are typical units representing more commonly used types. Descriptive data, including measured capabilities, will be furnished on request. If your need concerns types and parameters not shown, please contact our plant.



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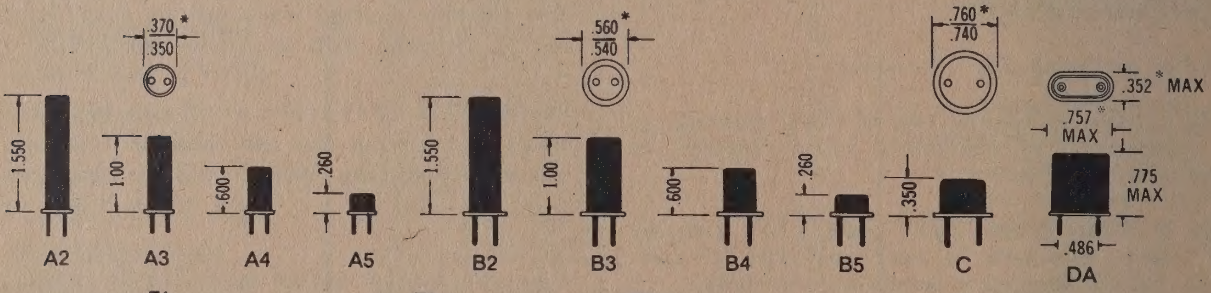
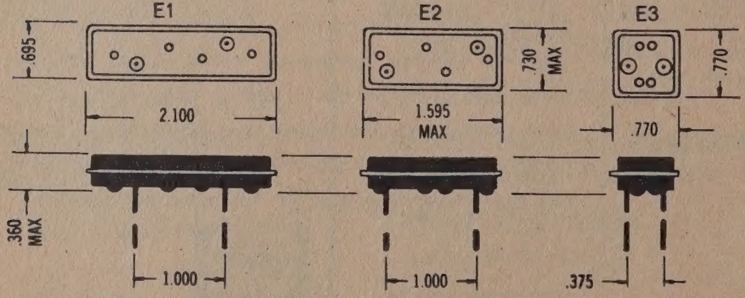
Frequency Range	Frequency Tolerance/Temperature Range			Holder Size (Military)*
	−55°C to +105°C	−40°C to +85°C	0°C to +50°C	
.85 to 50 kHz	±0.02%	±0.015%	±0.01%	HC-6, HC-13, HC-14
1 to 14 kHz	±0.02%	±0.015%	±0.01%	HC-13
14 to 150 kHz	±0.015%	±0.010%	±0.008%	HC-6, HC-13, HC-14, HC-17
90 to 300 kHz	±0.025%	±0.018%	±0.01%	HC-6, HC-13, HC-17
200 to 500 kHz	±0.012%	±0.008%	±0.003%	HC-6, HC-14, HC-17, HC-21(**)
200 to 800 kHz	±0.009%	±0.005%	±0.003%	HC-6, HC-13, HC-14, HC-17
250 to 800 kHz	±0.018%	±0.015%	±0.008%	HC-6, HC-14, HC-17
500 to 1,400 kHz	±0.005%	±0.004%	±0.0025%	HC-6, HC-14, HC-17
1.4 to 20 MHz	±0.004%	±0.004%	±0.002%	HC-6, HC-14, HC-17, 511, 512
10 to 200 MHz	±0.004%	±0.003%	±0.002%	HC-6, HC-13, HC-14, HC-17, HC-18

* All units listed are also available in T-5 ½ glass holder.

** Also available in T-9 glass bulb.

Quartz Crystals are also Available in these Coldweld Holders





*Dimensions after trimming.

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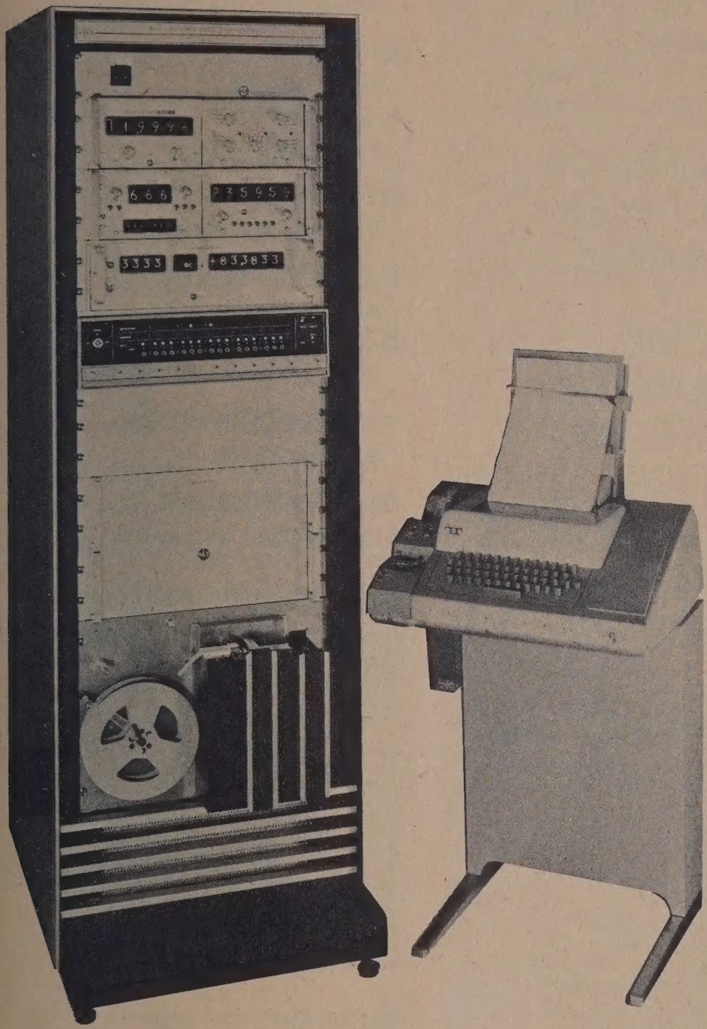
Data Acquisition Systems

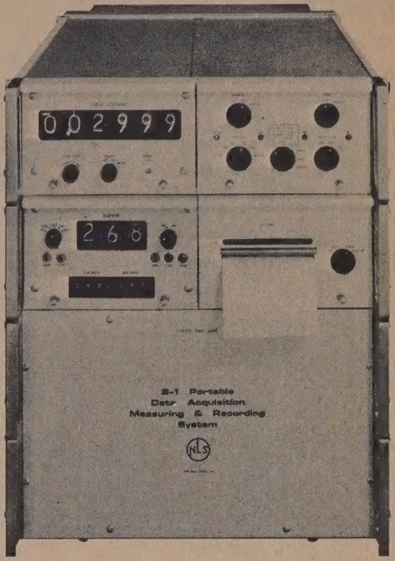
S-5 Computer Data System -

The heart of the S-5 Computer-based Data System is the 102000 Interface which allows a wide customer choice of digital computers. The 102000 Interface is compatible with most second & third generation data machines, and will service a variety of input & output peripherals. The S-5 also includes a unique visual display for engineering units or raw data output. The S-5 can be used for solving, running averages, flow rates, temperature coefficients, strain gage rosettes and other engineering analyses.

The S-5 modular building concept permits analog inputs of AC, DC, Resistance and frequency as well as external digital data. Up to 1000 three-wire inputs can be serviced.

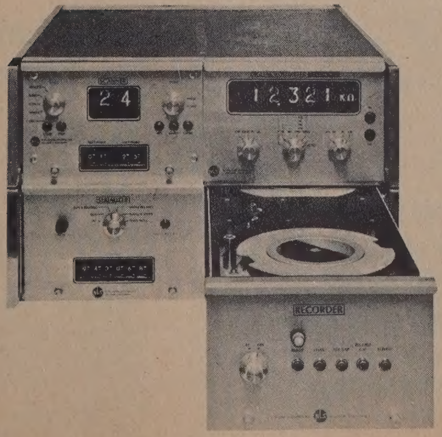
The S-5 will service many output peripherals such as X-Y plotters, magnetic and punched tape, CRT terminals, and data printers.





S-1 Data Acquisition Systems -

A modular building-block concept for data logging. The basic system handles 200, three wire inputs; measures DC from 1 µV to 750 VDC, AC from 10 µV to 500 V. Resistance from 0.1 milliohms to 120 Megohms, and Ratio. Inputs are switched by a fully-programmable crossbar scanner to a five digit DVM with a sixth digit 20% over-range. Output options include magnetic tape, punched paper tape, Flexowriter, punched cards, printer and teletypewriter. Other options include a digital clock, function programmer, reed relay expansion up to 1000 three wire input channels.



S-2 Portable Data Acquisition Systems -

The S-2 System offers a computer compatible incremental magnetic tape output and 25 input channels, all in a 10½" high package. The modular design consists of a 25-channel programmable scanner, a four digit integrating DVM with a fifth digit 20% overrange, a parallel-to-serial converter, and an incremental magnetic tape recorder. The system is completely programmable to accept a mixture of DC voltage, AC voltage and Resistance. A skipping of unused channels feature is standard in the S-2 System.

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D-C AMPLIFIERS

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D-C TO A-C CONVERTERS

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Computer Instruments Corp Hempstead . . . . N Y
Control Electronics Co Inc Farmingdale . . . . N Y
Corning Glass Works Corning . . . . N Y
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Data Delay Devices Clifton . . . . N J
Electrosil Ltd Sunderland Durham . . . . England
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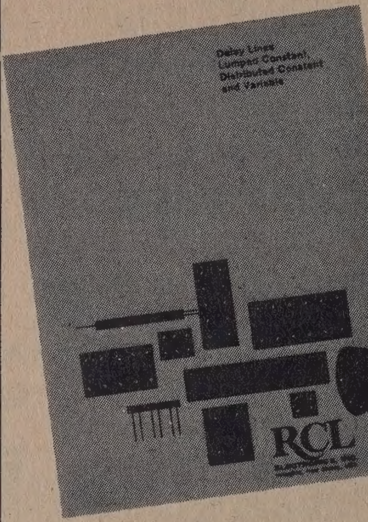
FREE Engineering Handbook on Electromagnetic Delay Lines



We've reserved a copy for your desk . . .

Terms . . . engineering definitions . . . how to specify delay lines . . . characteristics of various types . . . specifications . . . they're all included in this concise, easy-to-read handbook . . . yours for the asking.

LUMPED CONSTANT . . . DISTRIBUTED CONSTANT . . . VARIABLE all three types are covered in this reference handbook.

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Data Memory Inc Mountain View . . . .

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LUMPED CONSTANT DELAY LINES

CUSTOM-BUILT

Allen Avionics, Inc. manufactures a wide variety of delay lines to customers' specifications. The following specifications encompass areas in which we normally work. If, however, your requirements fall outside of the following parameters, we would still be interested in hearing from you.

RANGE — Delay times from 3 nanoseconds through audio ranges are available.

TIME DELAY/RISE TIME RATIO — Time delay to rise time ratio to 300/1.

CONSTRUCTION — Units are hermetically sealed in metal cans with glass to metal terminals. Epoxy encapsulated units are also available.

SIZE — Sizes are available from ⅝ x ⅝ x .450 inches.

TOLERANCE — Normal tolerance on time delay is 5%. In most cases tolerances of 1% can be held.

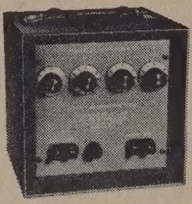
TEMPERATURE — Most of our lines are manufactured to 50 parts/million/degree C from minus 55 degree C to 105 degree C.

DELIVERY — Prototypes of special lines can often be delivered in a week or two.

Our engineering staff is always available to help with any delay line and application problems.

LUMPED CONSTANT DECADE DELAY LINES TYPE "D"

Type "D" Variable Decade Delay Units are engineered to provide variable time delays with absolute stability for accurate triggering and excellent reproduction of the input pulse. These lumped constant delay lines are completely passive. All models have a minimum of 1000 to 1 resolution and consist of three or more decade switches. Any delay output of Type "D" decade delay unit is the summation of individual lines. It is not the result of a tapped line. This feature is an important factor in eliminating undesirable reflections in the output pulse. Accuracy at any delay exceeding 1% of the unit's total delay is within 3%. These units have a characteristic impedance of 500 ohms in and out. While the units listed are standard, other delays and impedances can be manufactured to specifications.



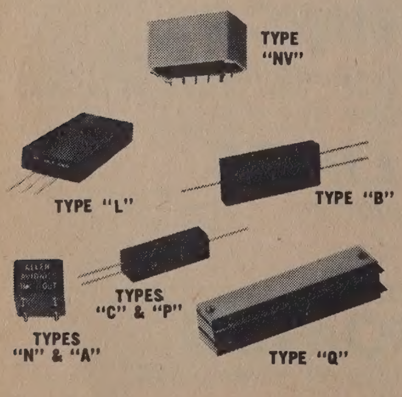
Cabinet Size: 8" wide x 8" high x 7" deep

Cabinet Size: 14" wide x 8" high x 10" deep

Cabinet Size: 17" wide x 9½" high x 11½" deep

Part No.	Maximum Time Delay In Microseconds	Resolution In Microseconds	Rise Time @ Max. Delay In Microseconds	Attenuation in db
D11	11.1	.01	.45	3
D21	21.1	.01	.85	5
D41	41.1	.01	1.65	5
DD41	41.1	.01	.83	5
D61	61.1	.01	2.45	6
DD61	61.1	.01	1.23	6
D1C	111.1	.01	4.45	3
DD1C	111.1	.01	2.23	8
D2C	211.1	.01	8.45	3
DD2C	211.1	.01	4.23	3
D4C	411.1	.01	16.45	3
DD4C	411.1	.01	8.23	6
D6C	611.1	.01	24.45	3
DD6C	611.1	.01	12.23	6
D1K	1111.1	.01	40.45	3
DD1K	1111.1	.01	20.23	8
D2K	2111	.1	84.5	5
D4K	4111	.1	164.5	6
D6K	6111	.1	244.5	8
D11K	11,111	.1	244.5	11
D21K	21,111	1	844.5	11
DD2K	2111	.1	42.25	5
DD4K	4111	.1	82.25	6
DD6K	6111	.1	122.25	8
DD11K	11,111	.1	222.25	11
DD21K	21,111	1	422.25	11
DD41K	41,111	1	822.25	12
DD61K	61,111	1	1222.25	12

STOCKED DELAY LINES FROM 20 NANOSECONDS TO 1000 MICROSECONDS



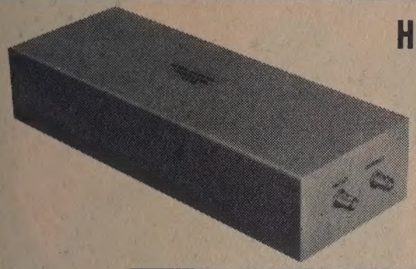
TYPE	TIME DELAY	IMPEDANCE	TIME DELAY TO RISE TIME RATIO	SIZE
N	20, 30, 40, 50, 60, 70, 80, 90, 100 ns.	100 Ω	3.5 to 1	⅝" x ⅝" x .450"
A	0.1, 0.2, 0.3, 0.4, 0.5 μs.	500 Ω	3.5 to 1	⅝" x ⅝" x .450"
	0.5, 0.6, 0.7, 0.8, 0.9, 1.0 μs.	1000 Ω		
C	.4, .5, .6, .7, .8, .9, 1.0, 1.1, 1.2 μs.	1000 Ω	5 to 1	6/10" x ½" x 2"
P	.2, .3, .4, .5, .6, .8, 1.0, 1.2, 1.6, 2.0 μs.	500 Ω	5 to 1	6/10" x ½" x 2"
Q*	.2, .3, .4, .5, .6, .8 μs.	100 Ω	5 to 1	1 5/16" x 4.9" x .550"
	.1, .2, .3, .4, .5, .6, .8, 1,2 μs.	500 Ω		
	.2, .3, .4, .5, .6, .8, 1 μs.	1000 Ω		
NV	10 to 100 ns. in 10 ns. steps	100 Ω	5 to 1	.675" x 1.30" x .735"
B	5, 10, 15 μs.	1000 Ω	5 to 1	½" x 1⅜" x 3⅛"
L	25, 75, 200, 250 μs.	250 Ω	5 to 1	2½" x 4½" x .8"
	50, 150, 400, 500 μs.	500 Ω		
	100, 300, 800, 1000 μs.	1000 Ω		

* Since the Quick Line is a tapped module consisting of 10 sections, the tap increment of any module can be determined by dividing the module time delay by 10. Modules of the same impedance can be put together in groups of 1, 2, 3 and 4 to achieve different time delay and rise time combinations.

ALLEN AVIONICS, INC.

255 EAST SECOND STREET • MINEOLA, NEW YORK 11501 • 516-747-5450

LUMPED CONSTANT DELAY LINES



HIGHEST $\frac{\text{TIME DELAY}}{\text{RISE TIME}}$ RATIO EVER BUILT!

These Delay Lines have the highest ratio of time delay to rise time that has ever been built in a Lumped Constant Line. Unlike other types of high ratio lines, the Lumped Constant Delay Line has a passband from D.C. to its cutoff frequency and maintains a constant delay over these frequencies. These lines are also unique in that they offer relatively low insertion loss.

This group of lines is characterized by tight time delay tolerances, low pulse distortion, excellent phase linearity and good temperature stability.

For laboratory use, any time delays from 10 microseconds to 100 microseconds can be built into variable decade instruments with ratios of over 100/1. These units could have a resolution of up to 1/5000 of the total delay.

Series "HF" HIGH FREQUENCY

The HF Series in most cases will serve as more than adequate electrical replacement for coaxial cable. The inconvenience of handling and storing cable will thus be eliminated. Standard impedances of 50 and 75 ohms are available. Units are normally supplied with BNC connectors. Tapped lines and time delays other than those shown below can be supplied.

50/1 RATIO
ATTENUATION 9 db MAXIMUM
SIZE: 2½" x 4½" x 12"

Time Delay Microseconds	Rise Time Microseconds Maximum	Bandwidth (3 db) Megacycles
.5	.010	36.0
.6	.012	30.0
.7	.014	25.7
.8	.016	22.5
.9	.018	20.0
1.0	.020	18.0
1.25	.025	14.4
1.5	.030	12.0
1.75	.035	10.3
2.0	.040	9.0
2.5	.050	7.2
3.0	.060	6
3.5	.070	5.15
4.0	.080	4.5
4.5	.090	4.0
4.75	.095	3.8

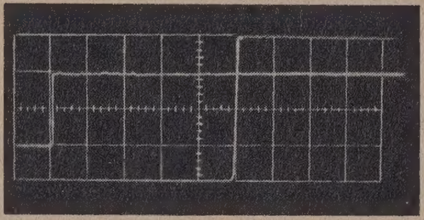
75/1 RATIO
ATTENUATION 12 db MAXIMUM
SIZE: 3½" x 4½" x 12"

1.5	.020	18
1.75	.023	15.4
2.0	.027	13.5
2.25	.030	12.0
2.50	.033	10.8
2.75	.037	9.8
3.0	.040	9.0
3.25	.043	8.3
3.50	.047	7.7
3.75	.050	7.2
4.0	.053	6.75
4.25	.057	6.35
4.50	.060	6.0
4.75	.063	5.7

100/1 RATIO
ATTENUATION 15 db MAXIMUM
SIZE: 3½" x 6½" x 16"

2.0	.020	18
2.25	.023	16
2.5	.025	14.4
2.75	.028	13
3.0	.030	12
3.25	.033	11.1
3.5	.035	10.3
3.75	.038	9.6
4.0	.040	9
4.25	.043	8.48
4.5	.045	8
4.75	.048	7.58

Series "HR"



1 MICROSECOND PER DIVISION
(5 Microseconds Delay — .05 Microsecond Rise Time)

100/1 RATIO
ATTENUATION 8 db MAXIMUM
SIZE: 2½" x 4½" x 12"

Time Delay Micro-seconds	Rise Time Micro-seconds	Bandwidth (3 db) Megacycles	Imped-ance Ohms
5	.05	7.2	50-100
6	.06	6.0	50-100
7	.07	5.15	50-100
8	.08	4.5	50-100
9	.09	4	50-100
10	.1	3.6	50-100
15	.15	2.4	50
20	.20	1.8	50
25	.25	1.44	50
30	.3	1.2	50
35	.35	1.03	50
40	.40	.9	50
45	.45	.8	50
50	.50	.72	50

130/1 RATIO
ATTENUATION 9 db MAXIMUM
SIZE: 3½" x 4½" x 12"

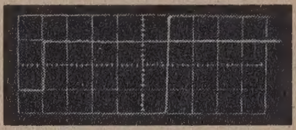
5	.039	9.36	50
10	.077	4.68	50-100
15	.116	3.11	50-100
20	.154	2.34	50
25	.193	1.86	50
30	.232	1.55	50
35	.271	1.33	50
40	.308	1.17	50
45	.348	1.035	50
50	.387	.930	50
60	.462	.780	50
75	.580	.620	50
90	.693	.520	250
100	.770	.468	250

Series "VHR"

The "VHR" Series have a characteristic impedance of 50 ohms. While the units listed are standards, we can manufacture the "VHR" Lines to your exact delay specifications.

These units are hermetically sealed in a metal can 3½ x 6½ x 16 inches, with four ¼ x 20 studs on the 6½ x 16 inch surface.

Two BNC connectors are located on the 3½ x 6½ inch surface for input and output connections. Variable Decade Delay Units can be manufactured for laboratory use from the "VHR" Lines.



5 MICROSECONDS PER DIVISION
(25 Microseconds Delay—.1 Microsecond Rise Time)

150/1 RATIO ATTENUATION 16 db MAXIMUM
SIZE: 3½" x 6½" x 16"

Time Delay Microseconds	Rise Time Microseconds
10	.067
15	.100
20	.133
25	.167
30	.200
35	.233
40	.267
45	.300
50	.333
55	.367
60	.400
63	.420
65	.433
70	.467

200/1 RATIO ATTENUATION 18 db MAXIMUM

10	.050
15	.075
20	.100
25	.125
30	.150
35	.175
40	.200
45	.225
50	.250
55	.275
60	.300
63	.315
65	.325
70	.350
75	.375

250/1 RATIO ATTENUATION 20 db MAXIMUM

20	.080
25	.100
30	.120
35	.140
40	.160
45	.180
50	.200
60	.240
63	.252
65	.260
70	.280
80	.320
90	.360
100	.400

ALLEN AVIONICS, INC.

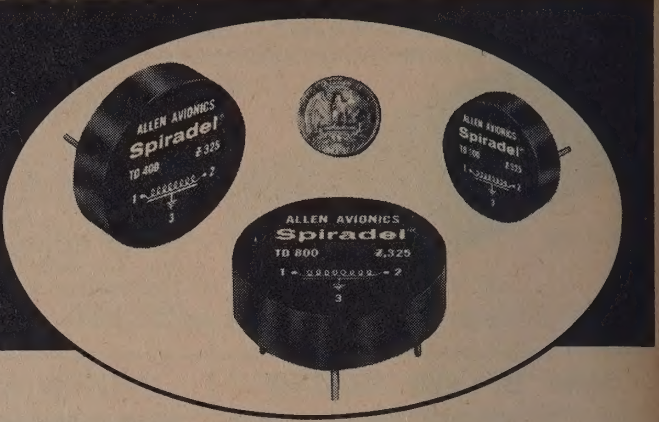
255 EAST SECOND STREET • MINEOLA, NEW YORK 11501 • 516-747-5450

SPIRADEL®*

THE MOST COMPACT

Highest Time Delay to Rise Time Ratio

DISTRIBUTED DELAY LINE



STANDARD HEIGHT OF ALL UNITS: 7/16"

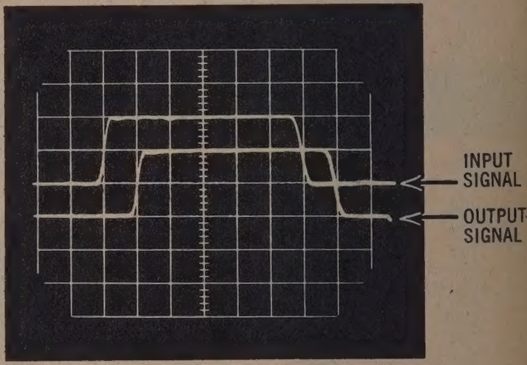
Impedance (Ohms)	Time Delay (Nano-seconds)	Rise Time (Nano-seconds) Maximum	Delay to Rise Time Ratio Minimum	Band-width Minimum (MC)	Attenu-ation Maximum (%)	Diameter Inches
150	20	5	4/1	70	10	1.2
	30	6.5	4.62/1	53.8	10	1.2
	40	7.5	5.33/1	46.7	10	1.2
	50	7.7	6.5/1	45.5	10	1.2
	60	7.9	7.6/1	44.3	10	1.6
	70	8	8.75/1	40	10	1.6
	80	8.2	9.75/1	35.9	15	1.6
	90	8.5	10.6/1	33	15	1.6
	100	9	11.1/1	31.5	15	1.6
325	100	12	8.3/1	29.2	15	1.2
	150	14	10.7/1	25.0	15	1.2
	200	17	11.7/1	20.6	15	1.2
	250	19	13.1/1	18.4	20	1.6
	300	21	14.3/1	16.7	20	1.6
	350	23	15.2/1	15.3	20	1.6
	400	24	16.7/1	14.6	25	1.6
	450	26	17.3/1	13.5	25	2.5
	500	28	17.8/1	12.5	25	2.5
	550	29	18.9/1	12.1	25	2.5
	600	31	19.4/1	11.3	25	2.5
	650	33	19.7/1	10.6	25	2.5
	700	34	20.6/1	10.3	30	2.5
	750	35	21.4/1	10.0	30	2.5
	800	37	21.6/1	9.5	30	2.5
	850	39	21.8/1	9.0	30	2.5
	900	41	22.0/1	8.5	30	2.5
	950	43	22.1/1	8.1	30	2.5
	1000	45	22.2/1	7.8	30	2.5
600	1000	70	14.3/1	5	20	2.5
	1500	85	17.6/1	4.11	25	2.5
	2000	100	20/1	3.5	25	2.5
	2500	115	21.7/1	3.04	35	2.5
	3000	125	24/1	2.8	40	3.25
	3500	140	25/1	2.5	40	3.25
	4000	150	26.7/1	2.34	50	3.25
	4500	165	27.3/1	2.12	50	3.25
	5000	170	29.4/1	2.06	50	3.75
	5500	185	29.7/1	1.89	60	3.75
	6000	200	30/1	1.75	60	3.75

FOR IMMEDIATE DELIVERY!

SPIRADEL is a small diameter, distributed constant fixed delay line, featuring higher delay to rise time ratio and excellent pulse fidelity. Its new shape offers greater package design versatility than most other delay lines available, and the entire unit is encapsulated for maximum environmental protection.

The SPIRADEL line covers a delay range of 20 to 6000 nanoseconds. Any delay within this range may be selected. Time delay to rise time ratios range up to 30 to 1. Any impedance from 150 to 600 ohms is available. Standard delay tolerance is 5%, although tighter tolerances can be held.

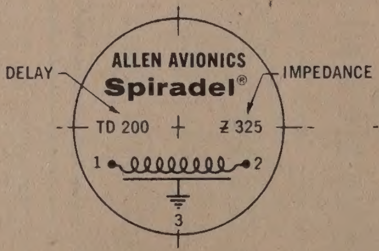
SPIRADEL units are designed for operation from —55°C up to +105°C. Bandwidth is from DC to the frequency f = .35/rise time.

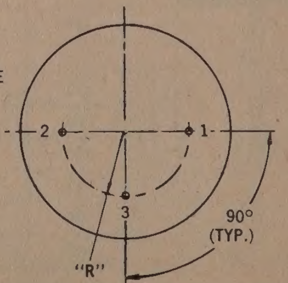


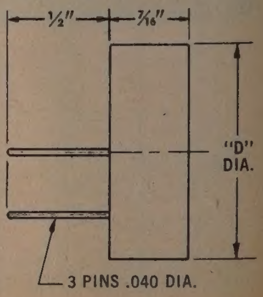
Actual oscilloscope presentation photo of input and output pulses of 100 ns. Spiradel, illustrating excellent pulse fidelity.

TO ORDER STANDARD UNIT SPECIFY SPIRADEL, TIME DELAY & IMPEDANCE

"D"	"R"
1.2"	.400"
1.6"	.600"
2.5"	1.050"
3.25"	1.425"
3.75"	1.675"







*Patented and patents applied for.

When you want high efficiency delay lines specify Kappa Super-η*

*SUPER-η LINES embody a new design principle providing the highest efficiency yet obtainable in lumped constant delay lines. Use of network synthesis techniques rather than conventional m-derived methods results in sharply improved delay line efficiency. Compared to ordinary lines of any given delay, KAPPA SUPER-η lines provide linear performance over a much greater band width. In addition these newly developed lines offer such outstanding advantages as: greater inherent reliability, smaller package size, and appreciable cost reduction.

SUPER-η LINES FOR VIDEO SYSTEMS

Impedance:	75 ohms (unless otherwise specified)
Amplitude Response:	better than 0.1 db. flatness to 10 MHZ or higher
Ripple:	within ± .05 db to 10 MHZ or higher
Group Delay:	linear within ± 1% or ± 1 nsec, whichever is greater.
Group Delay Ripple:	within ± 2½% to 14 MHZ
K factor:	better than .25% for T or 2T sin² pulse for both American and European systems
Cross talk:	less than 46 db.

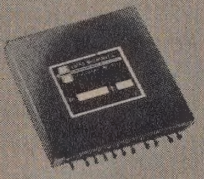
UPDATE YOUR VIDEO BROADCAST EQUIPMENT WITH KAPPA SUPER-η DELAY LINES!

Specify KAPPA for the most complete line of electro-magnetic delay lines...

STANDARD LUMPED CONSTANT DELAY LINES SERIES LC

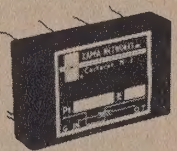
Delay: 50 Nanoseconds to 1 second
Bandwidth: DC to 250 MHZ
Rise Time: As low as 2 Nanoseconds
Impedance: 25 ohms to 50 K ohms

TRANSPONDER LINES SERIES C



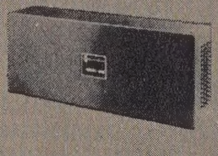
Tap Spacing: 1.45 µsec, or as required
Tap Tolerance: ± .05, or as required
Delay-to-Rise-Time Ratio: 100 max.
Temperature Stability: 50 ppm °C or less

LOW DISTORTION LINES SERIES D



Distortion at Output: 2% max.
Distortion at Taps: Less than 5% at any tap
Distortion Limit: As low as 0.1% if required
Delay Range: up to 100 usec.

PRECISION AUDIO DELAY LINES SERIES A

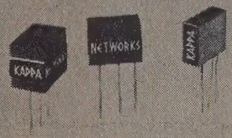


Delay Range: from 500 µsec to 1 sec.
Bandwidth: 70 KHZ (max.)
Delay Linearity: nominally within ± 0.25%; available to within ± 0.05%

PRECISION DECADE DELAY UNITS SERIES DK

Variable delays available between input and output terminals in decade steps. Each decade has eleven (11) switch contacts and ten (10) delay increments so that the dial values overlap.

ULTRA MINIATURE DELAY LINES SERIES T

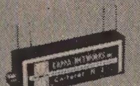


Delay Range: to 200 nsec.
Delay/Rise Time: 10 max.
Attenuation: .2 db max.
Fully encapsulated

STANDARD DISTRIBUTED CONSTANT DELAY LINES SERIES DC

Delay Range: to 3 µsec.
Standard Tolerance: ± 5% on Delay
Delay-to-Rise-Time Ratio: 11 max.
Distortion: ± 5% (typical), ± 10% max.

DELAY TRIMMERS: TINY TRIM® SERIES



Size: ¼ Cubic Inch

PART NUMBER	Ø SHIFT RANGE @ 3.58 MHZ DEG.	DELAY (Nano-sec.)	RISE TIME (Nano-sec.)	IMPEDANCE (ohms)
TT20D	25	20	5	500
TT30C	38	30	7.5	390
TT40D	50	40	10	500
TT50C	64	50	12.5	390
TT60C	75	60	15	330

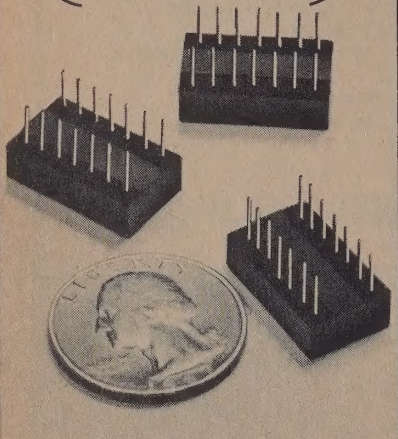
Contact us for the name of your nearest representative or consult listing in this directory. Complete new catalog available.

KAPPA NETWORKS, INC.
Delay Line Specialists • Electric Wave Filters
Manufacturing Engineers
165 ROOSEVELT AVENUE • CARTERET, NEW JERSEY 07008 • TEL. (201) 541-4226

See Our Filter Ad on Page 270

New
Dual-in-line
delay lines

...only
from BEL



Bel introduces the first DUAL-IN-LINE delay lines compatible with integrated circuit designs. Over 100 fixed delay values from 5 to 1,000 nanoseconds at impedance values of 50, 75, 100, 200, 500, 1,000 Ohms are available with 7 to 11 taps.

Various separate delay lines may be included within one package, with resistive termination to form a DUAL-IN-LINE module.

Write or call today for complete specifications and engineering assistance.

bel
BEL FUSE INC.
198 Van Vorst Street
Jersey City, N.J. 07302
Phone (201) HE 2-0463

4

DELAY LINES—LUMPED CONSTANT, VARIABLE

ALLEN AVIONICS INC,DIV A K ALLEN CO INC MINEOLA N Y .... ADV PGS 218-220
BEL FUSE, INC JERSEY CITY N J .... ADV PG 222
COMPUTER INSTRUMENTS CORP HEMPSTEAD .... N Y
JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y .... ADV PGS 95-97
KAPPA NETWORKS INC CARTERET N J .... ADV PG 221
MICROSONICS DIV WEYMOUTH .... MASS
PCA ELECTRONICS INC SEPULVEDA CAL .... ADV PG 655
R C L ELECTRONICS INC IRVINGTON .... N J
SIEMENS AMERICA INC NEW YORK .... N Y
Allen Avionics Inc,Div A K Allen Co Inc Mineola .... N Y
Andersen Laboratories, Inc Bloomfield .... Conn
Artronic Instrument Co Silver Spring .... Md
Atlas Coil Corp Ansonia .... Conn
Bel Fuse, Inc Jersey City .... N J
Chronetics Inc Mount Vernon .... N Y
Columbia Components Corp Sub Computer Instr Corp Hempstead .... N Y
Computer Devices Corp Commack .... N Y
Computer Instruments Corp Hempstead .... N Y
Control Electronics Co Inc Farmingdale .... N Y
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark .... N J
Data Delay Devices Clifton .... N J
Daven Div McGraw-Edison Co Manchester .... N H
El-Rad Mfg Co Chicago Ill
EMR Div Weston Instruments Inc Princeton .... N J
Ferranti, Ltd Lancashire .... England
Fullmer Electronics Inc Northridge .... Cal
Gulton Industries Inc Metuchen .... N J
JFD Electronics Corp, Components Div Brooklyn .... N Y
Kappa Networks Inc Carteret .... N J
Microsonics Div Weymouth .... Mass
Microwave Associates Inc Burlington .... Mass
Nanosecond Systems Inc Fairfield .... Conn
Nu-Devices Inc Norwalk .... Conn
PCA Electronics Inc Sepulveda .... Cal
R C L Electronics Inc Irvington .... N J
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Science Accessories Corp Southport .... Conn
Shallco Inc Smithfield .... N C
Siemens America Inc New York .... N Y
Universal Ad-Yu Electronics Inc Passaic .... N J
Vanguard Electronics Co Inglewood .... Cal
Vitra Instrument & Electronics Corp Syosset .... N Y
VP Co Pasadena .... Cal

DELAY LINES—MAGNETOSTRICTIVE

BEL FUSE, INC JERSEY CITY .... N J
MICROSONICS DIV WEYMOUTH .... MASS
Andersen Laboratories, Inc Bloomfield .... Conn
Bel Fuse, Inc Jersey City .... N J
Computer Devices Corp Commack .... N Y
Control Electronics Co Inc Farmingdale .... N Y
Magne-Head Div, Gen Instrument Corp Hawthorne .... Cal
Microsonics Div Weymouth .... Mass
Nu-Devices Inc Norwalk .... Conn
Sangamo Electric Co Springfield Ill
Science Accessories Corp Southport .... Conn
Tyco Labs, Digital Devices Div. Syosset .... N Y

DELAY LINES—TRANSMISSION LINES, COILED OR SPIRALED

BEL FUSE, INC JERSEY CITY .... N J
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS .... ADV PG 372
DAINICHI-NIPPON CABLES, LTD TOKYO .... JAPAN
KAPPA NETWORKS INC CARTERET N J .... ADV PG 221
PREMIER MICROWAVE CORP PORT CHESTER .... NY
R C L ELECTRONICS INC IRVINGTON .... N J
Aircom Inc Union .... N H
Andersen Laboratories, Inc Bloomfield .... Conn
Andrew Corp Orland Park Ill
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Aviation Electric Ltd St Laurent, Montreal .... Que
Bel Fuse, Inc Jersey City .... N J
Coaxco Inc Portland .... Ore
Communication Dynamics Corp Yonkers .... N Y
Computer Devices Corp Commack .... N Y
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark .... N J
Dainichi-Nippon Cables, Ltd Tokyo .... Japan
Data Delay Devices Clifton .... N J
Daytron Inc Mountain View .... Cal
Dero Research & Devel Corp Huntington .... N Y
Dinion Coil Co Inc Caledonia .... N Y
Fullmer Electronics Inc Northridge .... Cal
Herley Industries, Inc Syosset .... N Y
Kappa Networks Inc Carteret .... N J
Meridian Metalcraft Inc Whittier .... Cal
Microwave Associates Inc Burlington .... Mass
Millen Mfg Co Inc, James Malden .... Mass
Nanosecond Systems Inc Fairfield .... Conn
Nytronics of Canada Ltd Trenton .... Ont
Phelps Dodge Communications Co North Haven .... Conn
Precision Tube Co Inc North Wales .... Pa
Premier Microwave Corp Port Chester .... NY
R C L Electronics Inc Irvington .... N J
Sanders Assoc Inc, Microwave Div Nashua .... N H
Seven Associates Inc Sunnyvale .... Cal
Specialty Waveguide Corp Burlington .... Mass
Times Wire & Cable Co Sub Insilco Wallingford .... Conn
Uniform Tubes Inc Collegeville .... Pa
Universal Ad-Yu Electronics Inc Passaic .... N J
Virginia Electronics Co Inc Falls Church .... Va

DELAY LINES—SEMICONDUCTOR (INCL. SHIFT REGISTER ASSEMBLIES)

FORK STANDARDS INC WEST CHICAGO IL
R C L ELECTRONICS INC IRVINGTON .... N J
American Micro-Systems, Inc Santa Clara .... Ca
Autonetics Div North American Rockwell Corp Anaheim .... Ca
Fork Standards Inc West Chicago Il
Listening Inc Arlington .... Mass
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Ca
Optical Electronics Inc Tuscon .... Ari
R C L Electronics Inc Irvington .... N
Seg Electronics Corp Brooklyn .... NY
VP Co Pasadena .... Ca

DELAY LINES—ULTRASONIC, FIXED

MICROSONICS DIV WEYMOUTH .... MASS
Andersen Laboratories, Inc Bloomfield .... Conn
Bliley Electric Co Erie .... P
Control Electronics Co Inc Farmingdale .... N
Corning Glass Works Corning .... N
Creative Electric Inc Auburn .... N
Electrosil Ltd Sunderland Durham .... Englan
Fullmer Electronics Inc Northridge .... Ca
Marconi Co Ltd Chelmsford .... Englan
Marconi Div, English Electric Corp New York .... N
Microsonics Div Weymouth .... Mas
Microwave Electronics A Teledyne Co Palo Alto .... Ca
Motorola, Govt Electronics Div Scottsdale .... Ari
Quartz & Silice Paris 8 eme .... Franc
Sangamo Electric Co Springfield I
Tyco Labs, Digital Devices Div. Syosset .... N

DELAY LINES—ULTRASONIC, VARIABLE

MICROSONICS DIV WEYMOUTH .... MAS
Andersen Laboratories, Inc Bloomfield .... Con
Control Electronics Co Inc Farmingdale .... N
Creative Electric Inc Auburn .... N
Delavan Mfg Co West Des Moines .... Iow
Dero Research & Devel Corp Huntington .... N
Fullmer Electronics Inc Northridge C
Microsonics Div Weymouth .... Mas
Tyco Labs, Digital Devices Div. Syosset .... N

DELAYS—A-F, VARIABLE

ALLEN AVIONICS INC,DIV A K ALLEN CO INC MINEOLA .... N
BEL FUSE, INC JERSEY CITY .... N
KAPPA NETWORKS INC CARTERET N J .... ADV PG 2
MICROSONICS DIV WEYMOUTH .... MAS
R C L ELECTRONICS INC IRVINGTON .... N
Acton Laboratories Inc Acton .... Ma
Allen Avionics Inc,Div A K Allen Co Inc Mineola .... N
Andersen Laboratories, Inc Bloomfield .... Co
Audio Instrument Co Inc Union City .... N
Bel Fuse, Inc Jersey City .... N
Berkeley Nucleonics Corp Berkeley C
Chronetics Inc Mount Vernon .... N
Computer Devices Corp Commack .... N
Control Electronics Co Inc Farmingdale .... N
Data Delay Devices Clifton .... N
Kappa Networks Inc Carteret .... N
MCG Electronics Inc Deer Park .... N
Microsonics Div Weymouth .... Ma
Nu-Devices Inc Norwalk .... Co
R C L Electronics Inc Irvington .... N
Stelma Inc Stamford .... Co
Teledata Inc Queens Village .... N
Tyco Labs, Digital Devices Div. Syosset .... N
Universal Ad-Yu Electronics Inc Passaic ....

DELAYS—MULTIVIBRATOR, SINGLE SHOT

Abtronics, Inc Livermore ....
Autronics Corp Pasadena ....
Berkeley Nucleonics Corp Berkeley ....
Chronetics Inc Mount Vernon ....
Control Logic Inc Natick .... M
DatCon Electronics Corp Mt Vernon ....
Digital Equipment Corp Maynard .... M
Fidelity Amplifier Co Chicago ....
Fisher-Akin Co Manhattan Beach ....
Frost Electronics Corp Rockaway ....
Massey Dickinson Co Inc Saxonville .... M
Monitor Systems Inc an Aydin Co Fort Washington ....
Navcor Inc Div KDI Corp Norristown ....
Solid State Electronics Corp Sepulveda ....
Tyco Instrument Div Waltham .... M
Vidcor Co Inc Gardena ....

DELAYS—TAPE TYPE

KINELOGIC CORP PASADENA ....
Applied Magnetics Corp, Magnetic Tape Head Div Goleta ....
Audio Instrument Co Inc Union City ....
Broadcast Electronics Inc Silver Spring ....
Dero Research & Devel Corp Huntington ....
Electron-Ohio Inc Cleveland ....
Genisco Technology Corp Compton ....
Hathaway Instrument Div Denver ....
Kinelogic Corp Pasadena ....

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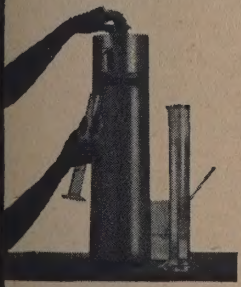
AUTOMATIC DEIONIZER

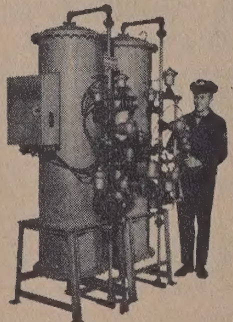
Culligan® DA automatic deionizer costs 26% less than any other deionizer of its size and type!

The innovations of Culligan engineering and the economies of volume production are combined in our DA models to provide substantially better performance at substantially lower cost. Exclusive control automatically programs the complete regeneration cycle at the simple push of a button. Visible or audible quality control indicator, which can be preset to desired water quality for specific applications, is optionally available. Rugged Tripl-Hull construction with sweat-free exterior, in sizes up to 720 gph. Exchange capacities to 120,000 grains in duplex models. And behind it all is the security of prompt, reliable service by your local Culligan Man. Call him today and ask him about that 26%.



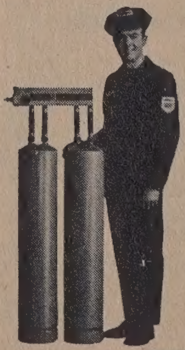
CONVENIENT D-25 DEIONIZER

Low-cost unit provides virtually chemically pure water, within limited space, at 48 gph.



PACKAGED DEIONIZERS

Factory assembled for easy installation. Corrosion resistant piping, heavy-duty tanks. Up to 5000 gph.



EXCHANGE SERVICE SYSTEM

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Precision Instrument Co Palo Alto .... Cal
Sparta Electronic Corp Sacramento .... Cal
Thermionic Products Electronics Ltd Southampton ... England
Video Research Corp Rockville .... Md

DELAYS—TRANSPORT TYPE

KINELOGIC CORP PASADENA .... CAL
Applied Magnetics Corp, Magnetic Tape Head Div Goleta .. Cal
Audio Instrument Co Inc Union City .... N J
Kinelogic Corp Pasadena .... Cal
Tyco Labs, Digital Devices Div. Syosset .... N Y
Video Research Corp Rockville .... Md

DEMAGNETIZERS

BELL, INC F W COLUMBUS .... OHIO
INDIANA GENERAL CORP MAGNET DIV VALPARAISO .. IND
PERMAG CORP JAMAICA .... N Y
Advanced Kinetics, Inc Costa Mesa .... Cal
Annis Co, R B Indianapolis .... Ind
Bell, Inc F W Columbus .... Ohio
Bulova Watch Co Inc, Watchmaster Products Div
  Jackson Heights .... N Y
Canadian Research Institute Don Mills .... Ont
Colt Industries Inc, Crucible Inc Pittsburgh .... Pa
Electronic Brazing Co Montclair .... N J
Fisher Engineering Inc Huntington .... Ind
G C Electronics Div, Hydrometals Inc Rockford Ill
General Electric Co Magnetic Matls Bus Sect Edmore ... Mich
Green Electric Corp Fairlawn .... NJ
Green Rectifier Corp Fair Lawn .... N J
Ideal Industries Inc Sycamore Ill
Indiana General Corp Magnet Div Valparaiso .... Ind
Irwin Labs Inc Los Angeles .... Cal
Kendrick & Davis Inc Lebanon .... N H
L & R Mfg Co Kearny .... N J
Magnaflux Corp Chicago Ill
Mann Co, Henry Cornwell Heights .... Pa
Martindale Electric Co Cleveland .... Ohio
Microtran Co Inc Valley Stream .... N Y
Permag Corp Jamaica .... N Y
Permanent Magnet Co Inc Indianapolis .... Ind
Philmore Mfg Co Inc Richmond Hill .... N Y
Recoton Corp Long Island City .... N Y
RFL Industries Inc, Instrumentation Div Boonton .... N J
Robins Industries Corp Flushing .... N Y
Shester Engineering Co Inc Culver City .... Cal
Sunbeam Equipment Corp Meadville .... Pa
Thomas & Skinner Inc Indianapolis .... Ind

DEMINERALIZING EQUIPMENT

BARNSTEAD CO DIV SYBRON CORP BOSTON ...... MASS
CULLIGAN INC NORTHBROOK ILL .... ADV PG 223
Advanced Purification System Co Inc Great Neck .... N Y
AMF Cuno Div Amer Machine & Fdry Co Meriden ...... Conn
Amsco Industrial Co Div Amer Sterilizer Co Erie .... Pa
Barnstead Co Div Sybron Corp Boston .... Mass
Corning Glass Works Corning .... N Y
Crystal Research Lab Inc Hartford .... Conn
Culligan Inc Northbrook Ill
Gardner Lab Inc Bethesda .... Md
Hungerford & Terry Inc Clayton .... N J
Interlab Inc Pleasantville .... N Y
Millipore Corp Bedford .... Mass
Pall Corp, Environmental Control Systems Div
  Long Island City .... NY
Pall Trinity Micro Corp Cortland .... N Y
Permutit Co Paramus .... N J
Precision Scientific Co Sub GCA Corp Chicago Ill
Ramyr Mfg Co Buena Park .... Cal
Rex Chainbelt Inc Milwaukee .... Wis

DEMODULATORS, SYNCHRONOUS—CHOPPER TYPE

AIRPAX ELECTRONICS INC SEMINOLE DIV
** FORT LAUDERDALE .... FLA**
HEWLETT-PACKARD PALO ALTO .... CAL
ITHACO INC ITHACA .... N Y
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Airpax Electronics Inc, Cambridge Div Cambridge .... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale ..... Fla
American Micro-Systems, Inc Santa Clara .... Cal
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Cie De Signaux Et D'Entreprises Electriques
  Paris 17eme .... France
Control Technology Co Inc Long Island City .... N Y
General Magnetics Inc Bloomfield .... N J
Glentek Inc Santa Monica .... Cal
Hewlett-Packard Palo Alto .... Cal
Industrial Control Co Farmingdale .... N Y
Ithaco Inc Ithaca .... N Y
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Nippon Electric Co Ltd Tokyo .... Japan
Novatronics Inc Pompano Beach .... Fla
Nu-Devices Inc Norwalk .... Conn
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Reflex Controls Corp Huntington Station .... NY
Signet Controls Inc Tulsa .... Okla
Solid State Electronics Corp Sepulveda .... Cal

DEMODULATORS, SYNCHRONOUS—ELECTRONIC

AIRPAX ELECTRONICS INC SEMINOLE DIV
** FORT LAUDERDALE .... FLA**
HEWLETT-PACKARD PALO ALTO .... CAL
INTRONICS INC NEWTON .... MASS
ITHACO INC ITHACA .... N Y
MINI-CIRCUITS LAB BROOKLYN .... N Y
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SCIENTIFIC-ATLANTA INC ATLANTA .... GA
THETA INSTRUMENT CORP FAIRFIELD .... N J
VARI-L CO INC STAMFORD .... CONN
Airpax Electronics Inc, Cambridge Div Cambridge .... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale ..... Fla
Anaren Microwave Inc Syracuse .... N Y
Astrodata Inc Anaheim .... Cal
Brower Labs Inc Waltham .... Mass
C-E Electronics Div Ametek Feasterville .... Pa
Control Technology Co Inc Long Island City .... N Y
Datametrics Inc Waltham .... Mass
Dynalectron Corp Aerospace Prods Div San Leandro ..... Cal
Electrac Inc Anaheim .... Cal
Ferranti, Ltd Lancashire .... England
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
General Resistance Inc Div Chronetics Inc Mount Vernon .. N Y
Glentek Inc Santa Monica .... Cal
Gopic Designs Co San Diego .... Cal
Hewlett-Packard Palo Alto .... Cal
Industrial Control Co Farmingdale .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
International Communications Corp Miami .... Fla
Intronics Inc Newton .... Mass
Ithaco Inc Ithaca .... N Y
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Loral Electronic Systems, Div Loral Corp New York ...... NY
Mayberry Electronics Co Inglewood .... Cal
Milgo Electronic Corp Miami .... Fla
Mini-Circuits Lab Brooklyn .... N Y
Natel Electronic Industries Inc. Van Nuys .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
Novatronics Inc Pompano Beach .... Fla
Nu-Devices Inc Norwalk .... Conn
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Philco-Ford Corp Washington .... D C
Princeton Applied Research Corp Princeton .... N J
Relcom Mountain View .... Cal
Rixon Electronics Inc Silver Spring .... Md
Sanders Assoc Inc, Electro Sciences Div Buffalo .... N Y
Sanders Assoc Inc, Instrument Div Manchester .... N H
Saturn Electronics Corp Garland .... Tex
Scientific-Atlanta Inc Atlanta .... Ga
Solid State Electronics Corp Sepulveda .... Cal
SRC Div Crescent Technology Corp Newport Beach, ... Cal
Stelma Inc Stamford .... Conn
Theta Instrument Corp Fairfield .... N J
Transmagnetics Inc Flushing .... N Y
Trio Laboratories Inc Plainview .... N Y
TRW Systems Group Redondo Beach .... Cal
Vari-L Co Inc Stamford .... Conn
Varo Inertial Products Inc Waterbury .... Conn
Washington Technological Assoc Inc Rockville .... Md

DEMONSTRATORS, ELECTRONIC CIRCUIT—MAGNETIC AMPLIFIER CIRCUITS

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
TECHNICAL APPARATUS BUILDERS DIV POWER
** ALTERNATING DIRECT CORP BROOKLYN .... N Y**
Amtron Inc Sub Republic Corp Midlothian Ill
Burtek Inc Tulsa .... Okla
Dinion Coil Co Inc Caledonia .... N Y
Dresser Systems, Inc Houston .... Tex
International Contronics Inc Sunnyvale .... Cal
Loral Electronic Systems, Div Loral Corp New York ...... NY
Nippon Electric Co Ltd Tokyo .... Japan
RIL Electronics Inc Southampton .... Pa
Stone Laboratories Inc Boston .... Mass
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn .... N Y

DEMONSTRATORS, ELECTRONIC CIRCUIT—TRANSISTOR CIRCUITS

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
TECHNICAL APPARATUS BUILDERS DIV POWER
** ALTERNATING DIRECT CORP BROOKLYN .... N Y**
TEST TECHNOLOGY INC FERN PARK .... FLA
Amtron Inc Sub Republic Corp Midlothian Ill
Applied Control Co Cedar Grove .... NJ
Burtek Inc Tulsa .... Okla
Design Products Corp Troy .... Mich
Digiac Corp Plainview .... N Y
Digital Products Corp Fort Lauderdale .... Fla
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Training Aids Co Cambridge .... Mass
E & L Instruments Inc Derby .... Conn
General Electronic Labs Div Sippican Corp Boston ..... Mass
Logic Corp Haddonfield .... N J
Navcor Inc Div KDI Corp Norristown .... Pa
Nippon Electric Co Ltd Tokyo .... Japan
Pastoriza Div Analog Devices Cambridge .... Mass
Radio Corp of America, Electronic Components Harrison .. N J
RIL Electronics Inc Southampton .... Pa
Stone Laboratories Inc Boston .... Mass
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn .... N Y
Test Technology Inc Fern Park .... Fla
Vitro Labs Div Vitro Corp of America W Orange .... N J

DEMONSTRATORS, ELECTRONIC CIRCUIT—TUBE CIRCUITS

KEPCO INC FLUSHING N Y .... ADV PG 4th Cover
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Burtek Inc Tulsa .... Ok
Dinion Coil Co Inc Caledonia .... N
EICO Electronic Instrument Co Inc Brooklyn .... N
Electronic Training Aids Co Cambridge .... Ma
General Electronic Labs Div Sippican Corp Boston ..... Ma
Kepco Inc Flushing .... N
Nippon Electric Co Ltd Tokyo .... Jap
Radio Corp of America, Electronic Components Harrison .. N
Reflex Controls Corp Huntington Station .... N
RIL Electronics Inc Southampton .... P
Stone Laboratories Inc Boston .... Ma
Vector Electronic Co Inc Sylmar C

DENSITOMETERS—ELECTRONIC

NIPPON ELECTRIC CO LTD TOKYO .... JAPA
Applied Research Labs Sunland C
Automation Products, Inc Houston .... T
Beckman Instruments Inc Fullerton, ... C
Beckman Instruments Intl SA 1207 Geneva ..... Switzerla
Beckman & Whitley Mountain View C
Canadian Research Institute Don Mills .... O
Digital Instruments Co Inc Shawnee-Mission .... Ka
Elastronics Labs Tarzana C
Electron Machine Corp. Umatilla .... F
Gamma Scientific Inc San Diego C
Gardner Lab Inc Bethesda .... M
Grace Electronics Inc Cleveland .... Oh
H H Controls Co Inc Arlington .... Ma
Ikor, Inc Burlington .... Ma
Jarrell-Ash Co Waltham .... Ma
Lektra Labs Inc Div Kriser Corp College Point .... N
Mann Co, David W, Div GCA Corp Burlington .... Ma
Nichols Co Ltd, R H Downsview .... O
Nippon Electric Co Ltd Tokyo .... Jap
Nuclear Enterprises Ltd Edinburgh .... Scotla
Nuclear Research Instruments Berkeley C
Optomechanisms Inc Plainview .... N
Ovitron Corp Industrial Syst Div Cheshire .... Co
Poole Instruments Inc Dallas .... T
Royco Instruments Inc Menlo Park C
Schoeffel Instrument Corp Westwood .... N
Solartron Electronic Group Ltd Farnbrough .... Engla
States Electronics Corp, Bludworth Marine Div Linden ... N
Technical Operations Inc Burlington .... Ma
Telautograph Corp Los Angeles C
Thorn Automation Ltd Rugeley, Staffs .... Engla
Troxler Electronic Labs Inc Raleigh .... N
Westrex Div Litton Industries, Inc Hollywood C

DENSITY CONTROLS

***See* Controls—Density**

DENSITY INDICATORS

***See* Densitometers**

DEPTH RECORDERS

***See* Depth Sounders**

DEPTH SOUNDERS

HEATH CO BENTON HARBOR .... MI
NIPPON ELECTRIC CO LTD TOKYO .... JAP
Acoustica Associates Inc Los Angeles ....
Alden Electronic & Impulse Recording Equip Co Inc
  Westboro .... M
CEC-Benmar Santa Ana ....
Channel Industries Inc Santa Barbara ....
Columbian Hydrosonics Div Columbian Bronze Corp
  Freeport ....
E G & G Int'l Inc Geodyne Div Waltham .... M
General Coil Products Corp Brooklyn ....
General Dynamics, Electronics Div Rochester ....
General Instrument Corp, Harris ASW Div Westwood ... M
Geodyne Div EG&G Int'l Waltham .... M
Gulton Industries Inc Metuchen ....
Hayakawa Electric Co Ltd Osaka .... Ja
Heath Co Benton Harbor .... M
Jetronic Industries Inc Philadelphia ....
Kidde & Co Inc, Walter Belleville ....
Konigsberg Electronics Inc So San Francisco ....
Linden Labs Inc State College ....
Nippon Electric Co Ltd Tokyo .... Ja
Ocean Sonics Inc El Segundo ....
Oki Electric Industry Co Ltd Tokyo .... Ja
Pearce-Simpson Inc Div Gladding Corp Miami ....
Pioneer Instrument Inc Hanover .... N
Radio Corp of America, Comml Elctn Prods Div Camden ..
Ramsay Engineering Co Anaheim ....
Raytheon Co, Marine Products Operation S San Francisco
Republic Electronic Industries Corp Melville ....
Research Mfg Corp San Diego ....
Ross Laboratories Inc Seattle V
Simpson Electronics, Inc Miami ....
Space & Systems Div General Time Corp Stamford ....
States Electronics Corp, Bludworth Marine Div Linden ...
Straza Industries Div Ametek Inc El Cajon ....

DESICCANTS

CULLIGAN INC NORTHBROOK ....
STAR PORCELAIN CO TRENTON N J .... ADV PG
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical
  Corp Carle Place ....
Baker Chemical Co, J T Phillipsburg ....
Barium and Chemicals, Inc Steubenville ....
Bio-Rad Laboratories Richmond ....
Cargocaire Engineering Corp Amesbury ....

lligan Inc Northbrook	Ill
w Chemical Co Midland	Mich
hn & Co Inc Wethersfield	Conn
ch Light Labs Ltd Colnbrook, Bucks	England
Pine Scientific Co Chicago	Ill
ltiform Desiccant Products Inc Buffalo	N Y
ll Trinity Micro Corp Cortland	N Y
rfectaire Equipment Co Cambridge	Mass
oduits Chimiques Pechiney St Gobain 92 Neuilly Iseine	France
ar Porcelain Co Trenton	N J
perior Continental Corp Hickory	N C
ion Carbide Corp, Linde Div New York	N Y
ited Mineral & Chemical Corp New York	N Y
n-Air Inc Erie	Pa
ntron Corp. Metal Chemicals Div. Beverly	Mass

ETECTORS—FIRE, ELECTRONIC

ACTION INSTRUMENTS INC VIENNA	**VA**
RVO CORP OF AMERICA HICKSVILLE	**N Y**
rolite Electronics Corp Union City	N J
antic Instruments & Electronics, Inc Watertown	Mass
rnes Engineering Co Def & Space Div Stamford	Conn
mponents Specialties Inc Freeport	N Y
ison, Thomas A Industries, Instr Div West Orange	N J
ectron-Radar Products Chicago	Ill
raday Inc Tecumseh	Mich
nwal Inc Ashland	Mass
nnini-Voltex-Radex-Irvine Whittier	Cal
od Electronic Corp Jupiter	Fla
neywell Resdntl & Coml Sls Divs Minneapolis	Minn
trumentation & Control Systems Inc Addison	Ill
lde & Co Inc, Walter Belleville	N J
ral Electronic Systems, Div Loral Corp New York	NY
ck Electric Devices Inc Wyncote	Pa
sler Electronic Systems Div Mosler Safe Co Danbury	Conn
torola Communications & Electronics Div Schaumburg	Ill
tifier Co Sub Emhart Corp Lincoln	Neb
Electric Industry Co Ltd Tokyo	Japan
tron Corp Industrial Syst Div Cheshire	Conn
nnsylvania Electronics Technology, Inc Pittsburgh	Pa
ssey Co Ltd Ilford Essex	England
otector Inc Hingham	Mass
action Instruments Inc Vienna	Va
nsor Precision Industries Inc Medfield	Mass
rvo Corp of America Hicksville	N Y
net Controls Inc Tulsa	Okla
nplex Time Recorder Co Gardner	Mass
ar Aerospace Products Ltd Toronto	Ont
ited Electric Controls Co Watertown	Mass

ETECTORS—FLAW & DEFECT, ELECTRONIC

LL, INC F W COLUMBUS	**OHIO**
NERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
RVO CORP OF AMERICA HICKSVILLE	**N Y**
len Electronic & Impulse Recording Equip Co Inc Westboro	Mass
nstro Corp Fairfield	N J
plachian Electronic Instruments Inc Ronceverte	W Va
tomation Industries Inc Matls Evaluation Grp Danbury	Conn
rnes Engineering Co Def & Space Div Stamford	Conn
l, Inc F W Columbus	Ohio
ck Light Products Chicago	Ill
nadian Marconi Co Montreal 16	Quebec
we Instruments Ltd London W3	England
cker Corp Bala Cynwyd	Pa
e Co, J W Englewood	N J
lan Jenner Industries Inc Melrose	Mass
napar Corp Sub Louis Allis Co Gurnee	Ill
ctron Machine Corp. Umatilla	Fla
st Electronics Corp Rockaway	N J
rdner Lab Inc Bethesda	Md
neral Electric Co, ECSO Schenectady	N Y
ardoni S p A Mandello Lario Como	Italy
odyear Aerospace Corp Akron	Ohio
de Park Electronics Inc Dayton	Ohio
lustrial Control Co Farmingdale	N Y
lustrial Electronetics Corp Satellite Beach	Fla
rared Industries Inc Santa Barbara	Cal
autkramer Ultrasonics Inc Stratford	Conn
den Labs Inc State College	Pa
uis Allis Co Div Litton Industries Milwaukee	Wisc
gnaflux Corp Chicago	Ill
G Electronics Inc Deer Park	N Y
crowave Instruments Co Corona del Mar	Cal
niature Electronic Components Corp Holbrook	Mass
tsubishi Electric Corp Tokyo	Japan
I- Mechanical Technology Inc Latham	NY
irhead Instruments Inc Mountainside	N J
sh & Harrison Ltd Ottawa 3	Ont
tron Corp Industrial Syst Div Cheshire	Conn
otobell Co Inc New York	N Y
otel Corp C/O Milletron Inc Pittsburgh	PA
dio Corp of America, Comml Elctn Prods Div Camden	N J
gdon Corp Brookfield	Ill
rvo Corp of America Hicksville	N Y
ger-GPE Controls Inc Morton Grove	Ill
nshine Scientific Instruments Inc Philadelphia	Pa
racuse Electronics Corp Syracuse	N Y
chnical Operations Inc Burlington	Mass
orn Automation Ltd Rugeley, Staffs	England
ing Instruments Inc East Haddam	Conn
stern Technical Products Corp North Hollywood	Cal

ETECTORS, GAS—EXPLOSIVE

ATH CO BENTON HARBOR	**MICH**
ro Vac Corp Troy	N Y
Atlantic Instruments & Electronics, Inc Watertown	Mass
Automation Products, Inc Houston	Tex
Bacharach Instrument Co Pittsburgh	Pa
Beckman Instruments Inc Fullerton,	Cal
Columbian Hydrosonics Div Columbian Bronze Corp Freeport	N Y
Decker Corp Bala Cynwyd	Pa
Devco Engineering Inc Fairfield (Caldwell)	N J
Edison, Thomas A Industries, Instr Div West Orange	N J
Electron-Radar Products Chicago	Ill
Erdco Engineering Corp Addison	Ill
Farrand Optical Co Inc Bronx	N Y
Gardner Lab Inc Bethesda	Md
Gas Analysis Systems Inc Basking Ridge	NJ
General Coil Products Corp Brooklyn	N Y
Good Electronic Corp Jupiter	Fla
Heath Co Benton Harbor	Mich
Houston Atlas Inc Houston	Tex
Kidde & Co Inc, Walter Belleville	N J
Lucci & Co Marine Div Mechtron-Genco Sarasota	Fla
Matheson Gas Products East Rutherford	N J
Mine Safety Appliances Co Pittsburgh	Pa
Model Rectifier Corp Brooklyn	N Y
Raytheon Co, Marine Products Operation S San Francisco	Cal
Techni-Tool Inc Philadelphia	Pa
Teledyne Systems Control Sys A Teledyne Co El Segundo	Cal
United Recording Electronics Industries North Hollywood	Cal
Varian Aerograph Walnut Creek	Cal

DETECTORS, GAS—NONEXPLOSIVE

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE	**MD**
SERVO CORP OF AMERICA HICKSVILLE	**N Y**
Acton Associates Pittston	Pa
Aero Vac Corp Troy	N Y
Automation Products, Inc Houston	Tex
Bacharach Instrument Co Pittsburgh	Pa
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Bendix Corp Environmental Science Div Baltimore	Md
Cambridge Systems Inc Newton	Mass
Dalmo Victor, A Textron Div Belmont	Cal
Decker Corp Bala Cynwyd	Pa
Devco Engineering Inc Fairfield (Caldwell)	N J
Electron-Radar Products Chicago	Ill
Erdco Engineering Corp Addison	Ill
Farrand Optical Co Inc Bronx	N Y
Fischer & Porter Co Warminster	Pa
Gardner Lab Inc Bethesda	Md
Gas Analysis Systems Inc Basking Ridge	NJ
Gelman Instrument Co Ann Arbor	Mich
General Electric Co Ordnance Systems Pittsfield	Mass
Gow-Mac Instrument Co Madison	N J
Hill Inc E Vernon San Francisco	Cal
Houston Atlas Inc Houston	Tex
Kahn & Co Inc Wethersfield	Conn
Lion Research Corp Newton	Mass
Mast Development Co Davenport	Iowa
Matheson Gas Products East Rutherford	N J
Melpar Inc, Special Prods Dept Falls Church	Va
Mine Safety Appliances Co Pittsburgh	Pa
RCA, Defense Electronic Products Moorestown	N J
Servo Corp of America Hicksville	N Y
Solar Instrumentation Co South Lake Tahoe Cal	Cal
Sunshine Scientific Instruments Inc Philadelphia	Pa
Te Company Santa Barbara	Cal
Varian Aerograph Walnut Creek	Cal
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh	Pa

DETECTORS—INFRARED

***See* Infrared Equipment**

DETECTORS, LEAK—DYE PENETRANT

American Ultraviolet Co Chatham	NJ
Automation Industries Inc Matls Evaluation Grp Danbury	Conn
Black Light Corp of America San Gabriel	Cal
Black Light Products Chicago	Ill
Clarkson Labs Inc Camden	NJ
Decker Corp Bala Cynwyd	Pa
Dice Co, J W Englewood	N J
Gilardoni S p A Mandello Lario Como	Italy
Hill Inc E Vernon San Francisco	Cal
Magnaflux Corp Chicago	Ill
Shannon Luminous Materials Co Hollywood	Cal
Sherwin Inc Los Angeles	Cal
Ultra-Violet Products Inc San Gabriel	Cal

DETECTORS, LEAK—RADIOACTIVE TRACER TYPE

Ardel Corp Glendale	Cal
EON Corp Brooklyn	N Y
Intertechnique Plaisir 78	France
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Nuclear Supplies Encino	Cal
Raytheon Co, Government Marketing Lexington	Mass
Superior Continental Corp Hickory	N C
Troxler Electronic Labs Inc Raleigh	N C
TRW Systems Group Redondo Beach	Cal
20th Century Electronics Ltd New Addington Croydon Cr 90 BG	England
Victoreen Instrument Div Cleveland	Ohio

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Your marketplace for products

DETECTORS, LEAK—VACUUM SYSTEM

HEWLETT-PACKARD PALO ALTO	**CAL**
TEXWIPE CO HILLSDALE	**N J**
Alcatel Paris 8eme	France
Bailey Co Washington	D C
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Consolidated Controls Corp Bethel	Conn
Datametrics Inc Waltham	Mass
Dawe Instruments Ltd London W3	England
Decker Corp Bala Cynwyd	Pa
Devco Engineering Inc Fairfield (Caldwell)	N J
Edwards High Vacuum Inc Grand Island	N Y
Edwards High Vacuum (Canada) Ltd Oakville	Ont
Gas Analysis Systems Inc Basking Ridge	NJ
Hewlett-Packard Palo Alto	Cal
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside	Cal
Leybold-Heraeus, Inc. Monroeville	Pa
MKS Instruments Inc Burlington	Mass
Norton Co Vacuum Equip Div Newton	Mass
Nuclide Corp, AGV Div Acton	Mass
Poole Instruments Inc Dallas	Tex
Sloan Instruments Corp Santa Barbara	Cal
Techni-Tool Inc Philadelphia	Pa
Techsonics El Prado	N M
Texwipe Co Hillsdale	N J
20th Century Electronics Ltd New Addington Croydon Cr 90 BG	England
Ultek Div Perkin-Elmer Palo Alto	Cal
Ulvac Corp Tokyo	Japan
Vacuum Instrument Corp Huntington Station	N Y
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y

DETECTORS, LEAK—WATER

Ardel Corp Glendale	Cal
Atlantic Instruments & Electronics, Inc Watertown	Mass
Black Light Corp of America San Gabriel	Cal
Black Light Products Chicago	Ill
Cambridge Systems Inc Newton	Mass
Chemalloy Electronics Corp Santee	Cal
Decker Corp Bala Cynwyd	Pa
Devco Engineering Inc Fairfield (Caldwell)	N J
FRL Inc Fisher Research Div Palo Alto	Cal
Gates & Co, George W Franklin Square	N Y
Good Electronic Corp Jupiter	Fla
Hygrodynamics Inc Silver Spring	Md
Lucci & Co Marine Div Mechtron-Genco Sarasota	Fla
Metrotech Div Dictaphone Corp Mountain View	Cal
Techsonics El Prado	N M
Ultra-Violet Products Inc San Gabriel	Cal
Vapor Corp Chicago	Ill

DETECTORS, METAL, ELECTRONIC—INDUSTRIAL

BELL, INC F W COLUMBUS	**OHIO**
MICRO SWITCH DIV, HONEYWELL FREEPORT	**ILL**
Advance Industries Inc Appleton	Wis
Automatic Timing & Controls, Inc King of Prussia	Pa
Automation Products Mfg Inc Boca Raton	Fla
Avionics, Inc South Bend	Ind
Bell, Inc F W Columbus	Ohio
Bin-Dicator Ultrasonics Div. Detroit	Mich
Brilmayer Labs Inc, E W Harrison	NY
Canadian Research Institute Don Mills	Ont
Controlomag Labs Roslyn	Pa
Controlotron Corp Farmingdale	N Y
Decker Corp Bala Cynwyd	Pa
De-Tec-Tronic Corp Chicago	Ill
Dice Co, J W Englewood	N J
Dynamic Precision Controls Corp Hagerstown	Ind
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Electro-Mechanics Co Austin	Tex
Electronic Control Corp Detroit	Mich
Electro-Sonic-Control Manteca	Cal
Forway Industries Inc Woodbury	N J
FRL Inc Fisher Research Div Palo Alto	Cal
General Equipment & Mfg Co Louisville	Ky
Gilardoni S p A Mandello Lario Como	Italy
Harworth Mfg Co Redwood City	Cal
Helm Instrument Co Inc Toledo	Ohio
Hyde Park Electronics Inc Dayton	Ohio
Industrial Electronetics Corp Satellite Beach	Fla
Infinetics Inc, Electromagnetic Div Wilmington	Del
Instrument Corp of America Timonium	Md
Instrument Labs Corp Chicago	Ill
ITT Decca Marine Inc New York	NY
La Telemecanique Electrique 92 Rueil	France
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Meridian Lab Inc Madison	Wis
Micro Switch Div, Honeywell Freeport	Ill
MTI- Mechanical Technology Inc Latham	NY
Peco Corp Mountain View	Cal
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Research Associates Inc Linden	N J
Research Industrolectronics Roslyn	Pa
Robot Industries Inc Dearborn	Mich
Sensor Corp Greenwich	Conn
Skan-A-Matic Corp Skaneateles	N Y

Systems Matrix Inc Trenton .... N J
Techrand Corp of America Muskegon .... Mich
VP Co Pasadena .... Cal
Wayne Kerr Co c/o Southfield Electronics Southfield ... Mich

DETECTORS, METAL ELECTRONIC—MAGNETIC

BELL, INC F W COLUMBUS .... OHIO
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT . IOWA
INDIANA GENERAL CORP MAGNET DIV VALPARAISO .. IND
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL
Amecom Div Litton Industries College Park .... Md
Automatic Equipment Corp Cincinnati .... Ohio
Automation Products Mfg Inc Boca Raton .... Fla
Bell, Inc F W Columbus .... Ohio
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Controlomag Labs Roslyn .... Pa
Control Science Corp Alexandria .... Va
Decker Corp Bala Cynwyd .... Pa
De-Tec-Tronic Corp Chicago Ill
Eagle Signal A Gulf & Western Co Davenport .... Iowa
EDI Bradenton .... Fla
Electro-Mechanics Co Austin .... Tex
Electronic Control Corp Detroit .... Mich
Electron Machine Corp. Umatilla .... Fla
Electro-Sonic-Control Manteca .... Cal
Gammatronix Inc Dublin .... Ohio
Gardiner Electronics Phoenix .... Ariz
General Equipment & Mfg Co Louisville .... Ky
Gilardoni S p A Mandello Lario Como .... Italy
Hyde Park Electronics Inc Dayton .... Ohio
Ikor, Inc Burlington .... Mass
Indiana General Corp Magnet Div Valparaiso .... Ind
Industrial Control Co Farmingdale .... N Y
Infinetics Inc, Electromagnetic Div Wilmington .... Del
Instrument Labs Corp Chicago Ill
International Electro-Magnetics Inc Palatine Ill
La Radiotechnique Compelec Paris 11e .... France
La Telemecanique Electrique 92 Rueil .... France
Luminator Inc Plano .... Tex
Meridian Lab Inc Madison .... Wis
Micro Switch Div, Honeywell Freeport Ill
MTI- Mechanical Technology Inc Latham .... NY
Peco Corp Mountain View .... Cal
Photobell Co Inc New York .... N Y
Rawson-Lush Instrument Co Inc Acton .... Mass
Research Associates Inc Linden .... N J
Research Industrolectronics Roslyn .... Pa
Robot Industries Inc Dearborn .... Mich
Sigma Instruments Inc Braintree .... Mass
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ariz
States Electronics Corp, Bludworth Marine Div Linden .... N J
Technical Development Co Glenolden .... Pa
VP Co Pasadena .... Cal

DETECTORS, METAL, ELECTRONIC—MEDICAL

American Instrument Co, Inc Silver Spring .... Md
Ark Electronics Corp Willow Grove .... Pa
Bionic Instruments Inc Bala Cynwyd .... Pa
Decker Corp Bala Cynwyd .... Pa
Gardner Lab Inc Bethesda .... Md
Gilardoni S p A Mandello Lario Como .... Italy
Harworth Mfg Co Redwood City .... Cal
Infinetics Inc, Electromagnetic Div Wilmington .... Del
VP Co Pasadena .... Cal
Wayne Kerr Co c/o Southfield Electronics Southfield ... Mich

DETECTORS, METAL, ELECTRONIC—UNDERWATER

Chemalloy Electronics Corp Santee .... Cal
Decker Corp Bala Cynwyd .... Pa
EDI Bradenton .... Fla
Electro-Mechanics Co Austin .... Tex
FRL Inc Fisher Research Div Palo Alto .... Cal
Gardiner Electronics Phoenix .... Ariz
General Equipment & Mfg Co Louisville .... Ky
Goodyear Aerospace Corp Akron .... Ohio
Infinetics Inc, Electromagnetic Div Wilmington .... Del
Linden Labs Inc State College .... Pa
Meridian Lab Inc Madison .... Wis
Space & Systems Div General Time Corp Stamford ..... Conn
States Electronics Corp, Bludworth Marine Div Linden .... N J
Straza Industries Div Ametek Inc El Cajon .... Cal
VP Co Pasadena .... Cal

DETECTORS, MICROWAVE, COMPLETE ASSEMBLIES—FIXED TUNED

ALUMINUM DESIGN CORP BROOKFIELD ILL
AMPHENOL DANBURY .... CONN
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IND
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV
EAST BOSTON MASS .... ADV PG 372
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
HEWLETT-PACKARD PALO ALTO .... CAL
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG
MD .... ADV PG 49
Aertech Industries Sunnyvale .... Cal
Aircom Inc Union .... N H
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Alfred Electronics Palo Alto .... Cal
Alpha Industries Inc Newton Upper Falls .... Mass
Aluminum Design Corp Brookfield Ill
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Amphenol Danbury .... Conn
Anaren Microwave Inc Syracuse .... N Y
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Bendix Corp, Microwave Devices Div Franklin .... Ind
Cardwell Condenser Corp Lindenhurst .... N Y
Coax Devices Chelsea .... Mass
Control Data Corp. Boston Sp & Def Sys Div
East Boston .... Mass
Diamond Antenna & Microwave Corp Winchester ...... Mass
Douglas Microwave Co Div Struthers Electronics Corp
Mamaroneck .... N Y
Electro-Data Inc Garland .... Tex
Engelmann Microwave Co Montville .... NJ
Ewen-Knight Corp East Natick .... Mass
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co, ECSO Schenectady .... N Y
General Microwave Corp Farmingdale .... N Y
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Industrial Components Inc Div Welsh Corp Beaverton ..... Ore
Jerrold Electronics Corp Philadelphia .... Pa
LDV Electro Science Industries Syracuse .... N Y
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microlab/F X R Livingston .... N J
Micronetics Div Teledyne Systems Co San Diego .... Cal
Microphase Corp Cos Cob .... Conn
Micro State Electronics Oper Raytheon Co Murray Hill ... N J
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Labs of America Brooklyn .... N Y
Microwave Products Group Inc Plainview .... N Y
Microwave Products Inc Chatsworth .... Cal
M-O Valve Co Ltd Hammersmith, London W6 .... Eng
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Omega Laboratories Inc Rowley .... Mass
Omni Spectra Inc Farmington .... Mich
Philmore Mfg Co Inc Richmond Hill .... N Y
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Raven Electronics Inc Burbank .... Cal
RLC Electronics Inc Port Chester .... N Y
Schutter Microwave Div, Cardwell Condenser Corp
Lindenhurst .... NY
Sedco Systems Inc Farmingdale .... N Y
Solitron/Microwave Long Island City .... N Y
Somerset Radiation Lab Inc Arlington .... Va
Struthers Electronics Corp Sub Struthers-Wells
Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Telonic Instruments Div Telonic Indus Inc Beech Grove .... Ind
Vector Industries A Teledyne Co Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass
Waveline Inc West Caldwell .... N J
Wayne Kerr Co c/o Southfield Electronics Southfield ... Mich
Weinschel Engineering Co Inc Gaithersburg .... Md
Wiltron Co Palo Alto .... Cal

DETECTORS, MICROWAVE, COMPLETE ASSEMBLIES—TUNABLE

ALUMINUM DESIGN CORP BROOKFIELD ILL
AMPHENOL DANBURY .... CONN
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IND
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EAST BOSTON MASS .... ADV PG 372
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
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MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG
MD .... ADV PG 49
Aertech Industries Sunnyvale .... Cal
Aircom Inc Union .... N H
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Aluminum Design Corp Brookfield Ill
American Electronic Labs Inc Lansdale .... Pa
Amphenol Danbury .... Conn
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Bendix Corp, Microwave Devices Div Franklin .... Ind
Cardwell Condenser Corp Lindenhurst .... N Y
Coax Devices Chelsea .... Mass
Control Data Corp. Boston Sp & Def Sys Div
East Boston .... Mass
Diamond Antenna & Microwave Corp Winchester ...... Mass
Douglas Microwave Co Div Struthers Electronics Corp
Mamaroneck .... N Y
Electro-Data Inc Garland .... Tex
Engelmann Microwave Co Montville .... NJ
Ewen-Knight Corp East Natick .... Mass
General Electric Co, ECSO Schenectady .... N Y
General Microwave Corp Farmingdale .... N Y
General Radio Co West Concord .... Mass
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
LDV Electro Science Industries Syracuse .... N Y
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal

Meridian Metalcraft Inc Whittier .... Ca
Microlab/F X R Livingston .... N
Micronetics Div Teledyne Systems Co San Diego .... Ca
Microwave Associates Inc Burlington .... Mas
Microwave Cavity Labs Div KMS Indus Inc La Grange Il
Microwave Development Labs Inc Needham Heights .... Mas
Microwave Labs of America Brooklyn .... N
Narda Microwave Corp Plainview .... N
Neico Microwave Co Waltham .... Mas
Nippon Electric Co Ltd Tokyo .... Japa
Oki Electronics of America, Inc Fort Lauderdale .... Fl
Omega Laboratories Inc Rowley .... Mas
PRD Electronics Inc, Sub H-I Corp Westbury .... N
Premier Microwave Corp Port Chester .... N
Radatron Inc North Tonawanda .... N
Radiation Systems Inc McLean V
RLC Electronics Inc Port Chester .... N
Schutter Microwave Div, Cardwell Condenser Corp
Lindenhurst .... N
Solitron/Microwave Long Island City .... N
Somerset Radiation Lab Inc Arlington V
Struthers Electronics Corp Sub Struthers-Wells
Mamaroneck .... N
Systron-Donner Corp Concord .... Ca
Victor Microwave Inc Wakefield .... Mas
Waveline Inc West Caldwell .... N
Weinschel Engineering Co Inc Gaithersburg .... M
Wiltron Co Palo Alto .... Ca

DETECTORS—NULL

***See* Indicators—Null**

DETECTORS—POWER FAILURE

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IN
OPAD ELECTRIC CO, INC NEW YORK .... N
American Aerospace Controls Inc Farmingdale .... N
Automatic Switch Co Florham Park .... N
Autronics Corp Pasadena .... Ca
Bendix Corp, Microwave Devices Div Franklin .... In
Bendix Corp Navigation & Control Div Teterboro, ... N
Controlotron Corp Farmingdale .... N
Data Device Corp Hicksville .... N
Diversified Electronics Inc Evansville .... In
Dynamic Controls Corp South Windsor .... Con
Edison, Thomas A Industries, Instr Div West Orange .... N
Engelmann Microwave Co Montville .... N
Ferranti, Ltd Lancashire .... Englan
Giannini-Voltex-Radex-Irvine Whittier C
Hartman Electrical Mfg Co Mansfield .... Oh
Hathaway Instrument Div Denver .... Co
Lark Electronics Inc New York .... N
Mack Electric Devices Inc Wyncote .... P
MCG Electronics Inc Deer Park .... N
Micro Ohm Corp El Monte C
Miniature Electronic Components Corp Holbrook .... Ma
Opad Electric Co, Inc New York .... N
Rochester Instrument Systems Inc Rochester .... N
Thorn Automation Ltd Rugeley, Staffs .... Englar
Vapor Corp Chicago ....

DETECTORS—RADIATION

***See* Counters—Nuclear Particle**

DETECTORS, STANDING WAVE—MICROWAVE

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. I
HEWLETT-PACKARD PALO ALTO C
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ....
NIPPON ELECTRIC CO LTD TOKYO .... JAP
PREMIER MICROWAVE CORP PORT CHESTER ....
SYSTRON-DONNER CORP CONCORD C
TEXSCAN CORP INDIANAPOLIS IND .... ADV PG 2
WEINSCHEL ENGINEERING CO INC GAITHERSBURG
MD .... ADV PG
Aertech Industries Sunnyvale ....
Aircom Inc Union .... N
Alford Mfg Co Winchester .... M
Alfred Electronics Palo Alto ....
Alpha Industries Inc Newton Upper Falls .... M
Amperex Electronic Corp, Professional Tube Div Hicksville .
Anzac-Waltham, Div Adams-Russell Waltham .... M
Applied Microwave Lab, Inc Andover .... M
Bendix Corp, Microwave Devices Div Franklin ....
Coax Devices Chelsea .... M
Diamond Antenna & Microwave Corp Winchester ...... M
Electronic Resources Inc Tasker Indus Los Angeles ....
General Microwave Corp Farmingdale ....
General Radio Co West Concord .... M
Guide Industries Inc Sun Valley ....
Herley Industries, Inc Syosset ....
Hewlett-Packard Palo Alto ....
MCS Corp Monrovia ....
Microlab/F X R Livingston ....
Micronetics Div Teledyne Systems Co San Diego ....
Microwave Cavity Labs Div KMS Indus Inc La Grange ....
Microwave Development Labs Inc Needham Heights .... M
Narda Microwave Corp Plainview ....
Nichols Products Co, Inc Moorestown ....
Nippon Electric Co Ltd Tokyo .... Ja
Oki Electronics of America, Inc Fort Lauderdale ....
Omega Laboratories Inc Rowley .... M
Philco-Ford Corp Washington ....
PRD Electronics Inc, Sub H-I Corp Westbury ....
Premier Microwave Corp Port Chester ....
RLC Electronics Inc Port Chester ....
Rohde & Schwarz Sales Co USA Inc Passaic ....
Somerset Radiation Lab Inc Arlington ....
Systron-Donner Corp Concord ....

elonic Engineering Co Div Telonic Indus Inc
Laguna Beach .... Cal
exscan Corp Indianapolis .... Ind
ictor Microwave Inc Wakefield .... Mass
/ayne Kerr Co c/o Southfield Electronics Southfield .... Mich
/einschel Engineering Co Inc Gaithersburg .... Md
/iltron Co Palo Alto .... Cal

ETECTORS, STANDING WAVE—R-F

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arker & Williamson Div Sunshine Mining Co Bristol .... Pa
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londer-Tongue Labs Inc Newark .... N J
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inney Co Bedford .... Ohio
eneral Microwave Corp Farmingdale .... N Y
eneral Radio Co West Concord .... Mass
uide Industries Inc Sun Valley .... Cal
eath Co Benton Harbor .... Mich
erley Industries, Inc Syosset .... N Y
ewlett-Packard Palo Alto .... Cal
licrowave Cavity Labs Div KMS Indus Inc La Grange Ill
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hilco-Ford Corp Washington .... D C
RD Electronics Inc, Sub H-I Corp Westbury .... N Y
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Chippenham .... England

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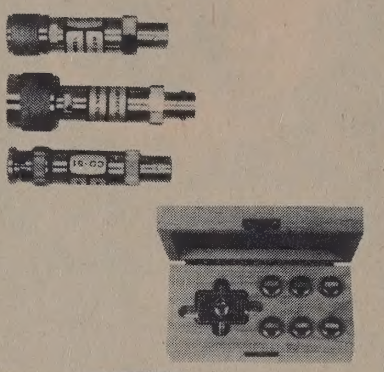

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Kerrco Inc Lincoln .... Nebr
Kilo Engineering Co La Verne .... Cal
Leeds & Northrup Co North Wales .... Pa
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Markon Mfg Inc Englewood .... Colo
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Precision Crafts La Cresenta .... Cal
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Rogan Brothers Inc Skokie Ill
Secs, Inc Long Island City .... N Y
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Smith Inc, Herman H Brooklyn .... N Y
Stafford Mfg Co Inc Brooklyn .... N Y
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Rochester .... N Y
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United States Radium Corp Morristown .... N J
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  Rochester ..... N Y
Theta Instrument Corp Fairfield ..... N J
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Gentape Corp Bloomfield ..... N J
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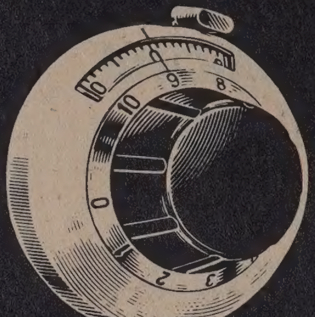

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DIELECTRIC HEATERS

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DIELECTRICS—LIQUID

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Forway Industries Inc Woodbury ..... N
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Lear Siegler Inc Santa Monica C
Magnetic Metals Co Camden ..... N
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DIFFERENTIAL AMPLIFIERS

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DIFFERENTIAL TRANSFORMERS

***See* Transformers Special**

DIFFERENTIATING AMPLIFIERS

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ee Computers

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Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Associates Inc Burlington .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Parametric Industries Inc Winchester .... Mass
Philco-Ford Corp Washington .... D C
Semiconductor Specialists Inc Chicago Ill
Semi-Elements Inc Saxonburg .... Pa
Semitronics Corp New York .... N Y
Sensitron Inc Costa Mesa .... Cal
Siemens America Inc New York .... N Y
Transitron Electronic Corp Wakefield .... Mass
Victory Engineering Corp Springfield .... N J

DIODES—ELECTROLUMINESCENT

HEWLETT-PACKARD PALO ALTO .... CAL
American Electronic Labs Inc Lansdale .... Pa
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Corvair Electronics New York .... N Y
Electro-Nuclear Lab Inc Menlo Park .... Cal
Hewlett-Packard Palo Alto .... Cal
ITT Electron Tube Div Easton .... Pa
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
La Radiotechnique Compelec Paris 11e .... France
Monsanto-Electronic Special Products Cupertino .... Cal
Philco-Ford Corp Washington .... D C
Seed Electronics Corp Lexington .... Mass
Semi-Elements Inc Saxonburg .... Pa
Semitronics Corp New York .... N Y

DIODES—FOUR-LAYER

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
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General Electric Co, ECSO Schenectady .... N Y
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Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York .... N Y
Texas Instruments Incorporated Dallas .... Tex
Transitron Electronic Corp Wakefield .... Mass
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AMC Semiconductor Corp New York .... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Ates Componenti Elettronici SpA Milano .... Italy
Corvair Electronics New York .... N Y
Emihus Microcomponents Ltd Hounslow Mdsx .... England
Erie Technological Products Inc Erie .... Pa
Fuji Electric Co Ltd Tokyo .... Japan
Fujitsu Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
General Instrument Europe SPA Milano .... Italy
Geoscience Instruments Corp Mt Vernon .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Diode Corp Jersey City .... N J
International Electronics Corp Melville .... NY
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Semiconductors West Palm Beach .... Fla
Kemtron Electron Products Inc Newburyport .... Mass
KMC Semiconductor Corp Long Valley .... N J
La Radiotechnique Compelec Paris 11e .... France
Marconi Co Ltd Chelmsford .... England
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Microphase Corp Cos Cob .... Conn
Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Associates Inc Burlington .... Mass
Motorola Semiconductor Products Inc Phoenix .... Ariz
Mullard Ltd London, WC 1 .... Eng
Nippon Electric Co Ltd Tokyo .... Japan
NPC Electronics Canoga Park .... Cal
Oki Electric Industry Co Ltd Tokyo .... Japan
Parametric Industries Inc Winchester .... Mass
Philco-Ford Corp Washington .... D C
Radio Corp of America, Electronic Components Harrison .... N J
Sanyo Electric Co Ltd Osaka .... Japan
Schauer Mfg Corp Cincinnati .... Ohio
Semiconductor Products Inc Lawrence .... Mass
Semiconductor Specialists Inc Chicago Ill
Semi-Elements Inc Saxonburg .... Pa
Semitronics Corp New York .... N Y
Sensitron Inc Costa Mesa .... Cal
Sescosem Paris 16e .... France
Siemens America Inc New York .... N Y
Solitron Devices Inc Tappan .... NY
Standard Telephones & Cables Ltd London WC 2 .... England
Sylvania Electric Products Inc, Semiconductor Div Woburn .... Mass
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
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Transitron Electronic Corp Wakefield .... Mass
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General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
General Instrument Europe SPA Milano .... Italy
Hewlett-Packard Palo Alto .... Cal
International Diode Corp Jersey City .... N J
Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Associates Inc Burlington .... Mass
Motorola Semiconductor Products Inc Phoenix .... Ariz
NPC Electronics Canoga Park .... Cal
Parametric Industries Inc Winchester .... Mass
Semitronics Corp New York .... N Y
Solitron Devices Inc Tappan .... NY
Solitron/Microwave Long Island City .... N Y
Summit Engineering Corp Bozeman .... Mont
Sylvania Electric Products Inc, Semiconductor Div Woburn .... Mass

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Corvair Electronics New York .... N Y
Electro-Data Inc Garland .... Tex
Engelmann Microwave Co Montville .... NJ
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View .... Cal
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
General Instrument Europe SPA Milano .... Italy
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Metalized Ceramics Corp Providence .... R I

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Microsemiconductor Corp Culver City .... Cal
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Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
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Motorola Semiconductor Products Inc Phoenix .... Ariz
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Parametric Industries Inc Winchester .... Mass
Philco-Ford Corp Washington .... D C
Radio Corp of America, Electronic Components Harrison .... N J
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Semiconductor Specialists Inc Chicago Ill
Semi-Elements Inc Saxonburg .... Pa
Semitronics Corp New York .... N Y
Sensitron Inc Costa Mesa .... Cal
Solitron Devices Inc Tappan .... NY
Solitron/Microwave Long Island City .... N Y
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Transitron Electronic Corp Wakefield .... Mass
Varadyne Inc Santa Monica .... Cal
Varian Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass

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Fujitsu Ltd Tokyo .... Japan
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Geoscience Instruments Corp Mt Vernon .... N Y
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MacKay Research Labs Wickenburg .... Ariz
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Mullard Ltd London, WC 1 .... Eng
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Philco-Ford Corp Washington .... D C
Sanyo Electric Co Ltd Osaka .... Japan
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Fujitsu Ltd Tokyo .... Japan
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HEI Inc Chaska .... Minn
Hewlett-Packard Palo Alto .... Cal
Ion Physics Corp Burlington .... Mass
Isofilm International Chatsworth .... Cal
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NPC Electronics Canoga Park .... Cal
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Plessey Electronics Corp Farmingdale .... N Y
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Semitronics Corp New York .... N Y
Sensitron Inc Costa Mesa .... Cal
United Detector Technology Inc Santa Monica .... Cal

DIODES—PIN

**GENERAL ELECTRIC CO, ECSO SCHENECTADY
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Alpha Industries Inc Newton Upper Falls .... Mass
American Electronic Labs Inc Lansdale .... Pa
Cleveland Refractory Metals, Div Chase Brass Copper Co
  Solon .... Ohio
Corvair Electronics New York .... N Y
E G & G Inc, Systems Group Bedford .... Mass
Ferranti, Ltd Lancashire .... England
General Electric Co, ECSO Schenectady .... N Y
General Instrument Europe SPA Milano .... Italy
Hewlett-Packard Palo Alto .... Cal
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  91 Marcoussis .... France
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Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Associates Inc Burlington .... Mass
Moody Machine Products Co Inc Providence .... R I
Motorola Semiconductor Products Inc Phoenix .... Ariz
Parametric Industries Inc Winchester .... Mass
Philco-Ford Corp Washington .... D C

Semi-Elements Inc Saxonburg .... P
Semitronics Corp New York .... N
Solid State Microwave/Varian Beverly .... Ma
Solid State Scientific Corp Montgomery .... P
Solitron/Microwave Long Island City .... N
United Detector Technology Inc Santa Monica C
Unitrode Corp Watertown .... Ma
Western Semiconductors Inc Santa Ana C

DIODES—RECTIFIER

DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .... IN
EDAL INDUSTRIES INC EAST HAVEN .... CON
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  N Y .... ADV PG**
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SIEMENS AMERICA INC NEW YORK .... N
**SYLVANIA ELECTRIC PRODUCTS INC, SEMICONDUCTOR DI
  WOBURN MASS .... ADV PG 3rd Cover Inle**
**TECHNICAL APPARATUS BUILDERS DIV POWER
  ALTERNATING DIRECT CORP BROOKLYN .... N**
UNITRODE CORP WATERTOWN MASS .... ADV PG 2
**VARO INC SEMICONDUCTOR DIV GARLAND
  TEX .... ADV PG 5**
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Alco Electronic Products, Inc Lawrence .... Ma
AMC Semiconductor Corp New York .... N
American Semiconductor Corp Arlington Heights ....
Amperex Electronic Corp Semiconductor & Microcircuits Div
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Atlantic Semiconductor Inc Asbury Park .... N
Bendix Corp Semiconductor Div Holmdel .... N
Bradley Semiconductor Corp New Haven .... Co
Centralab Semiconductor Div Globe-Union Inc El Monte C
Cetron Electronic Corp Geneva ....
Computer Diode Corp Fairlawn ....
Continental Device Corp Hawthorne C
Corvair Electronics New York .... N
Delco Radio Div General Motors Corp Kokomo I
Dickson Electronics Corp Scottsdale .... A
Eastern Delta Corp Fair Lawn .... N
Edal Industries Inc East Haven .... Co
Eimac Div, Varian Associates San Carlos C
Electronic Devices Inc (Incl Trans Sil Div) Yonkers .... N
Electronic Transistors Corp Flushing .... N
Emihus Microcomponents Ltd Hounslow Mdsx .... Engla
Erie Technological Products Inc Erie ....
Fairchild Semiconductor Div Fairchild Cam & Inst Corp
  Mountain View C
Ferranti, Ltd Lancashire .... Engla
Fuji Electric Co Ltd Tokyo .... Jap
General Electric Co, ECSO Schenectady .... N
General Instrument Corp, Semiconductor Prods Grp
  Hicksville .... N
General Instrument Europe SPA Milano .... It
General Semiconductor Industries Inc Tempe .... A
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Hitachi Ltd Chiyoda-Ku, Tokyo .... Jap
Holmes Co, Carl E Los Angeles ....
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International Electronics Corp Melville ....
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ITT Semiconductors West Palm Beach ....
KSC Semiconductor Corp Chelmsford .... M
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Lake Engineering Co Ltd Scarborough ....
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Motorola Semiconductor Products Inc Phoenix ....
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Recticon Corp Conshohocken ....
Rectifier Components Corp Freeport ....
Rectifier Engineering & Supply Co Inc St Louis ....
Sanyo Electric Co Ltd Osaka .... Ja
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ....
Sarkes Tarzian Inc, Semiconductor Div Bloomington ....
Schauer Mfg Corp Cincinnati ....
Semiconductor Products Inc Lawrence .... M
Semiconductor Specialists Inc Chicago ....
Semicon Inc Burlington .... M
Semi-Elements Inc Saxonburg ....
Semikron International Inc Scarsdale ....
Semitronics Corp New York ....
Semtech Corp Newbury Park ....
Sensitron Inc Costa Mesa ....
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Slater Electric Inc Glen Cove ....
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Space Age Microcircuits Chatham ....
Sylvania Electric Products Inc, Semiconductor Div
  Woburn ....
Syntron Div FMC Corp Homer City ....
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn ....
Telefunken Sales Corp Garden City ....
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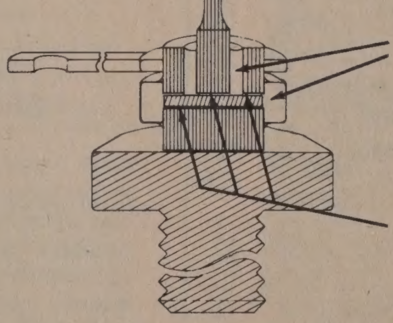

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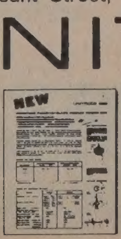

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Solitron Devices Inc Tappan . . . . .NY
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  Woburn . . . . .Mas
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  Corp Brooklyn . . . . .N
Telefunken Sales Corp Garden City . . . . .N
Texas Instruments Incorporated Dallas . . . . .Te
Toyo Electronics Industry Corp Kyoto . . . . .Japa
Transitron Electronic Corp Wakefield . . . . .Mas
Tung-Sol Div Wagner Electric Corp Newark . . . . .N
Unitrode Corp Watertown . . . . .Mas
Varian Palo Alto C
Varo Inc Semiconductor Div Garland . . . . .Te
Westinghouse Electric Corp, Semiconductor Div
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Workman Electronic Products Inc Sarasota . . . . .F

DIODES—SNAP-OFF (CHARGE STORAGE)

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HEWLETT-PACKARD PALO ALTO . . . . .CA
SIEMENS AMERICA INC NEW YORK . . . . .N
Alpha Industries Inc Newton Upper Falls . . . . .Mas
Corvair Electronics New York . . . . .N
General Electric Co, ECSO Schenectady . . . . .N
Hewlett-Packard Palo Alto C
ITT Electron Tube Div Easton . . . . .P
Micro State Electronics Oper Raytheon Co Murray Hill . . . N
Microwave Associates Inc Burlington . . . . .Mas
Motorola Semiconductor Products Inc Phoenix . . . . .Ar
Parametric Industries Inc Winchester . . . . .Mas
Semitronics Corp New York . . . . .N
Siemens America Inc New York . . . . .N
Somerset Radiation Lab Inc Arlington V

DIODES—SWITCHING

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HEWLETT-PACKARD PALO ALTO . . . . .CA
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  WOBURN MASS . . . . .ADV PG 3rd Cover Inle
TECHNICAL APPARATUS BUILDERS DIV POWER
  ALTERNATING DIRECT CORP BROOKLYN . . . . .N
UNITRODE CORP WATERTOWN MASS . . . . .ADV PG 2
AEI Semiconductors Ltd Lincoln .U
Alpha Industries Inc Newton Upper Falls . . . . .Ma
AMC Semiconductor Corp New York . . . . .N
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Amperex Electronic Corp Semiconductor & Microcircuits Div
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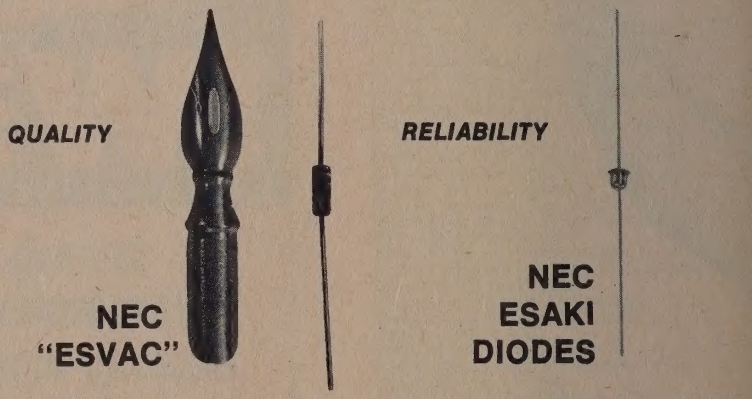
Atlantic Semiconductor Inc Asbury Park . . . . .N



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DIODE TESTERS

***See* Testers—Diode**

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MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE . . . ILL
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Aircom Inc Union . . . N H
Airtron, Div of Litton Industries, Inc Morris Plains . . . N J
Alford Mfg Co Winchester . . . Mass
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Elpac Inc RF/Microwave Div Irvine . . . Cal
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Multronics Inc Rockville . . . Md
Narda Microwave Corp Plainview . . . N Y
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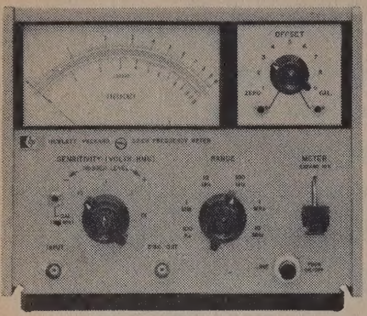

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ITF-1-160-10-50	160	10	1	
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EMR Telemetry Sarasota . . . . Fla
Frequency Electronics Inc New Hyde Park . . . . N Y
General Radio Co West Concord . . . . Mass
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T M C Systems (Ariz) Inc Tempe . . . . A

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See **Converters—Signal, Telemetering**

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Bruce Industries Inc Gardena C
Data Disc Inc Computer Products Div Palo Alto C
Data Disc Inc, Display Div Palo Alto C
Data Memory Inc Mountain View C
Duotone Co Inc Miami . . . . F
General Electric Co Info Sys Equip Div Phoenix . . . . A

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Janel Inc Stirling . . . . N
Kenics Corp Danvers . . . . Ma
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Mateer Co, G Diehl Wayne . . . .
3M Company St Paul . . . . Mi
Roosevelt Metal Co Inc Brooklyn . . . . N
Solarex Mfg Co Inc Deer Park . . . . N
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If vendors have you in a pinch and another source of supply will help, turn to the Electronics Buyers' Guide. You'll find all the information you need on over 1,363 sources of power supplies, listed under 11 headings from *AC Regulated Power Supplies to Laser Power Supplies.*

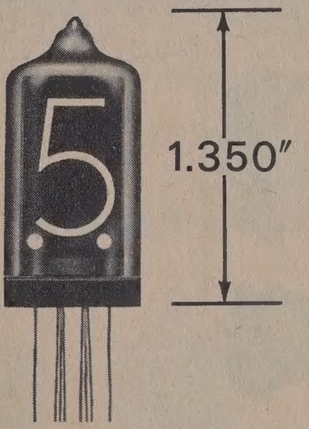
Electronics Buyers' Guide

DISPLAY DRIVERS—TUBE

DATASCAN INC CLIFTON	**N J**
DISCON CORP FORT LAUDERDALE	**FLA**
SYNTRONIC INSTRUMENTS INC ADDISON	**ILL**
Applied Electronics Burlingame	Cal
Baird-Atomic, Inc Cambridge	Mass
Bell Aerosystems Co Buffalo	N Y
Burroughs Corp Electronic Components Div Plainfield	N J
CELCO Mahwah	N J
Datascan Inc Clifton	N J
Discon Corp Fort Lauderdale	Fla
Instrument Displays Inc Sub Burns & Towne Inc Haverhill	Mass
Integrated Circuit Electronics Div Datatronics Waltham	Mass
Laboratoires De Marcoussis Ctr De Rsch De La CGE · 91 Marcoussis	France
MIL Associates Hudson	NH
Raytheon Co, Components Div, Ind Compnts Oper Quincy	Mass
Syntronic Instruments Inc Addison	Ill
Techmetric Co Redwood City	Cal
Transistor Electronics Corp Minneapolis	Minn

DISPLAYS—ALPHANUMERIC

BOWMAR INSTRUMENT CORP FORT WAYNE IND	**ADV PG 235**
DISCON CORP FORT LAUDERDALE FLA	**ADV PG 236**
HEWLETT-PACKARD PALO ALTO	**CAL**
HUGHES AIRCRAFT CO VAC TUBE PRODS DV STORAGE TUBES & COML DISP SYS OCEANSIDE CAL	**ADV PG 236**
MICRO SWITCH DIV, HONEYWELL FREEPORT	**ILL**
NATIONAL ELECTRONICS INC VARIAN SUB GENEVA ILL	**ADV PG 235**
SYNTRONIC INSTRUMENTS INC ADDISON	**ILL**
TEKTRONIX INC BEAVERTON	**ORE**
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK N J	**ADV PG 237**
ZENRAD CONTROLS CO SANTA BARBARA	**CAL**
Adage Inc Boston	Mass
Adage Inc Boston	Mass
Adtrol Electronics Inc Philadelphia	Pa
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
AMBAC Industries Inc Garden City	N Y
American Astrionics Inc Palo Alto	Cal
Arizona Modular Electronic Systems Tempe	Ariz
Astronautics Corp of America Milwaukee	Wis
Atlantic Technology Corp Somers Point	N J
Avco Electronics Div Cincinnati	Ohio
Beckman Instruments Inc Fullerton,	Cal
Bell Aerosystems Co Buffalo	N Y
Beta Instrument Corp Newton Upper Falls	Mass
Bowmar Instrument Corp Fort Wayne	Ind
Bunker-Ramo Corp Defense Systems Div Canoga Park	Cal
Burroughs Corp Component Sales Dept Los Angeles	Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli	Pa



NEW NL-950 READOUT TUBE

Replaces: B-5750 B-5855 B-5859

- made in Geneva, Illinois U.S.A.
- request bulletin

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BOWMAR

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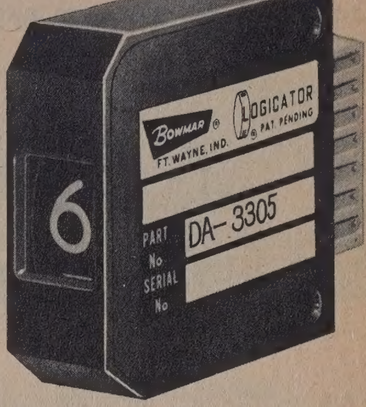

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For Direct Readout of

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LOW POWER consumption, (1 Watt) *INHERENT MAGNETIC MEMORY*

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RELIABLE self-contained *ELECTRO-MAGNETIC* drive

MINIATURE size, lightweight, high stability

BOWMAR'S LOGICATOR® provides direct readout of digital computer signals with back-lighting for optimum day and night readability. Units may be adapted to special applications such as use of any computer code, message displays, and custom assemblies. Designed for reliability and stability under conditions of high vibration, shock and extreme temperature variations; the BOWMAR LOGICATOR® is built in accordance with Aircraft Equipment Specification Mil-E-5400.

Single-digit unit: 1.25″ x .45″ x 2.5″ (slightly larger in some applications depending upon mounting and input code required); ¼″ numerals; continuous duty.

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Special displays for OEM and custom system requirements . . .

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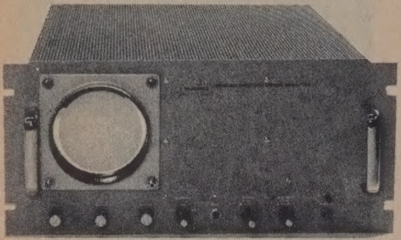

THE MODEL 624 X Y Z DISPLAY

This instrument, incorporating a high brightness, high resolution direct-view storage tube, allows space for inclusion of your special circuits.

For further information, contact Hughes Commercial Displays, 2020 Oceanside Blvd., Oceanside, California 92054.

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HUGHES AIRCRAFT COMPANY
VACUUM TUBE PRODUCTS DIV.
OCEANSIDE, CALIFORNIA

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Cardion Electronics Div Gen Signal Corp Woodbury	N Y
CELCO Mahwah	N J
Century Electronics & Instruments Inc Tulsa	Okla
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Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
Conductron-Missouri St Charles	Mo
Conrac Corp New York	N Y
Control Science Corp Alexandria	Va
Co-Ord Div LVC Industries Inc Corona	NY
Cramer Div Conrac Corp Old Saybrook	Conn
Dalto Electronics Corp Norwood	N J
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Data Trends Inc Mountain Lakes	NJ
Data Vox Div Data Technology Corp Palo Alto	Cal
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Discon Corp Fort Lauderdale	Fla
EICO Electronic Instrument Co Inc Brooklyn	NY
Electronic Ideas Inc Wyncote	Pa
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Energy Conversion Devices Inc Troy	Mich
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General Electric Co Info Sys Equip Div Phoenix	Ariz
General Electric Co Miniature Lamp Dept Cleveland	Ohio
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GPL Television The Singer Co Pleasantville	N Y
Griffith Plastic Products Co Burlingame	Cal
Grimes Mfg Co Urbana	Ohio
Hartman Systems Co Inc Huntington Station	N Y
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Honeywell EDP Div Wellesley Hills	Mass
Hughes Aircraft Co Vac Tube Prods Dv Storage Tubes & Coml Disp Sys Oceanside	Cal
Humphrey Electronics Inc Raleigh	N C
Industrial Electronic Engineers Inc Van Nuys	Cal
Infomax Palo Alto	Cal
Information Control Corp El Segundo	Cal
Information Displays Inc Mt Kisco	NY
Instrument Displays Inc Sub Burns & Towne Inc Haverhill	Mass
Inter-Market Inc Glenview	Ill
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IRA Systems Inc Waltham	Mass
ITT Aerospace, Optical Div Fort Wayne	Ind
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Kaiser-Aerospace & Electronics Corp Palo Alto	Cal
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Lear Siegler Inc, Instrument Div Grand Rapids	Mich
Litton Systems (Canada) Ltd Rexdale	Ont

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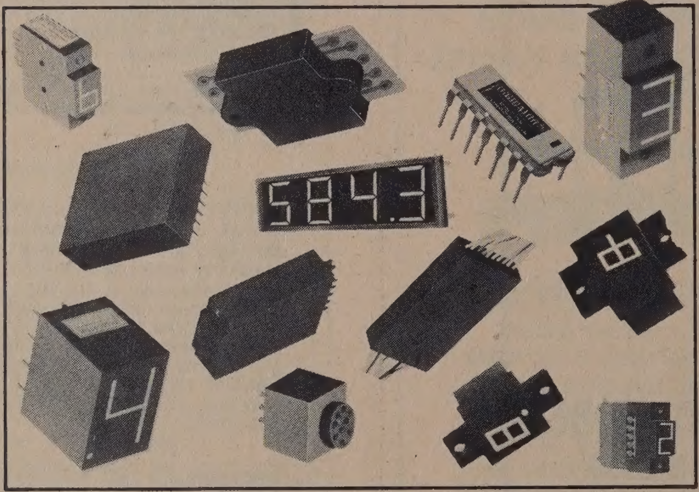

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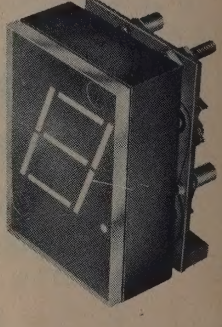
The EDP Modular Numeric Readout, Series 100: Easy to see. Easy in price! Competitive with neon glow readouts. Modularized, high quality construction. A long life of 150,000 hours. Viewing angle? Up to 170°. You choose the options, including color lens variations.

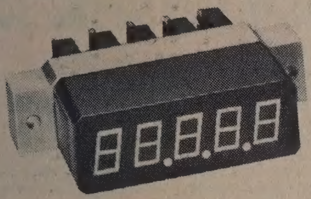
The Series 100 seven segments character forms numerals 0 thru 9. All modules available with decoder / driver. The size (1.3" deep) is as small as the price! We did mention that, didn't we? Easy to see why you should be interested. Easy to tell you more.Or show you!



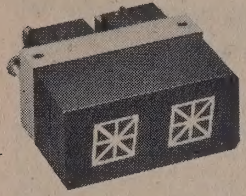
EDP CORPORATION
1900 NORTH MILLS AVENUE
ORLANDO, FLORIDA 32803

TUNG-SOL DIGITAL AND ALPHANUMERIC READOUTS

INCANDESCENT TYPES



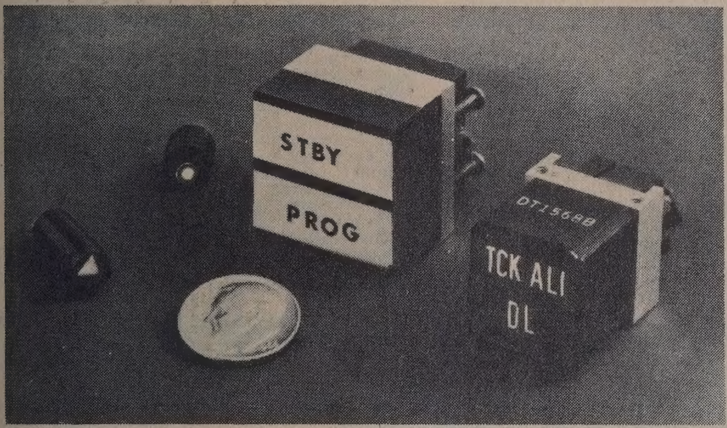
7 SEGMENTS—Display 0 through 9, plus 13 letters. Character size: .32" high, .19" wide, .05" slope. Spacing: Integrated—.3125" c. to c. Stacked—.500 c. to c.



16 SEGMENTS — Full alphanumeric display. Character size: .32" high, .33" wide, .05" slope. Spacing: Integrated—.625" c. to c. Stacked—.807" c. to c.

STACKED—Digits as well as lamp blocks are individually replaceable, for each digit. 70 ma and 20 ma lamp blocks are interchangeable.

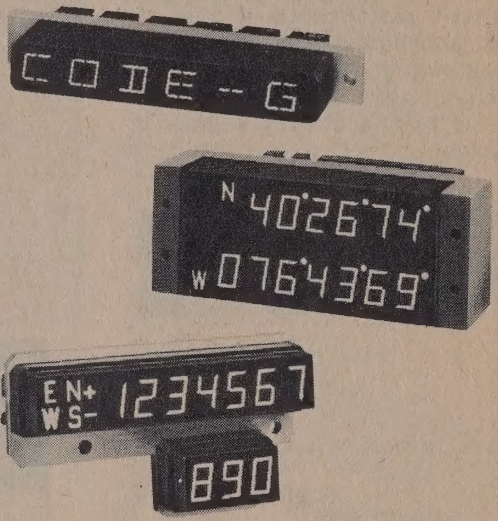
INTEGRATED—Monolithic construction requires less width per character. Permits precise alignment of digits in line and in plane. Individual lamp blocks are replaceable.



STATUS INDICATORS—Fixed messages, or symbols, to customers specifications. Supplied in types readable when off or completely blank. All have the clarity and high visibility characteristic of all Tung-Sol readouts.

Tung-Sol incandescent readouts and status indicators provide optimum contrast under high ambient light conditions. Filtering attenuates the reflection from unlighted segments to assure maximum definition of the display. Light shades are not needed. Tung-Sol readouts are designed to function in extreme environmental conditions. They are available with seven segment characters or with sixteen segments which provide full alphanumeric display. Made in both stacked and integrated styles. Special fixed characters can be supplied. The 20 ma and 70 ma lamp banks are mechanically interchangeable.

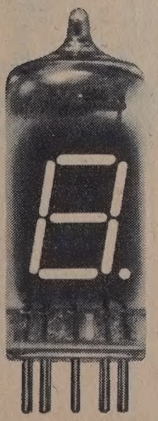
TYPICAL CONFIGURATIONS



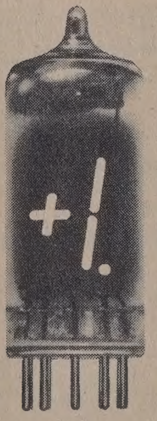
VACUUM TYPES

NEW SMALLER DIGIVAC S/G READOUTS

DT 1704B



DT 1705D



DT 1707B

Electrically and optically identical to and interchangeable with the original Digivac S/G readouts...but substantially smaller. Same, single-plane, high-legibility, 7-segment character. No reduction in character size. Same eye-ease green, with color selectivity using standard filters. Same I. C. compatability and low power requirement. Regular 9-pin miniature construction, or 10-pin where decimal is required. Conventional sockets. Write for complete information.

1. Low cost
2. Single plane display
3. 150° viewing angle
4. Low cost socket
5. High brightness
6. Low power
7. Low voltage
8. Simplicity of design
9. I.C. compatibility
10. Optional decimal
11. Optional ± 1 decimal
12. 10 numerals; 13 letters
13. Variety of colors with appropriate filtering

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DIGITAL INDICATOR TUBES

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Engineered for use in place of the usual read-out tube, for integrated circuit applications where lower voltage supply requirements are desirable. The NEC electron tubes provide "Uni-Planar" display of numerical figures, mathematical symbols and characters. Uniquely efficient performance is due to composition based on green phosphor coated segments, charged with electrons imparted from a directly heated filament.

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Mesa Co Bristol . . . . . Pa
Micro Switch Div, Honeywell Freeport Ill
Monitor Systems Inc an Aydin Co Fort Washington . . . . . Pa
Motorola, Govt Electronics Div Scottsdale . . . . . Ariz
National Electronics Inc Varian Sub Geneva Ill
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Norden Div, United Aircraft Corp Norwalk . . . . . Conn
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Patwin Waterbury . . . . . Conn
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P P M Inc Cleveland . . . . . Ohio
Rayonic Corp Philadelphia . . . . . Pa
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RCA, Defense Electronic Products Moorestown . . . . . N J
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Sanders Associates Inc, Data Systems Div Nashua . . . . . N H
Saturn Electronics Corp Garland . . . . . Tex
Scientific Data Systems Inc El Segundo . . . . . Cal
Selenia - Industrie Elettroniche Assoc Rome . . . . . Italy
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Shelly Associates, Inc El Segundo . . . . . Cal
Sigmatron Inc Goleta . . . . . Cal
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Symbolic Displays Inc Orange . . . . . Cal
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Tasker Industries, Radar Div Van Nuys . . . . . Cal
Techmetric Co Redwood City . . . . . Cal
Tektronix Inc Beaverton . . . . . Ore
Texas Instruments Incorporated Dallas . . . . . Tex
Transistor Electronics Corp Minneapolis . . . . . Minn
Tridea Electronics, Sub Conductron Corp El Monte . . . . . Cal
Tung-Sol Div Wagner Electric Corp Newark . . . . . N J
Tyco Instrument Div Waltham . . . . . Mass
Typagraph Corp San Diego . . . . . Cal
U S Scientific Instruments Inc Watertown . . . . . Mass
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Vitro Labs Div Vitro Corp of America W Orange . . . . . N J
WABCO Aerospace Dept Pittsburgh . . . . . Pa
Wyle Laboratories El Segundo . . . . . Cal
Zenrad Controls Co Santa Barbara . . . . . Cal

DISPLAYS—CATHODE-RAY

***See* Tubes—Cathode-Ray, Shaped-Beam & Data-Storage**

DISPLAYS—DIGITAL

***See* Indicators—Digital**

DISPLAYS—ELECTROLUMINESCENT

***See* Electroluminescent Devices**

DISPLAYS—MAP

SYNTRONIC INSTRUMENTS INC ADDISON ILL
Airborne Instruments Lab, Div Cutler-Hammer Inc
  Deer Park . . . . . N Y
AMBAC Industries Inc Garden City . . . . . N Y
Astronautics Corp of America Milwaukee . . . . . Wis
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Bausch & Lomb Inc Rochester . . . . . N Y
Bendix Corp Navigation & Control Div Teterboro, ... N J
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Bruce Industries Inc Gardena . . . . . Cal
Bunker-Ramo Corp Defense Systems Div Canoga Park . . . . Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . Pa
Burtek Inc Tulsa . . . . . Okla
Canadian Marconi Co Montreal 16 . . . . . Quebec
Canoga Industries Los Angeles . . . . . Cal
Control Science Corp Alexandria . . . . . Va
Data Disc Inc, Display Div Palo Alto . . . . . Cal
Dero Research & Devel Corp Huntington . . . . . N Y
Devco Engineering Inc Fairfield (Caldwell) . . . . . N J
Dyna Metric Inc Pasadena . . . . . Cal
Ferranti Electric Inc Plainview . . . . . N Y
Ferranti, Ltd Lancashire . . . . . England
Fisher-Akin Co Manhattan Beach . . . . . Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Goodyear Aerospace Corp Akron . . . . . Ohio
Hartman Systems Co Inc Huntington Station . . . . . N Y
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ITT Aerospace, Optical Div Fort Wayne . . . . . Ind
ITT Gilfillan Inc Van Nuys . . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
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LFE Electronics Waltham . . . . . Mass
Loral Electronic Systems, Div Loral Corp New York . . . . . NY
LTV Electrosystems Inc, Garland Div Dallas . . . . . Tex
Marconi Div, English Electric Corp New York . . . . . N Y
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Cal
Philco-Ford Corp Washington . . . . . D C

Solartron Electronic Group Ltd Farnbrough . . . . . England
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Sun Dial & Panel Corp Caldwell . . . . . N J
Syntronic Instruments Inc Addison Ill
Systems Engineering Labs. Ft Lauderdale . . . . . Fla

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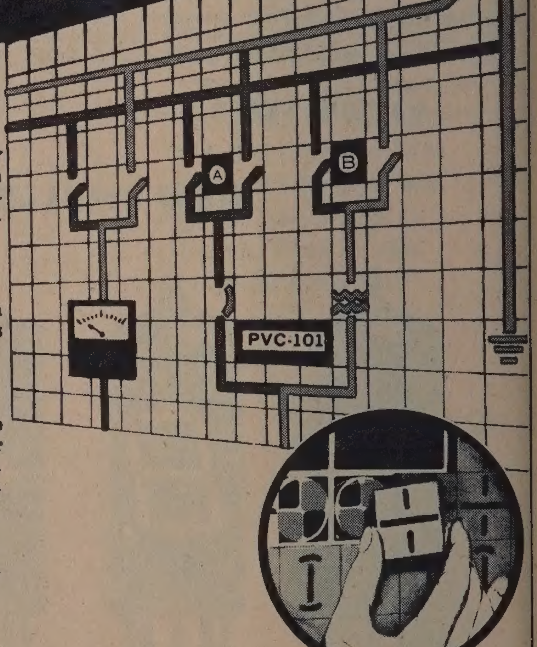
AMBAC Industries Inc Garden City . . . . . N Y
Amphicon Systems Inc Moonachie . . . . . N J
Astronautics Corp of America Milwaukee . . . . . Wis
Autonetics Div North American Rockwell Corp Anaheim . . . Ca
Bausch & Lomb Inc Rochester . . . . . N Y
Bendix Corp Electro Optics Div Ann Arbor . . . . . Mich
Bendix Corp Environmental Science Div Baltimore . . . . . Md
Bunker-Ramo Corp Defense Systems Div Canoga Park . . . . Ca
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . Pa
Canoga Industries Los Angeles . . . . . Ca
Counting Instruments Ltd Hertfordshire . . . . . Englan
Dalto Electronics Corp Norwood . . . . . N J
Devco Engineering Inc Fairfield (Caldwell) . . . . . N J
Dyna Metric Inc Pasadena . . . . . Ca
Executive Electronics Inc. Denver . . . . . Colo
Ferranti, Ltd Lancashire . . . . . Englan
Fisher-Akin Co Manhattan Beach . . . . . Ca
F & M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Hartman Systems Co Inc Huntington Station . . . . . N Y
Hughes Aircraft Co Vac Tube Prods Dv Storage Tubes & Coml
  Disp Sys Oceanside . . . . . Ca
Hughes Electronics Co Long Beach . . . . . Ca
Hycon Monrovia . . . . . Ca
Industrial Electronic Engineers Inc Van Nuys . . . . . Ca
Infomax Palo Alto . . . . . Ca
Itek Corp Lexington . . . . . Mass
ITT Aerospace, Optical Div Fort Wayne . . . . . Inc
Kaiser-Aerospace & Electronics Corp Palo Alto . . . . . Ca
Kalart Co Inc Plainville . . . . . Conn
KCC Shokai Ltd Nada-ku Kobe . . . . . Japan
Kollsman Instrument Corp Syosset . . . . . N Y
Labtron Corp of Amer Div KDI Corp Dayton . . . . . Ohio
LFE Electronics Waltham . . . . . Mass
Litton Industries, Electron Tube Div San Carlos . . . . . Ca
Loral Electronic Systems, Div Loral Corp New York . . . . . NY
LTV Electrosystems Inc, Garland Div Dallas . . . . . Te
Marconi Co Ltd Chelmsford . . . . . Englan
Marconi Div, English Electric Corp New York . . . . . N
Mast Development Co Davenport . . . . . Iowa
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Ca
Nuclear Research Instruments Berkeley . . . . . Ca
Optomechanisms Inc Plainview . . . . . N
Perkin-Elmer Corp, Optical Group Norwalk . . . . . Con
Philco-Ford Corp Washington . . . . . D C
Photomatrix Corp Los Angeles . . . . . Ca

Backlighted
Multi-Colored
Modular

Graphic Display
System



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A System? ☐
Mass-produced assembly of standardized precision components, wired to terminal blocks in our factory.

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Reports completely on the status of any process or system.

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Panels interchangeable for easy modification or enlarging according to application; only simple hand tools needed.

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helly Associates, Inc El Segundo ... Cal
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ystems Research Labs Inc Dayton ... Ohio
e Company Santa Barbara ... Cal
exas Instruments Incorporated Dallas ... Tex
ransistor Electronics Corp Minneapolis ... Minn
ridea Electronics, Sub Conductron Corp El Monte ... Cal

ISPLAYS—RADAR

dmiral Systems Corp Chicago ... Ill
irborne Instruments Lab, Div Cutler-Hammer Inc
Deer Park ... N Y
llied Research Assoc Inc Eng Sys Div Concord ... Mass
tlantic Technology Corp Somers Point ... N J
utonetics Div North American Rockwell Corp Anaheim ... Cal
ell Aerosystems Co Buffalo ... N Y
eta Instrument Corp Newton Upper Falls ... Mass
urroughs Corp, Defense, Space & Spec Sys Group Paoli ... Pa
anoga Industries Los Angeles ... Cal
ardion Electronics Div Gen Signal Corp Woodbury ... N Y
ELCO Mahwah ... N J
ero Research & Devel Corp Huntington ... N Y
lectronic Instrument Div Gen Atronics Corp Philadelphia ... Pa
airchild Space & Defense Sys Div Fairchild Cam & Instr Corp
Paramus ... N J
erranti, Ltd Lancashire ... England
& M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
eneral Electrodynamics Corp Garland ... Tex
eneral Instrument Corp Electronics Sys Div. Hicksville ... N Y
oodyear Aerospace Corp Akron ... Ohio
artman Systems Co Inc Huntington Station ... N Y
erley Industries, Inc Syosset ... N Y
nfomax Palo Alto ... Cal
TT Decca Marine Inc New York ... NY
TT Gilfillan Inc Van Nuys ... Cal
aiser-Aerospace & Electronics Corp Palo Alto ... Cal
aboratoires De Marcoussis Ctr De Rsch De La CGE
91 Marcoussis ... France
abtron Corp of Amer Div KDI Corp Dayton ... Ohio
FE Electronics Waltham ... Mass
itton Systems (Canada) Ltd Rexdale ... Ont
oral Electronic Systems, Div Loral Corp New York ... NY
arconi Co Ltd Chelmsford ... England
arconi Div, English Electric Corp New York ... N Y
otorola, Govt Electronics Div Scottsdale ... Ariz
orden Div, United Aircraft Corp Norwalk ... Conn
ptical Electronics Inc Tuscon ... Ariz
ptronics Labs Div Columbia Scientific Corp Waltham ... Mass
hilco-Ford Corp Washington ... D C
lessey Co Ltd Ilford Essex ... England
ayonic Corp Philadelphia ... Pa
aytheon Co, Government Marketing Lexington ... Mass
CA, Defense Electronic Products Moorestown ... N J

Fast acting.

The Electronics Buyers' Guide can get you on the right frequency in a hurry. For example, there are 14 different kinds of oscillators listed. Everything from AF oscillators to voltage controlled crystal oscillators. There are three sections in your EBG, devoted to products, manufacturers and trade names. So see your fast-acting EBG.

Electronics Buyers' Guide

Sanders Associates, Inc Nashua ... N H
Selenia - Industrie Elettroniche Assoc Rome ... Italy
Space & Systems Div General Time Corp Stamford ... Conn
Sperry Gyroscope Div Sperry Rand Corp Great Neck ... N Y
Sylvania Electronic Systems Waltham ... Mass
Tasker Industries Los Angeles ... Cal
Tasker Industries, Radar Div Van Nuys ... Cal
Tridea Electronics, Sub Conductron Corp El Monte ... Cal
Zenith Radio Co Govt & Special Prod Div Chicago ... Ill

DISPLAYS—TV

HEWLETT-PACKARD PALO ALTO ... CAL
TEKTRONIX INC BEAVERTON ... ORE
Admiral Systems Corp Chicago ... Ill
Amphicon Systems Inc Moonachie ... N J
Atlantic Technology Corp Somers Point ... N J
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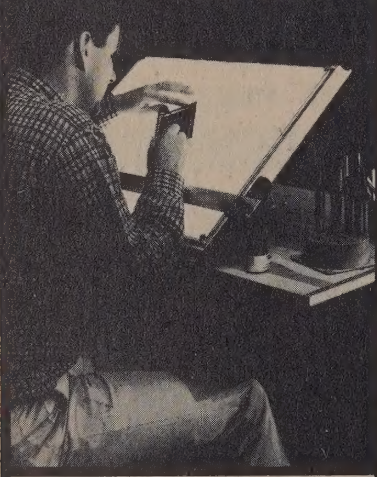

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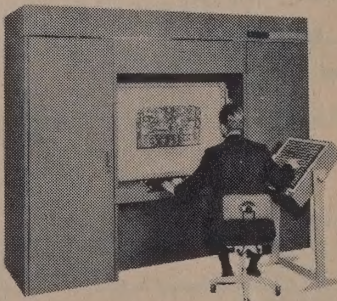

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***See* Machines—Drop Test**

DRUMS—MEMORY

***See* Memories—Computer**

DRY BATTERIES

***See* Batteries**

DRY BOXES

Advanced Purification System Co Inc Great Neck	N Y
Air Control Inc Norristown	Pa
Amsco Industrial Co Div Amer Sterilizer Co Erie	Pa
Baker Co, Inc Biddeford	Me
Clean Room Products Inc Farmingdale	N Y
Edcraft Industries Inc Linden	N J
GTI Corp Meadville	Pa
GTI Corp, Dix Engineering Div Costa Mesa	Cal
Hamilton Mfg Co Div Amer Hospital Supply Corp Two Rivers	Wis
Kewaunee Scientific Equipment Adrian	Mich
Kirk & Blum Mfg Co Cincinnati	Ohio
Kulicke & Soffa Industries Inc Fort Washington	Pa
Nuclear Equipment Chemical Corp Farmingdale	N Y
Pure Aire Corp of America Van Nuys	Cal
Ramney Industries Corp Farmingdale	N J
Ray Products Inc Alhambra	Cal
Techni-Tool Inc Philadelphia	Pa
Vacuum/Atmospheres Corp N Hollywood	Cal

DRYERS

***See* Dehumidifiers; Ovens**

DUCTS, VENTILATION—FIXED

Benson Mfg Div E C I Inc Kansas City	Mo
Electroforms Inc Gardena	Cal
Eugene Engineering Co Inc Rockland	Mass
Flexaust Co, Div Callahan Mining Corp New York	NY
Flexible Metal Hose Mfg Co CostaMesa	Cal
Harvel Plastics Inc Easton	Pa
Kirk & Blum Mfg Co Cincinnati	Ohio
LectroMagnetics Inc Los Angeles	Cal
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Porter H K Co Inc, Thermoid Div Pittsburgh	Pa
Ramyr Mfg Co Buena Park	Cal
Riester & Thesmacher Co Cleveland	Ohio

DUCTS, VENTILATION—FLEXIBLE

Ace-Sycamore Inc Sycamore	Ill
Advanced Purification System Co Inc Great Neck	N Y
Benson Mfg Div E C I Inc Kansas City	Mo
Daniels Inc, C R Daniels	Md
Eugene Engineering Co Inc Rockland	Mass
Flexaust Co, Div Callahan Mining Corp New York	NY
Flexible Metal Hose Mfg Co CostaMesa	Cal
Porter H K Co Inc, Thermoid Div Pittsburgh	Pa
Sherwood Industries Flexco Div Bell Gardens	Cal
Wiremold Co Hartford	Conn

DUCTS—WIRING

KCC SHOKAI LTD NADA-KU KOBE	**JAPAN**
Danex Corp Huntingdon Valley	Pa
Hammond Mfg Co Ltd Guelph	Ont
Hoffman Engineering Co, Div Fed Cartridge Corp Anoka	Minn
Ideal-Hellerman Canada Ltd Ajax	Ontario
Ideas Inc Laramie	Wyo
Jody Mfg Co Utica	Mich
KCC Shokai Ltd Nada-ku Kobe	Japan
LectroMagnetics Inc Los Angeles	Cal
Panduit Corp Tinley Park	Ill
Porter H K Co Electrical Div Pittsburgh	Pa
Square D Co Park Ridge	Ill
Taylor Electric Inc Howell	Mich
Tyton Corp of America Metuchen	N J
Waber Electronics Inc Philadelphia	Pa
Wadsworth Electric Mfg Co Inc Covington	Ky
Wiremold Co Hartford	Conn

DUMMY LOADS

***See* Terminations**

DUPLEXERS—MICROWAVE

ALUMINUM DESIGN CORP BROOKFIELD	**ILL**
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE	**ILL**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
PREMIER MICROWAVE CORP PORT CHESTER	**NY**
SYSTRON-DONNER CORP CONCORD	**CAL**
Advanced Microwave Labs Sunnyvale	Cal
Aertech Industries Sunnyvale	Cal
Airtec Inc Roselle	N J
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Alpha Industries Inc Newton Upper Falls	Mass
Aluminum Design Corp Brookfield	Ill
Anaren Microwave Inc Syracuse	N Y
Applied Microwave Lab, Inc Andover	Mass
Automatic Metal Products Corp Brooklyn	N Y
Bomac Div Varian Associates Beverly	Mass
Cardion Communications Woodbury	N Y
Dero Research & Devel Corp Huntington	N Y
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Electromagnetic Technology Corp Mountain View	Cal
Electronic Resources Inc Tasker Indus Los Angeles	Cal
E & M Labs Westlake Village	Cal
Ferranti, Ltd Lancashire	England
Ferrotec Inc Newton	Mass
General Microwave Corp Farmingdale	N Y
Guide Industries Inc Sun Valley	Cal
Harris-Intertype Corp Cleveland	Ohio
Herley Industries, Inc Syosset	N Y
LDV Electro Science Industries Syracuse	N Y
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Meca Electronics, Inc Denville	N J
Melabs Palo Alto	Cal
Meridian Metalcraft Inc Whittier	Cal
Metcom Inc Salem	Mass
Microlab/F X R Livingston	N J
Microphase Corp Cos Cob	Conn
Micro State Electronics Oper Raytheon Co Murray Hill	N J
Microwave Associates Inc Burlington	Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Development Labs Inc Needham Heights	Mass
Microwave Labs of America Brooklyn	N Y
Microwave Products Inc Chatsworth	Cal
N-H Microwave Inc Red Bank	N J
Nippon Electric Co Ltd Tokyo	Japan
Philco-Ford Corp Washington	D C
Premier Microwave Corp Port Chester	NY
Radio Engineering Labs, Div DCA Long Island City	N Y
Rantec Div Emerson Electric Co Calabasas	Cal
R F Systems Inc Cohasset	Mass
RLC Electronics Inc Port Chester	N Y
Sedco Systems Inc Farmingdale	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach	Cal
TRW Electronic Components Div TRW Inc Camden	N J
Varian Palo Alto	Cal
Vector Industries A Teledyne Co Palo Alto	Cal
Victor Microwave Inc Wakefield	Mass
Western Microwave Labs Inc Los Gatos	Cal

DUPLEXERS—MOBILE COMMUNICATION

Ampar Div Adams-Russell Waltham	Mass
Anaren Microwave Inc Syracuse	N Y
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Sinclair Radio Labs Inc Tonawanda	N Y

DYNAMOMETERS

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
C-E Electronics Div Ametek Feasterville	Pa
Chatillon & Sons, John Kew Gardens	N Y
Denki Kogyo Co Ltd Tokyo	Japan
Dillon & Co Inc, W C Van Nuys	Cal
Esterline Angus Div Esterline Corp Indianapolis	Ind
Fuji Electric Co Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
General Thermodynamics Corp North Wilmington	Mass
Hale Instrument Inc Houston	Tex
Himmelstein & Co, S Elk Grove Village	Ill
Jonard Industries Corp Bronx	N Y
Kahn & Co Inc Wethersfield	Conn
Lear Siegler Inc Santa Monica	Cal
Lebow Associates Inc Troy	Mich
Leeds & Northrup Co North Wales	Pa
Martin-Decker Corp Santa Ana	Cal
McFadden Electronics Co South Gate	Cal
Power Instruments Inc Skokie	Ill
Reliance Electric Co Cleveland	Ohio
Scherr Tumico Inc St James	Minn
Simpson Electric Co Chicago	Ill
Skurka Engineering Co Los Angeles	Cal
Sweeney Mfg Co, B K Denver	Colo
Task Corp Anaheim	Cal
Vibrac Corp Chelmsford	Mass
West Coast Research Corp Los Angeles	Cal
Winslow Tele-Tronics Inc Eatontown	N J

DYNAMOTORS

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Allen Aircraft Radio Inc Elk Grove Village	Ill
Carter Motor Co Chicago	Ill
Dyna Technology, Inc Sioux City	Iowa
General Electric Co, ECSO Schenectady	N Y
Siemon Mfg Co Wayne	Ill

EARPHONES-HEADPHONES

KNOWLES ELECTRONICS INC FRANKLIN PARK	**ILL**
PACIFIC PLANTRONICS INC SANTA CRUZ CAL	**ADV PG 243**
TRACOR INC AUSTIN	**TEX**
Action Systems Co Div Conn Consolidated Inds Inc Meriden	Conn
ADEC Inc Newark	N J
Aikow Shoji Kaisha Ltd Osaka	Japan
Aircraft Components Inc Benton Harbor	Mich
Airmed Ltd Harlow	England
AKG North American Philips Corp New York	N Y
American Geloso Electronics Inc New York	N Y
Astatic Corp Conneaut	Ohio
Audiosears Corp Stamford	N Y
Audiotronics Corp North Hollywood	Cal
A V Electronics, Inc Fresno	Cal
Burnett Electronics Lab Inc San Diego	Cal
Cannon Co, C F Springwater	N Y
Canoga Industries Los Angeles	Cal
Claricon Products Elizabeth	N J
Components Specialties Inc Freeport	N Y
Continental Electronics Corp Brooklyn	N Y
Daven Div McGraw-Edison Co Manchester	N H
Dowa Trading Co Ltd Kobe	Japan
DuKane Corp St Charles	Ill
Electronic Futures Inc Div KMS Indus Inc North Haven	Conn
Electrospace Corp Westbury	NY
Ercona Corp Bellmore	NY
Fedtro Inc Rockville Centre	N Y
Fen-Tone Corp New York	N Y
Foster Electric Co Ltd Tokyo	Japan
G C Electronics Div, Hydrometals Inc Rockford	Ill
Gotham Audio Corp New York	N Y
Hayakawa Electric Co Ltd Osaka	Japan
Hosiden Electronics Co Ltd Osaka	Japan
ITT Europe Inc Components Gp Brussels 1	Belgium
Jensen Mfg Div, The Muter Co Chicago	Ill
K L A Labs Inc Detroit	Mich
Knowles Electronics Inc Franklin Park	Ill
Koss Electronics Inc Milwaukee	Wis
Lafayette Radio Electronics Syosset	NY
Matsushita Electric Industrial Co Ltd Osaka	Japan
Merchant Co, Robert C Carmel Valley	Cal
3M Company St Paul	Minn
Murdock Corp Chelsea	Mass
Pacific Plantronics Inc Santa Cruz	Ca
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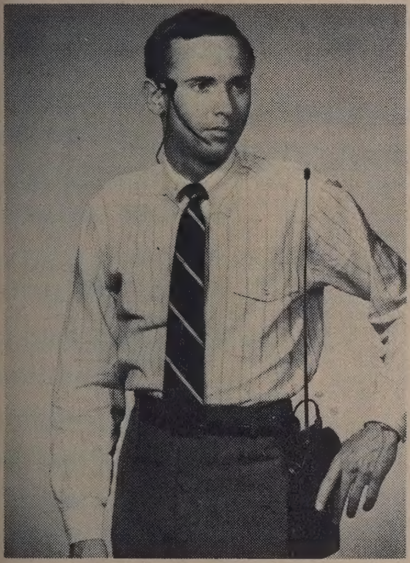

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Philmore Mfg Co Inc Richmond Hill	N Y
Plessey Co Ltd Ilford Essex	England
P M & E Electronics Inc East Providence	R I
Roanwell Corp New York	N Y
Round Hill Assoc Inc New York	NY
Rye Industries, Inc Mamaroneck	N Y
Sanyo Electric Co Ltd Osaka	Japan
Sennheiser Electronic Corp (NY) New York	N Y
Sharpe Instruments Div Scintrex Inc Tonawanda	N Y
Shigoto Industries Ltd New York	N Y
Sierra Engineering Co Sierra Madre	Cal
Smith Inc, Herman H Brooklyn	N Y
Sony Corp Tokyo	Japan
Stanford International San Carlos	Cal
Superex Electronics Corp Yonkers	N Y
Superscope Inc Sun Valley	Cal
Telephone Components Inc Northport	NY
Telephonics Div, Instrument Systems Corp Huntington	NY
Telex Communications Div Minneapolis	Minn
Tracor Inc Austin	Tex
Trimm Inc Libertyville	Ill
Vactric Control Equipment Ltd Morden	England
V-M Corp Benton Harbor	Mich
Wells Co Inc, Gary Yonkers	N Y
Winslow Tele-Tronics Inc Eatontown	N J

ECHO BOXES—MICROWAVE

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Allen Aircraft Radio Inc Elk Grove Village	Ill
Amerac, Inc Beverly	Mass
Decitron Electronics Corp Brooklyn	N Y
Dero Research & Devel Corp Huntington	N Y
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Engineering Associates Dayton	Ohio
Epsco Inc Westwood	Mass
General Microwave Corp Farmingdale	N Y
Herley Industries, Inc Syosset	N Y
MCS Corp Monrovia	Cal
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
Nippon Electric Co Ltd Tokyo	Japan
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
RLC Electronics Inc Port Chester	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y

EDUCATIONAL TV

See **TV Systems—CC**

EDUCATION—CORRESPONDENCE COURSES

ALEXANDER HAMILTON INSTITUTE NEW YORK N Y	**ADV PG 243**
Alexander Hamilton Institute New York	N Y
Lear Siegler Inc Santa Monica	Cal

ELAPSED-TIME METERS

See **Timers—Motor Operated**

ELBOWS—MICROWAVE

See **Waveguide Fittings**

ELECTRETS (POLARIZED DIELECTRIC)

Infra-Red Systems Inc Riverdale	N J
Reaction Research Labs of America Groton	Conn
Sanyo Electric Co Ltd Osaka	Japan
Thermo Electron Engineering Corp Waltham	Mass

ELECTRIC FURNACES

See **Furnaces—Electric**

ELECTRIC MOTOR CONTROL

See **Controls—Motor Speed**

ELECTRIC MOTORS

See **Motors**

ELECTRIC OVENS

See **Ovens; Dehumidifiers**

ELECTROCARDIOGRAPHS

See **Cardiac Equipment**

ELECTROENCEPHALOGRAPHS

HEWLETT-PACKARD PALO ALTO	**CAL**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG 8**
NIHON KOHDEN KOGYO CO LTD TOKYO	**161 JAPAN**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Bio-Medical Electronics Inc Rockville	Md
Bionic Instruments Inc Bala Cynwyd	Pa
Coldspring Instrument Corp Huntington	N Y
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City	Utah
Hewlett-Packard Palo Alto	Cal
Honeywell Test Instruments Div Denver	Colo
International Rectifier Semiconductor Div El Segundo	Cal
Lehigh Valley Electronics Inc Fogelsville	Pa
Mennen-Greatbatch Electronics Inc Clarence	N Y
Nihon Kohden Kogyo Co Ltd Tokyo	161 Japan
Nippon Electric Co Ltd Tokyo	Japan
San-Ei Instrument Co Ltd Shinjuku-Ku Tokyo	Japan
Schwarzer Corp Framingham	Mass
Unimetrics Corp Houston	Tex

ELECTROFORMING SERVICES

Allied Research & Engineering Co Los Angeles	Cal
Allied Research Prods Inc Sub The Richardson Co Baltimore	Md
American Circuit-Tronics Corp Royal Oak	Mich
Buckbee-Mears Co. St Paul	Minn
Chemical Micro Milling Co Pennsauken	N J
Dynatex Div Republic Corp Redwood City	Cal
Electroforms Inc Gardena	Cal
Komak Inc Philadelphia	Pa
Metaplast Electrochemicals Corp Bronx	N Y
Servometer Corp Clifton	N J
Sifco Metachemical Div Sifco Indus Inc Cleveland	Ohio
Tech-Etch, Inc Hingham	Mass
Thomson-CSF 78 Versailles	France
Towne Labs Inc Somerville	N J

ELECTROLESS PLATING CHEMICALS

See **Chemicals—Plating**

ELECTROLUMINESCENT DEVICES—ILLUMINATING

Ackerman Engravers, Inc Long Island City	N Y
ACR Electronics Corp New York	N Y
Aerolux Light Co Inc Div Duro Test Corp New York	N Y
American Electronic Labs Inc Lansdale	Pa
Amglo Corp Chicago	Ill
Atkins & Merrill Inc Reinforced Plastic Div Marlboro	Mass
Atmar Engraving Co Inc Richmond Hill	N Y
Canrad Precision Industries Inc New York	N Y
Coastal Dynamics Corp Venice	Cal
Felsenthal Instruments Co Chicago	Ill
Grimes Mfg Co Urbana	Ohio
Hartman Systems Co Inc Huntington Station	N Y
ITT Aerospace, Optical Div Fort Wayne	Ind
KDI Polytechnic Inc Div KDI Corp Cincinnati	Ohio
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Instrument Div Grand Rapids	Mich
Monsanto-Electronic Special Products Cupertino	Cal
Opcalite Inc Santa Ana	Cal
Oppenheimer, Inc Willow Grove	Pa
Sanyo Electric Co Ltd Osaka	Japan
Seed Electronics Corp Lexington	Mass
Semi-Elements Inc Saxonburg	Pa
Sierra Electric Div Sola Basic Ind Gardena	Cal
Sigmatron Inc Goleta	Cal
Simco Co Inc Lansdale	Pa
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Sylvania Elec Prods Inc Special Prod Div Danvers	Mass
Symbolic Displays Inc Orange	Cal
Vemaline Products Co, Inc Wycoff	N J

ELECTROLUMINESCENT DEVICES—LOGIC, MEMORY

Avco Electronics Div Cincinnati	Ohio
Devco Engineering Inc Fairfield (Caldwell)	N J
Electro-Nuclear Lab Inc Menlo Park	Cal
Hartman Systems Co Inc Huntington Station	N Y
ITT Aerospace, Optical Div Fort Wayne	Ind
KDI Polytechnic Inc Div KDI Corp Cincinnati	Ohio
Lear Siegler Inc, Instrument Div Grand Rapids	Mich
Massey Dickinson Co Inc Saxonville	Mass
Semi-Elements Inc Saxonburg	Pa
Sigmatron Inc Goleta	Cal
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls	N Y
Transistor Electronics Corp Minneapolis	Minn

ELECTROLUMINESCENT DEVICES—READOUT & DISPLAY

HEWLETT-PACKARD PALO ALTO	**CAL**
A & M Instruments Inc Great Neck	N Y
Atkins & Merrill Inc Reinforced Plastic Div Marlboro	Mass
Atmar Engraving Co Inc Richmond Hill	N Y
Avco Electronics Div Cincinnati	Ohio
Burtek Inc Tulsa	Okla
Canrad Precision Industries Inc New York	N Y
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
Dero Research & Devel Corp Huntington	N Y
Devco Engineering Inc Fairfield (Caldwell)	N J
Energy Conversion Devices Inc Troy	Mich
Felsenthal Instruments Co Chicago	Ill
Grimes Mfg Co Urbana	Ohio
Hartman Systems Co Inc Huntington Station	N Y
Hewlett-Packard Palo Alto	Ca
ITT Aerospace, Optical Div Fort Wayne	In
Kameco Electronics Ltd. Montreal	Qu
KDI Polytechnic Inc Div KDI Corp Cincinnati	Ohi
Kearfott Div Singer-General Precision Inc Little Falls	N
Lear Siegler Inc Santa Monica	Ca
Lear Siegler Inc, Instrument Div Grand Rapids	Mic
LFE Electronics Waltham	Mas
Link Div Singer Co Binghamton	N
Massey Dickinson Co Inc Saxonville	Mas
Monsanto-Electronic Special Products Cupertino	Ca
Opcalite Inc Santa Ana	Ca
Oppenheimer, Inc Willow Grove	P
Sanders Associates, Inc Nashua	N
Sanyo Electric Co Ltd Osaka	Japa
Semi-Elements Inc Saxonburg	P
Sigmatron Inc Goleta	Ca
Simplex Time Recorder Co Gardner	Mas
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ari
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls	N
Sylvania Electronic Systems Waltham	Mas
Symbolic Displays Inc Orange	Ca
Transistor Electronics Corp Minneapolis	Min
Tyco Instrument Div Waltham	Mas
Vemaline Products Co, Inc Wycoff	N
Westinghouse Electric Corp, Tube Div Elmira	N

ELECTROMAGNETIC COUNTERS

See **Counters—Electromagnetic**

ELECTROMAGNETS

See **Solenoids; Magnets—Electro**

ELECTROMETERS

HEATH CO BENTON HARBOR	**MIC**
TRACOR INC AUSTIN	**TE**
Adcole Corp Waltham	Mas
A & M Instruments Inc Great Neck	N
Analog Technology Corp Pasadena	Ca
A R F Products, Inc Raton	N
Argonaut Associates, Inc Beaverton	Or
Beckman Instruments Inc Fullerton,	Ca
Bioelectric Instruments Inc Hastings-on-Hudson	N
Bio-Medical Electronics Inc Rockville	M
Cary Instruments a Varian Sub Monrovia	C
Collins & Assoc Don L Glendale	C
Control Science Corp Alexandria	V
E G & G Inc Laboratory Prods Div Goleta	C
Elastronics Labs Tarzana	C
General Radio Co West Concord	Ma
Grace Electronics Inc Cleveland	Oh
Heath Co Benton Harbor	Mic
Instrumentation Lab Inc Lexington	Ma
Keithley Instruments Inc Cleveland	Oh
Landsverk Electrometer Co Glendale	C
La Radiotechnique Compelec Paris 11e	Fran
McKee-Pedersen Instruments Danville	C
Medistor Instrument Co Seattle	Wa
Monroe Electronics Inc Middleport	N
Newport Labs Inc Santa Ana	C
Nuclide Corp, AGV Div Acton	Ma
Optronics Labs Div Columbia Scientific Corp Waltham	Ma
Rawson-Lush Instrument Co Inc Acton	Ma
RIL Electronics Inc Southampton	
Sticht Co Inc, Herman H New York	N
Takeda Riken Industry Co Ltd Tokyo	Jap
Tracor Inc Austin	T
Varian Palo Alto	C
Veeco Instruments Inc Plainview	N
Victoreen Instrument Div Cleveland	Oh
Washington Technological Assoc Inc Rockville	M

ELECTROMETER TUBES

See **Tubes—Electrometer**

ELECTROMYOGRAPHS

HEWLETT-PACKARD PALO ALTO	**C**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV P**
NIHON KOHDEN KOGYO CO LTD TOKYO	**161 JAP**
Beckman Instruments Inc Fullerton,	
Bionic Instruments Inc Bala Cynwyd	
Coldspring Instrument Corp Huntington	N
Hewlett-Packard Palo Alto	
Honeywell Test Instruments Div Denver	C
Lehigh Valley Electronics Inc Fogelsville	
London Co Westlake	O
Newport Labs Inc Santa Ana	
Nihon Kohden Kogyo Co Ltd Tokyo	161 Jap
San-Ei Instrument Co Ltd Shinjuku-Ku Tokyo	Jap
Teca Corp White Plains	

ELECTRON BEAM WELDERS

See **Welders**

ELECTRON DIFFRACTION EQUIPMENT

Decker Corp Bala Cynwyd	
Edwards High Vacuum Inc Grand Island	
Fieldstone Corp Hardco Scientific Div Cincinnati	C
Materials Research Corp Orangeburg	
Process & Instruments Corp Brooklyn	
20th Century Electronics Ltd New Addington Croydon Cr 90 BG	Engl

tek Div Perkin-Elmer Palo Alto	Cal
vac Corp Tokyo	Japan
arian Palo Alto	Cal
eeco Andar Sub Veeco Palo Alto	Cal
eeco Instruments Inc Plainview	N Y

LECTRON GUNS

See **Tube Parts**

LECTRON MICROSCOPES

See **Microscopes—Electron**

LECTRON TUBE MANUFACTURING MACHINES

See **Machines—Tube (Electron)**

LECTRONIC CHEMICALS

See **Chemicals—Electronic**

LECTRONIC CIRCUIT DEMONSTRATORS

See **Demonstrators**

LECTRONIC HEATERS

See **Heaters—Electronic**

LECTRONIC HEATING OVENS

See **Ovens; Dehumidifiers**

LECTRONIC MOTOR CONTROLS

See **Controls—Motor Speed**

LECTRONIC VOLTMETERS

See **Voltmeters**

LECTROPLATING ANODES

See **Anodes**

LECTROPLATING CHEMICALS

See **Chemicals—Plating**

LECTROPLATING MACHINES

See **Machines—Plating**

LECTROPLATING SERVICES

See **Plating Services**

LECTROSTATIC CLEANERS

See **Cleaners—Air**

LECTROSTATIC GENERATORS

See **Generators—Electrostatic**

LECTROSTATIC SHIELDING

See **Shielding**

LECTROSTATIC SPRAY SYSTEMS

PELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX	**N Y**
olumbia Research Corp Gaithersburg	Md
onforming Matrix Corp Toledo	Ohio
ecker Corp Bala Cynwyd	Pa
e Vilbiss Co Toledo	Ohio
ischer & Co, H G Franklin Park	Ill
onic Electrostatic Corp Garfield	N J
pellman High Voltage Electronics Corp Bronx	N Y

LECTROSTATIC VOLTMETERS

See **Voltmeters**

LECTROSURGICAL APPARATUS

HETA INSTRUMENT CORP FAIRFIELD	**N J**
tlantic Ultraviolet Corp Long Island City	N Y
irtcher Corp Medical Div Los Angeles	Cal
nsco Medical Div Fluidics Prod & Sls Inc Salt Lake City	Utah
odfrey Mfg Co Chicago	Ill
nternational Rectifier Semiconductor Div El Segundo	Cal
iebel-Flarsheim Co Cincinnati	Ohio
ledtronic Inc Minneapolis	Minn
ptics Technology Inc Palo Alto	Cal
heta Instrument Corp Fairfield	N J

ELEMENTS

See **Heating Elements**

ELIMINATORS—BATTERY

See **Power Supplies—D-C**

EMBOSSED CIRCUITS

See **Circuits—Printed Wiring**

EMERGENCY COMMUNICATION SYSTEMS

See **Communication Systems—Land Mobile**

ENAMELED WIRE

See **Wire Magnet**

ENAMELS—WIRE INSULATION

Allaco Products Braintree	Mass
Atomite Electronics Corp Roosevelt	N Y
Barrett Varnish Co Cicero	Ill
Dolph Co, John C Monmouth Junction	N J
Dow Corning Corp Midland	Mich
Du Pont De Nemours & Co Inc E I Wilmington	Del
Emerson & Cuming Inc Canton	Mass
G C Electronics Div, Hydrometals Inc Rockford	Ill
Isochem Resins Co Lincoln	RI
Koppers Co Inc Pittsburgh	Pa
Miller-Stephenson Chemical Co Inc Danbury	Conn
3M Company St Paul	Minn
PPG Industries Pittsburgh	Pa
Preco Chemical Corp Plainview	N Y
Product Techniques, Inc Downey	Cal
Schenectady Chemicals Inc Schenectady	N Y
Vacuum Metallizing Van Nuys	Cal
Vitta Corp Wilton	Conn
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	Pa
Wornow Process Paint Co Los Angeles	Cal

ENCAPSULATED ASSEMBLIES

See **Modules—Active; Modules—Passive**

ENCAPSULATED RESISTORS

See **Resistors**

ENCAPSULATING COMPOUND DISPENSERS

See **Dispensers**

ENCAPSULATING COMPOUNDS

See **Resins—Encapsulating**

ENCAPSULATING FORMS

See **Forms—Epoxy; Shells**

ENCAPSULATING RESINS

See **Resins—Encapsulating**

ENCAPSULATION MACHINES

See **Machines—Encapsulating**

ENCAPSULATION SERVICES

AIRFLYTE ELECTRONICS CO BAYONNE	**N J**
CERRO COPPER & BRASS CO DIV CERRO CORP ALLOYS DEPT SPRINGDALE	**CONN**
ENDICOTT COIL CO INC BINGHAMTON	**N Y**
Acme Chemicals & Insulation New Haven	Conn
Aerolite Electronics Corp Union City	N J
Airflyte Electronics Co Bayonne	N J
Ansley Doylestown	Pa
Atlantic Instruments & Electronics, Inc Watertown	Mass
Atomite Electronics Corp Roosevelt	N Y
Avionics, Inc South Bend	Ind
Avionics Ltd Niagara-on-the-Lake	Ont
Bacon Industries, Inc Watertown	Mass
Ballastran Corp Fort Wayne	Ind
Benco Industries Paramount	Cal
Binary Electronics of Cal Div Avionic Structures Inc Anaheim	Cal
Boonton Molding Co Inc Boonton	N J
Bourns Pacific Magnetic Corp Romoland	Cal
Brown Engineering-A Teledyne Co Huntsville	Ala
Castall Research Lab Inc Brockton	Mass
Cerro Copper & Brass Co Div Cerro Corp Alloys Dept Springdale	Conn
Cerro Corp New York	NY
Cicoil Corp Chatsworth	Cal
Computer Components Inc Jamaica	N Y
Conap Inc Allegany	N Y
Condor Industrial Corp Wheaton	Ill
Connecticut Coil Corp Bridgeport	Conn
Corning Glass Works Corning	N Y
Daylen Co South Gate	Cal
Dinion Coil Co Inc Caledonia	N Y
Dolph Co, John C Monmouth Junction	N J
Dynaloy, Inc Hanover	N J
Eastern Delta Corp Fair Lawn	N J
Electrical Plastics Corp Lyndhurst	N J
Electronic Modules Corp Timonium	Md
Electrospace Corp Westbury	NY
Eljay Corp Columbia	Md
Emerson & Cuming Inc Canton	Mass
EMI Electronics Canada Ltd Dartmouth	N S Can
Endicott Coil Co Inc Binghamton	N Y
EPD Industries Inc Long Beach	Cal
Epoxy Products Co Div Allied Prod Inc New Haven	Conn
Estes Engineering Co Gardena	Cal
First Electronics Corp Boston	Mass
Flexible Products Inc Lakeville	Minn
Flow Electronic Cable Corp Cambridge	Mass
Franklin Fibre-Lamitex Corp Wilmington	Del
Fugle-Miller Labs Inc Kenilworth	N J
Godfrey Mfg Co Chicago	Ill
Hightemp Resins Inc Stamford	Conn
Hydro Molding Co Inc Plattsburgh	N Y
Inductor Engineering Inc Lewes	Del
Industrial Circuits Co Fairfield	N J
Isochem Resins Co Lincoln	RI
Isolation Products Mountain View	Cal
Jones Inc, Norman South Merrimack	N H
Keleket-CGR Corp Waltham	Mass
Lockheed-Georgia Co Marietta	Ga
Magnetic Engineering Corp Danbury	Conn
Manger Electric Co Inc Stamford	Conn
Marstan Electronics Orange	N J
Mereco Prods Inc, Div Metachem Resins Corp Cranston	RI
M-T Electronics Co San Leandro	Cal
Mutron Corp Brockton	Mass
Nopco Chemical Div Diamond Shamrock Chem Co Newark	N J
Norrich Plastics Corp Roosevelt	N Y
Norton Co Worcester	Mass
Paraplegics Mfg Co Inc Bensenville	Ill
Penntube Plastics Co Clifton Heights	Pa
Plessey Co Ltd Ilford Essex	England
Polymer Corp Reading	Pa
Q V S Inc East Orange	N J
Radix Electronics Corp Anaheim	Cal
Rector Engineering & Plastics Co Washington	D C
Renco Electronics Inc Hicksville	N Y
Rodon Electronics Corp Gardena	Cal
Sippican Corp, Ind Prods Div Mattapoisett	Mass
S K G Associates Inc Boston	Mass
Solarex Mfg Co Inc Deer Park	N Y
Space Craft Inc Huntsville	Ala
Sparton Southwest Inc Albuquerque	NM
Stanwyck Winding Div San Fernando Elec Mfg Co Inc Newburgh	N Y
Swiss Industries Costa Mesa	Cal
Telectro Systems Corp Corona	N Y
Teletronics Labs Inc El Segundo	Cal
Topper Mfg Co Inc Great Neck	NY
Transene Co Inc Rowley	Mass
U S Dielectric Inc Worcester	Mass
U S Electronics Corp Lyndhurst	N J
Warren Components Corp Warren	Pa

ENCLOSURES—CONTROLLED ATMOSPHERE

BLUE M ENGINEERING CO BLUE ISLAND	**ILL**
Amco Engineering Co Chicago	Ill
American Instrument Co, Inc Silver Spring	Md
Associated Testing Labs, Inc Wayne	N J
Blue M Engineering Co Blue Island	Ill
Brown Engineering-A Teledyne Co Huntsville	Ala
Clean Room Products Inc Farmingdale	N Y
Cryogenic Engineering Co Denver	Colo
De Vilbiss Co Toledo	Ohio
Donnelly Mfg Co Waltham	Mass
Eugene Engineering Co Inc Rockland	Mass
General Acoustics Corp Los Angeles	Cal
GTI Corp, Dix Engineering Div Costa Mesa	Cal
Hamilton Mfg Co Div Amer Hospital Supply Corp Two Rivers	Wis
Hoffman Engineering Co, Div Fed Cartridge Corp Anoka	Minn
Hotpack Corp Philadelphia	Pa
Kewaunee Scientific Equipment Adrian	Mich
Koppers Co Inc Pittsburgh	Pa
Kulicke & Soffa Industries Inc Fort Washington	Pa
Lab-Line Instruments Inc Melrose Park	Ill
Lindsay Structures Div, Intl Steel Co Evansville	Ind
Metal Fab Div, Artisan Industries Inc Waltham	Mass
Parabam Inc Compton	Cal
Precision Scientific Co Sub GCA Corp Chicago	Ill
Pure Aire Corp of America Van Nuys	Cal
Spring City Electrical Mfg Co Spring City	Pa
System Enclosures Inc, Div Anetsberger Bros Inc Northbrook	Ill
Vacuum/Atmospheres Corp N Hollywood	Cal
Zero Mfg Co Burbank	Cal

ENCLOSURES—LOUDSPEAKER

NELSON-HERSHFIELD ELECTRONICS CO PHOENIX	**ARIZ**
Alpha Products, Inc Chicago	Ill
Amco Engineering Co Chicago	Ill
Argos Products Co, Inc Genoa	Ill
Atlas Sound Div Amer Trading & Prod Corp Parsippany	N J
Automatic Clerical Systems Inc Pasadena	Cal
Baltic Metal Products Co Brooklyn	N Y
Claricon Products Elizabeth	N J
Components Specialties Inc Freeport	N Y
Donnelly Mfg Co Waltham	Mass
Eugene Engineering Co Inc Rockland	Mass

Fourjay Industries Dayton	Ohio
G T Research Inc Imlaystown	N J
Hammond Mfg Co Ltd Guelph	Ont
Hartley Products Corp Ho-Ho-Kus	NJ
Jensen Mfg Div, The Muter Co Chicago	Ill
Karlson Research & Mfg Div KRC Corp Hempstead	NY
K L A Labs Inc Detroit	Mich
Lansing Sound Inc, James B Los Angeles	Cal
Lear Siegler Inc Santa Monica	Cal
Metal Works Inc Hermann	Mo
Mobil Electronics Inc Anderson	Ind
Nelson-Hershfield Electronics Co Phoenix	Ariz
Neptune Electronics Co New York	N Y
Oaktron Industries Inc Monroe	Wis
Permoflux Div American Comset Inc Glendale	Cal
Philmore Mfg Co Inc Richmond Hill	N Y
Premier Metal Products Co Bronx	N Y
Radio Corp of America, Comml Elctn Prods Div Camden	N J
RMS Electronics Inc Bronx	N Y
Sanyo Electric Co Ltd Osaka	Japan
Spring City Electrical Mfg Co Spring City	Pa
Tonegen Electric Co Ltd Joto-ku, Osaka	Japan
University Sound Div Ltv Ling Altec Inc Oklahoma City	Okla
Utah Electronics Div, Utah-American Corp Huntington	Ind
Wald Sound Sun Valley	Cal
Wilder Engineering Products Chicago	Ill

ENCLOSURES—R-F SHIELDED

INSTRUMENT SPECIALTIES CO INC LITTLE FALLS N J	**ADV PG 246**
MM ELECTRONIC ENCLOSURES INC HICKSVILLE	**N Y**
VENT-RAK INC INDIANAPOLIS IND	**ADV PG 68**
Ace Shielded Products Corp Huntingdon Valley	Pa
Amco Engineering Co Chicago	Ill
Ark Electronics Corp Willow Grove	Pa
Bishop Instruments Inc. Portland	Me
Calcor Space Facility Inc Whittier	Cal
Canoga Industries Los Angeles	Cal
Churchill Corp Melrose	Mass
Crouse-Hinds Co Syracuse	N Y
Danex Corp Huntingdon Valley	Pa
Dietz Design Inc Belton	Mo
Donnelly Mfg Co Waltham	Mass
Electronic Enclosures Div Wyle Labs Pennsauken	N J
Electrorack Products Co Anaheim	Cal
Elpac Inc, Components Div Irvine	Cal
Emerson & Cuming Inc Canton	Mass
Enclosure Corp Pennsauken	N J
Estes Engineering Co Gardena	Cal
Eugene Engineering Co Inc Rockland	Mass
Filtron Co Inc Sub Liquidonics Ind Inc Flushing	N Y
F & M Systems Co, Div Fischbach & Moore, Inc Dallas	Tex
Golding Mfg Co North Arlington	N J
Goldsman Inc Philadelphia	Pa
Graphics, Inc Poteau	Okla
Hoffman Engineering Co, Div Fed Cartridge Corp Anoka	Minn
Holbrook Merrill Co Sunnyvale	Cal
Instrument Specialties Co Inc Little Falls	N J
Interference Measurement Lab Inc Brooklyn	N Y
Keystone Electronics Corp New York	N Y
Lindgren & Associates Inc, Erik A Chicago	Ill
Lindsay Structures Div, Intl Steel Co Evansville	Ind
MM Electronic Enclosures Inc Hicksville	N Y
Pneumafil Corp Charlotte	N C
Pomona Electronics Co Inc Pomona	Cal
Ray Proof Corp Norwalk	Conn
Scanbe Mfg Corp El Monte	Cal
Sprague Electric Co North Adams	Mass
System Enclosures Inc, Div Anetsberger Bros Inc Northbrook	Ill
TA Mfg Corp Los Angeles	Cal
Technical Wire Products Inc Cranford	N J
Topatron Inc Costa Mesa	Cal
Vent-Rak Inc Indianapolis	Ind
Watson Mfg Co Inc Jamestown	N Y
Zero Mfg Co Burbank	Cal

Super Sticky Fingers®

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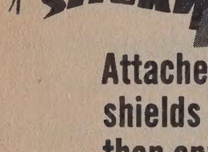
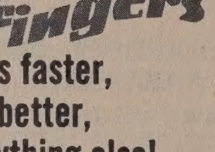


Series 97-500 the original Super Sticky Fingers® with superior shielding effectiveness



Double & single width series Super Sticky Fingers. Ideal for panel divider bar cabinets

In addition to the superior shielding for plane and magnetic waves, Super Sticky Fingers series 97-500 is available with optional Magnefil® for optimum effectiveness at the magnetic wave frequencies.

- Made of Beryllium Copper for superior spring and shielding characteristics!
- Pressure-sensitive backing eliminates old-fashioned soldering and fasteners. Bond actually grows stronger with age!
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TELE-SIGNAL CORP SUB SINGER CO WOODBURY	**N Y**
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Adtrol Electronics Inc Philadelphia	Pa
A M E C 45 Orleans	France
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Amtron Inc Sub Republic Corp Midlothian	Ill
Analogic Corp Wakefield	Mass
Astrodata Inc Anaheim	Cal
Auto-Trol Corp Arvada	Colo
Avco Electronics Div Cincinnati	Ohio
Babcock Electronic Corp Costa Mesa	Cal
Baldwin Electronics Inc Little Rock	Ark
Beckman Instruments Inc Fullerton,	Cal
Bell Aerosystems Co Buffalo	N Y
Burroughs Corp Electronic Components Div Plainfield	N J
Canadian Motorola Electronics Ltd Willowdale 425	Ont
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Collectron Corp New York	N Y
Computer Conversions Corp East Northport	N Y
Computer Labs Greensboro	N C
Connecticut Technical Corp Hartford	Conn
Conrac Corp New York	N Y
Control Science Corp Alexandria	Va
Curry Engineering Co N Hollywood	Cal
Data Technology, Inc Watertown	Mass
Del Electronics Corp Mt Vernon	N Y
Disc Instruments Inc Santa Ana	Cal
Discon Corp Fort Lauderdale	Fla
Dynamics Research Corp Stoneham	Mass
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando	Fla
E D P Corp Orlando	Fla
Electro-Mec Instrument Corp Watertown	Conn
E & L Instruments Inc Derby	Conn
EMR Div Weston Instruments Inc Princeton	N J
E N M Co Chicago	Ill
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset	NY
Faul-Coradi Inc Skaneateles	N Y
Flight Research Div Geotel Inc Richmond	Va
Gap Instrument Corp Westbury	N Y
GMR, Inc Berkeley	Cal
Gulton Industries Inc Metuchen	N J
Hathaway Pacific Palo Alto	Cal
Heidenhain Corp Miles	Ill
Hugle Industries Sunnyvale	Cal
Itek Corp Lexington	Mass
Itek Corp, Wayne George Div Newton	Mass
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Landis & Gyr, Inc New York	N Y
Landis & Gyr AG Zug	Switzerland
Lear Siegler Inc Santa Monica	Cal
LEM Instrument Corp Farmingdale	N Y
Librascope Singer-General Precision Inc Glendale	Cal
Litton Industries Encoder Division Chatsworth	Cal
Loral Electronic Systems, Div Loral Corp New York	NY
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Mann Co, David W, Div GCA Corp Burlington	Mass
Massey Dickinson Co Inc Saxonville	Mass
Metrological Data Corp Garfield	N J
Monitor Systems Inc an Aydin Co Fort Washington	Pa
Moore Associates Div Rucker Co San Carlos	Cal
Motorola, Govt Electronics Div Scottsdale	Ariz
Navcor Inc Div KDI Corp Norristown	Pa
Numar Corp New York	N Y
Perkin-Elmer Corp Norwalk	Conn
Philco-Ford Corp Washington	D C
Pinlites, Inc Fairfield	N J
Pulse Communications Inc Falls Church	Va
Racal Electronics Ltd Bracknell Berks	England
Radix Electronics Corp Anaheim	Cal
RC-95 Inc New York	N Y
Remex Electronics Hawthorne	Cal
Robins Data Devices Inc Flushing	N Y
Sequential Electronic Systems Inc Elmsford	N Y
Sigma Instruments Inc Braintree	Mass
Space & Tactical Systems Corp Burlington	Mass
Stelma Inc Stamford	Conn
Taft Electrosystems Inc Applied Elctns Div Metuchen	N J
Teledyne Telemetry Co Los Angeles	Cal
Tele-Signal Corp Sub Singer Co Woodbury	N Y
Theta Instrument Corp Fairfield	N J
Thomson-CSF 78 Versailles	France
Towner Systems Co Alameda	Cal
Towson Labs, Dept E Baltimore	Md
Trump Ross Industrial Controls Inc North Billerica	Mass
TRW Systems Group Redondo Beach	Ca
Utility Communication Systems Inc West Chester	Pa
Vactric Control Equipment Ltd Morden	England
Vega Precision Labs Vienna	Va
Vernitron Corp Precision Comp Group Farmingdale	N Y
Vernitron Corp Torrance Div Torrance	Ca
Vitro Labs Div Vitro Corp of America W Orange	N J
Vogue Instrument Corp Plainview	NY
Wang Labs Inc Tewksbury	Mass
Washington Technological Assoc Inc Rockville	Md

ENCODERS—SHAFT POSITION

AIRFLYTE ELECTRONICS CO BAYONNE N J	**ADV PG 573**
DATA TECHNOLOGY, INC WATERTOWN MASS	**ADV PG 247**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG 8**
THETA INSTRUMENT CORP FAIRFIELD N J	**ADV PG 248**
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO JAPAN	**ADV PG 247**
Adtrol Electronics Inc Philadelphia	Pa
Airflyte Electronics Co Bayonne	N J
Amtron Inc Sub Republic Corp Midlothian	Il
Baldwin Electronics Inc Little Rock	Ark
Bendix Corp Navigation & Control Div Teterboro,	N J
Coleman Engineering Co Inc Santa Ana	Ca
Collectron Corp New York	N Y
Computer Conversions Corp East Northport	N Y
Conrac Corp New York	N Y
Consolidated Controls Corp Bethel	Conn
Data Technology, Inc Watertown	Mass
Del Electronics Corp Mt Vernon	N Y
Disc Instruments Inc Santa Ana	Ca
Dynamics Research Corp Stoneham	Mass
Dynapar Corp Sub Louis Allis Co Gurnee	Il
Electro-Mec Instrument Corp Watertown	Conn
Electro-Tec Corp, Virginia Operation Blacksburg	Va
E & L Instruments Inc Derby	Conn
Farrand Controls Inc Valhalla	N Y
Ferranti Electric Inc Plainview	N Y
Flight Research Div Geotel Inc Richmond	Va
GMR, Inc Berkeley	Ca
Heidenhain Corp Miles	Il
H H Controls Co Inc Arlington	Mass
Honeywell Test Instruments Div Denver	Colo
Itek Corp Lexington	Mass
Itek Corp, Wayne George Div Newton	Mass
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Kelk Ltd, George Don Mills	Ont
LEM Instrument Corp Farmingdale	N Y
Librascope Singer-General Precision Inc Glendale	Ca
Litton Industries Encoder Division Chatsworth	Ca
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Mann Co, David W, Div GCA Corp Burlington	Mass
Markon Mfg Inc Englewood	Colo
Metrological Data Corp Garfield	N J
Norden Div, United Aircraft Corp Norwalk	Conn
Northern Precision Labs Inc Fairfield	N J

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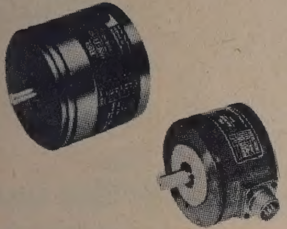

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ncoders

1 OC25
Industrial/Instrument Model

2 OS25
Light-Duty Industrial Model

3 ON25
General-Purpose Industrial Model

4 ON35
Heavy-Duty Industrial Model

tandard Features

- **Matched, Complementary, Push-Pull, Photo-Transistors:** compensate for temperature and light variations; provide extra noise-immunity.
- **Fully Integral Circuitry:** provides square-wave or pulse and/or zero outputs.
- **Single, Long-Life Lamp:** derated for 150,000 hours operations; heavy filament, high shock-resistance.
- **Rugged Construction:** all-metal packaging.
- **Hysteresis Feedback:** assures jitter-free operation.
- **Single, Non-Critical Voltage Supply (±5% tolerance):** provides flexible and economical operation.
- **Very High Shock-Resistance:** assured through a specially designed plastic code disc, and wide-gap spacing between code disc and mask.
- **IC (Linear) Detectors:** current sensing to minimize time constant.
- **Very High-Speed Capability:** pulse rate to 1 MHz.
- **Positioned Zero Level:** gated from A-track and B-track between pulses.
- **Long-Term Stability:** 90° phasing accomplished physically in mask.

THER ENCODERS

HOTOSYN is a high-precision optical encoder available ith incremental or absolute readout with increment r electronic sampling at rates up to 1 MHz/sec. ERNISYN is a high-precision, magnetic, non-contact haft encoder with full-scale vernier and complete-erimeter pickoff. INCRESYN magnetic incremental haft encoders are especially designed for digital ontrol and readout, and allow direct conversion f shaft position to final readout format. ROTOSYN, compact, absolute magnetic non-contact shaft posi-on encoder, provides a serial pulse-train output herein the total count of pulses in each burst directly orresponds to the shaft position.

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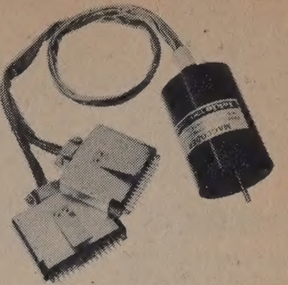

The new non-contactive encoder,

Magcoder from Tokin. A non-contactive analog-digital converter. With longer life, higher speed (10,000 rpm). Used in telemetering, industrial robots, automatic control NC devices.

Works better, costs less, because...

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2. **Magcoder has double head.** This does away with wrong readings.
3. **Magcoder is dust-proof.** Which means stable operation, any conditions.
4. **Magcoder has less drive-torque.** Which means no mechanical effect on controlled object.
5. **Magcoder doesn't use precious metals or photocell elements:** so less cost.
6. **Magcoder has unique Tokin design**—which cuts price lower even than other non-contactive encoders.

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Perkin-Elmer Corp Norwalk	Conn
Racal Electronics Ltd Bracknell Berks	England
Remex Electronics Hawthorne	Cal
Sequential Electronic Systems Inc Elmsford	N Y
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Theta Instrument Corp Fairfield	N J
Thomson-CSF 78 Versailles	France
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan
Towner Systems Co Alameda	Cal
Towson Labs, Dept E Baltimore	Md
Trump Ross Industrial Controls Inc North Billerica	Mass
Vactric Control Equipment Ltd Morden	England
Wang Labs Inc Tewksbury	Mass

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Acromark Co Berkeley Heights	N J
Apahouser Corp of N E Boston	Mass
Best Mfg Co Kansas City	Mo
Buckbee-Mears Co. St Paul	Minn
Canadian Research Institute Don Mills	Ont
Canrad Precision Industries Inc New York	N Y
Cooke Engineering Co Alexandria	Va
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park	N J
Dura Plastics of N Y Inc Westport	Conn
Electronic Hardware Corp Jamaica	NY
Electro-Stylus Mfg Co Colorado Springs	Colo
Eljay Corp Columbia	Md
Emerson Plastics Corp Bronx	New York
Eugene Engineering Co Inc Rockland	Mass
Feay Co, Neal Goleta	Cal
Felsenthal Instruments Co Chicago	Ill
Fisher & Crome, Inc Philadelphia	Pa
Golden Technology Inc Santa Rosa	Cal
Gorton Machine Corp Racine	Wis
Graphics, Inc Poteau	Okla
Harva Co Inc Schoharie	N Y
Hermes Plastics Inc New York	N Y
Industrial Engravers Inc Jamaica	N Y
Insulating Fabricators Inc East Rutherford	N J
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Jetron Mfg Co Chicago	Ill
Lake Erie Electric Mfg, Inc Erie	Pa
Laminated Sheet Products Corp Norwood	Mass
Leed Insulator Corp Los Angeles	Cal
Markon Mfg Inc Englewood	Colo
Master Engraving East Paterson	N J
Micro Parts Inc Los Angeles	Cal
New Hermes Engraving Machine Corp New York	N Y
Nichols Co Ltd, R H Downsview	Ont
Parker-Hartford Corp Windsor	Conn
Photo Chemical Products Inc Santa Monica	Cal
Precision Crafts La Cresenta	Cal
Printloid Inc Long Island City	N Y
Seton Name Plate Corp New Haven	Conn
Sossner Steel Stamps Inc Long Island City	N Y
Stafford Mfg Co Inc Brooklyn	N Y
Stan-Ard Engraving Co. Massapequa	NY
Tech-Etch, Inc Hingham	Mass
Utility Communication Systems Inc West Chester	Pa
Western Coil & Electrical Co Racine	Wisc

ENVIRONMENTAL CHAMBERS & TEST EQUIPMENT

***See* Chambers; Machines; Vibration**

EPOXY LAMINATES

***See* Laminates—Copper-Clad**

EPOXY RESINS

***See* Plastics**

EPOXY RESIN SOLVENTS

***See* Solvents**

EQUALIZERS—A-F

***See* Filters—Equalizer**

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Aerovox Corp Distr Sales New Bedford	Mass
Ampex Corp Redwood City	Cal
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Broadcast Electronics Inc Silver Spring	Md
Coil Co of America Inc Northvale	N J
Dowa Trading Co Ltd Kobe	Japan
Fen-Tone Corp New York	N Y
Ferranti Electric Inc Plainview	N Y
G C Electronics Div, Hydrometals Inc Rockford	Ill
General Kinetics Inc Reston	Va
Hammond Mfg Co Ltd Guelph	Ont
Hewlett-Packard Palo Alto	Cal
K L A Labs Inc Detroit	Mich
Lafayette Radio Electronics Syosset	NY
Litton Computer Products Div Colorado Springs	Colo
Magnasync/Moviola Corp North Hollywood	Cal

Microtran Co Inc Valley Stream .... N Y
Philmore Mfg Co Inc Richmond Hill .... N Y
Precision Instrument Co Palo Alto .... Cal
Radio Corp of America, Comml Elctn Prods Div Camden .. N J
Recording Designs Ltd Camberley Surrey .... England
Robins Data Devices Inc Flushing .... N Y
Robins Industries Corp Flushing .... N Y
Sparta Electronic Corp Sacramento .... Cal
Stancil-Hoffman Corp Hollywood .... Cal
Thermionic Products Electronics Ltd Southampton ... England

ESCUTCHEONS

ELECTRONIC HARDWARE CORP JAMAICA .... NY
Aikow Shoji Kaisha Ltd Osaka .... Japan
Best Mfg Co Kansas City .... Mo
Devco Engineering Inc Fairfield (Caldwell) .... N J
Electro-Chemical Engraving Co Inc Bronx .... N Y
Electronic Hardware Corp Jamaica .... NY
Eljay Corp Columbia .... Md
Felsenthal Instruments Co Chicago Ill
Impectron Inc New York .... N Y
Mid-West Metal Products Inc Kansas City .... Kans
Photo Chemical Products Inc Santa Monica .... Cal
Printloid Inc Long Island City .... N Y
Seastrom Mfg Co Inc Glendale .... Cal
Seton Name Plate Corp New Haven .... Conn
Stafford Mfg Co Inc Brooklyn .... N Y
Sun Dial & Panel Corp Caldwell .... N J
Technical Wire Products Inc Cranford .... N J
United States Radium Corp Morristown .... N J

ETCHED CIRCUIT BOARDS

***See* Laminates**

ETCHED CIRCUITS

***See* Circuits—Printed Wiring**

ETCHING ACIDS

***See* Chemicals—Printed-Circuit**

ETCHING EQUIPMENT

***See* Machines—Printed-Circuit Production**

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Best Mfg Co Kansas City .... Mo
Braun Tool & Instrument Co Inc, H Hawthorne .... N J
Brooks & Perkins Inc Detroit .... Mich
Buckbee-Mears Co. St Paul .... Minn
Chemical & Aerospace Products Inc Wilmington .... Cal
Chemical Micro Milling Co Pennsauken .... N J
Conductorlab Inc Groton .... Mass
Corning Glass Works Corning .... N Y
DEA Products Inc Tempe .... Ariz
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Electro-Chemical Engraving Co Inc Bronx .... N Y
Electronics Inc of Pa Willow Grove .... Pa
Electro-Sonics, Inc Spofford .... N H
EPEC Industries Inc New Bedford .... Mass
Flexible Circuits Inc Warrington .... Pa
Flexible Products Inc Lakeville .... Minn
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Hartzell Electronics Inc Minneapolis .... Minn
Industrial Circuits Co Fairfield .... N J
Industrial Engravers Inc Jamaica .... N Y
Keil Engineering Products Inc St Louis .... Mo
Komak Inc Philadelphia .... Pa
Litton Computer Products Div Colorado Springs .... Colo
Manger Electric Co Inc Stamford .... Conn
Markon Mfg Inc Englewood .... Colo
Materials Research Corp Orangeburg .... N Y
Metal Etching Corp Freeport .... N Y
Micronetics Div Teledyne Systems Co San Diego .... Cal
Micro Science Assoc Mountain View .... Cal
Mid-West Metal Products Inc Kansas City .... Kans
Omega Laboratories Inc Rowley .... Mass
Penntube Plastics Co Clifton Heights .... Pa
Philway Products Inc Ashland .... Ohio
Platronics Inc Linden .... N J
Precision Crafts La Cresenta .... Cal
Qualitron Corp Danbury .... Conn
Ransom Labs, John H Los Angeles .... Cal
Scherr Tumico Inc St James .... Minn
Semiconductor Specialties Corp Fair Lawn .... NJ
Seton Name Plate Corp New Haven .... Conn
Shamban & Co, W S Los Angeles .... Cal
Stafford Mfg Co Inc Brooklyn .... N Y
Tech-Etch, Inc Hingham .... Mass
Techniques, Inc Englewood .... N J
Towne Labs Inc Somerville .... N J
Universal Circuits Inc Minneapolis .... Minn

EXCITERS—TRANSMITTER

HEATH CO BENTON HARBOR .... MICH
INTERNATIONAL CRYSTAL MFG CO INC
OKLAHOMA CITY .... OKLA
American Electronic Labs Inc Lansdale .... Pa
Ampar Div Adams-Russell Waltham .... Mass
Automatic Metal Products Corp Brooklyn .... N Y
C C A Electronics Corp Gloucester .... NJ
Conic Corp San Diego .... Cal
Farinon Electric San Carlos .... Cal
General Dynamics, Electronics Div Rochester .... N Y
Harris-Intertype Corp Cleveland .... Ohio
Heath Co Benton Harbor .... Mich
International Crystal Mfg Co Inc Oklahoma City .... Okla
Kahn Research Labs Inc Freeport .... N Y
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Marconi Div, English Electric Corp New York .... N Y
Metric Engineering Div Greenray Indus Inc Mechanicsburg . Pa
Motorola, Govt Electronics Div Scottsdale .... Ariz
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Philco-Ford Corp Washington .... D C
Racal Communications Inc Silver Spring .... Md
Radio Engineering Labs, Div DCA Long Island City .... N Y
Resdel Engineering Corp Pasadena .... Cal
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Round Hill Assoc Inc New York .... NY
Technical Materiel Corp Mamaroneck .... N Y
Tele-Dynamics Div, American Bosch Arma Corp
Philadelphia .... Pa
Topping Electronics Ltd Scarborough .... Ont
Wilcox Electric Co Kansas City .... Mo

EXCITERS—VIBRATION

TRACOR INC AUSTIN .... TEX
Agac-Derritron Inc Alexandria .... Va
EMR-Hatboro Div Weston Insts Inc Hatboro .... Pa
L A B Corp Div Redford Corp Skaneateles .... N Y
Ling Electronics Div LTV Altec Inc Anaheim .... Cal
MB Electronics A Textron Co New Haven .... Conn
Tracor Inc Austin .... Tex
Unholtz-Dickie Corp Hamden .... Conn
Universal Ad-Yu Electronics Inc Passaic .... N J
Vibrasonics Inc Needham .... Mass
Wyle Laboratories El Segundo .... Cal
Zonic Technical Labs Cincinnati .... Ohio

EXPOSURE METERS

***See* Meters—Light**

EXTRUDED PLASTIC PARTS

***See* Plastics—Finished Parts**

EYELETS—GENERAL PURPOSE (MECHANICAL ASSEMBLY)

ART WIRE & STAMPING CO NEWARK .... N J
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
VOLKERT STAMPINGS INC SUB STANLEY WORKS
QUEENS VILLAGE .... N Y
Acme Model Engineering Co Ridgefield .... N J
Aikow Shoji Kaisha Ltd Osaka .... Japan
Allmetal Screw Products Co Inc Garden City .... N Y
Amatom Electronic Hardware New Rochelle .... N Y
Anaconda American Brass Co Waterbury .... Conn
Art Wire & Stamping Co Newark .... N J
Auto-Swage Products, Inc Shelton .... Conn
Bead Chain Mfg Co Bridgeport .... Conn
Bergen Wire Rope Co Lodi .... N J
Circon Component Corp Goleta .... Cal
Cly-Del Mfg Co Waterbury .... Conn
Eyelematic Mfg Co Inc Watertown .... Conn
Eyelet Tool Co Cambridge .... Mass
Federal Screw Products Inc Chicago Ill
Fischer Special Mfg Co Cincinnati .... Ohio
G C Electronics Div, Hydrometals Inc Rockford Ill
Kepro Circuit Systems Inc St Louis .... Mo
Keystone Electronics Corp New York .... N Y
Lear Siegler Inc Santa Monica .... Cal
Mark Eyelet & Stamping Inc Wolcott .... Conn
Metal Ceram Inc Mount Vernon .... N Y
Microdot Inc. Troy .... Mich
Midwest Cortland Schiller Park Ill
Nutmeg Screw Machine Products Co Waterbury .... Conn
Premium Allied Tool Inc Owensboro .... Ky
Ramco Mfg Co Inc Roselle Park .... N J
Revere Copper & Brass, Inc New York .... N Y
Richards Metal Products Inc Wolcott .... Conn
Segal Inc, Edward New York .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Stimpson Co Inc, Edwin B Brocklyn .... N Y
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim . Cal
Texas Instruments Incorporated Dallas .... Tex
USM Corp, Fastener Div Shelton .... Conn
Volkert Stampings Inc Sub Stanley Works Queens Village . N Y
Waterbury Pressed Metal Co Waterbury .... Conn

EYELETS—PRINTED CIRCUIT & TERMINAL BOARD

ART WIRE & STAMPING CO NEWARK .... N J
BARNES CORP LANSDOWNE .... PA
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
Abbott Products, Inc College Point .... N Y
Acme Model Engineering Co Ridgefield .... N J
Alden Products Co, Inc Brockton .... Mass
Amatom Electronic Hardware New Rochelle .... N Y
AMP Incorporated Harrisburg .... Pa
Anaconda American Brass Co Waterbury .... Conn
Art Wire & Stamping Co Newark .... N J
Auto-Swage Products, Inc Shelton .... Conn
Barnes Corp Lansdowne .... Pa
Bead Chain Mfg Co Bridgeport .... Conn
Cambridge Thermionic Corp Cambridge .... Mass
Circon Component Corp Goleta .... Cal
Cly-Del Mfg Co Waterbury .... Conn
Dry Screen Process Inc Pittsburgh .... Pa
Eyelematic Mfg Co Inc Watertown .... Conn
Federal Screw Products Inc Chicago Ill
Fischer Special Mfg Co Cincinnati .... Ohio
Franklin Fibre-Lamitex Corp Wilmington .... Del
Kepro Circuit Systems Inc St Louis .... Mo
Keystone Electronics Corp New York .... N Y
Lake Engineering Co Ltd Scarborough .... Ont
Lear Siegler Inc Santa Monica .... Cal
Mark Eyelet & Stamping Inc Wolcott .... Conn
Metal Ceram Inc Mount Vernon .... N Y
Nutmeg Screw Machine Products Co Waterbury .... Conn
Precision Metal Products Co of Malden Inc Stoneham ... Mass
Ramco Mfg Co Inc Roselle Park .... N J
Revere Copper & Brass, Inc New York .... N Y
Richards Metal Products Inc Wolcott .... Conn
Sanyo Electric Co Ltd Osaka .... Japan
Sealectro Corp Mamaroneck .... N Y
Segal Inc, Edward New York .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Stimpson Co Inc, Edwin B Brooklyn .... N Y
Texas Instruments Incorporated Dallas .... Tex
USECO Div, Litton Industries Van Nuys .... Cal
USM Corp, Fastener Div Shelton .... Conn
Vector Electronic Co Inc Sylmar .... Cal

FABRIC PARTS

WIRE CLOTH ENTERPRISES INC PITTSBURGH .... PA
Auburn Mfg Co Middletown .... Conn
Daniels Inc, C R Daniels .... Md
Dodge Industries Sub Oak Electro/Netics Corp
Hoosick Falls .... N Y
Fel Pro Inc Div Felt Products Mfg Co Skokie Ill
Franklin Fibre-Lamitex Corp Wilmington .... Del
General Findings Co Industrial Div Attleboro .... Mass
Goodyear Aerospace Corp Akron .... Ohio
Kendall Co Fiber Prods Div Walpole .... Mass
Micro Parts Inc Los Angeles .... Ca
Natvar Corp Woodbridge .... N J
Norrich Plastics Corp Roosevelt .... N Y
Pellon Corp, Ind Div Lowell .... Mass
Porter H K Co Inc, Thermoid Div Pittsburgh .... Pa
Pres-On Products Co Addison Ill
REF Dynamics Div UOP Mineola .... N Y
Shamban & Co, W S Los Angeles .... Ca
Sherwood Industries Flexco Div Bell Gardens .... Ca
Staff Gasket Mfg Corp New York .... N Y
Suflex Corp Woodside .... N Y
Wire Cloth Enterprises Inc Pittsburgh .... Pa
Wire Cloth Manufacturers Inc Parsippany .... N

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Fabrics—All Types
For Screen Printing
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WIRE CLOTH
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ABRICS

ESSILK PRODUCTS INC ELMSFORD . . . . N Y
XWIPE CO HILLSDALE . . . . N J
RE CLOTH ENTERPRISES INC PITTSBURGH PA . . . . ADV PG 248
oustone Corp Brooklyn . . . . N Y
mbridge Wire Cloth Co Cambridge . . . . Md
re-Tronics, Inc Orange . . . . N J
niels Inc, C R Daniels . . . . Md
dge Industries Sub Oak Electro/Netics Corp Hoosick Falls . . . . N Y
Pont De Nemours & Co Inc E I Wilmington . . . . Del
ndall Co Fiber Prods Div Walpole . . . . Mass
essilk Products Inc Elmsford . . . . N Y
3 Bedding Co Wilkes-Barre . . . . Pa
tvar Corp Woodbridge . . . . N J
wark Wire Cloth Co Newark . . . . N J
llon Corp, Ind Div Lowell . . . . Mass
rter H K Co Inc, Thermoid Div Pittsburgh . . . . Pa
amban & Co, W S Los Angeles . . . . Cal
xwipe Co Hillsdale . . . . N J
ler Co, W S Mentor . . . . Ohio
re Cloth Enterprises Inc Pittsburgh . . . . Pa
re Cloth Manufacturers Inc Parsippany . . . . N J

ACSIMILE EQUIPMENT—AMPLIFIERS

PPON ELECTRIC CO LTD TOKYO . . . . JAPAN
den Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
ckman Instruments Inc Fullerton, ... Cal
ternational Scanatron Systems Corp Wyandanch . . . . . . N Y
btron Corp of Amer Div KDI Corp Dayton . . . . Ohio
etox Paris 20 . . . . France
uirhead Instruments Inc Mountainside . . . . N J
ppon Electric Co Ltd Tokyo . . . . Japan
rfectone Sound Labs Allendale . . . . NJ
lautograph Corp Los Angeles . . . . Cal
lectro Systems Corp Corona . . . . N Y

ACSIMILE EQUIPMENT—CONVERTERS

PPON ELECTRIC CO LTD TOKYO . . . . JAPAN
den Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
G & G Inc, Systems Group Bedford . . . . Mass
amilton Standard Div UAC Elctns Systems Windsor Locks . . . . Conn
ternational Scanatron Systems Corp Wyandanch . . . . . . N Y
etox Paris 20 . . . . France
uirhead Instruments Inc Mountainside . . . . N J
ppon Electric Co Ltd Tokyo . . . . Japan
orthern Radio Co Inc New York . . . . N Y
ilco-Ford Corp Washington . . . . D C
xon Electronics Inc Silver Spring . . . . Md
chnical Materiel Corp Mamaroneck . . . . N Y
lautograph Corp Los Angeles . . . . Cal

ACSIMILE EQUIPMENT—RECEIVERS

NRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
PPON ELECTRIC CO LTD TOKYO . . . . JAPAN
EMENS AMERICA INC NEW YORK . . . . N Y
den Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
den Systems, Inc Brockton . . . . Mass
ritsu Electric Co Ltd Tokyo . . . . Japan
ncord Electronics Corp Los Angeles . . . . Cal
amilton Standard Div UAC Elctns Systems Windsor Locks . . . . Conn
ternational Scanatron Systems Corp Wyandanch . . . . . . N Y
btron Corp of Amer Div KDI Corp Dayton . . . . Ohio
etox Paris 20 . . . . France
icrowave Associates Inc Burlington . . . . Mass
uirhead Instruments Inc Mountainside . . . . N J
ppon Electric Co Ltd Tokyo . . . . Japan
ilco-Ford Corp Washington . . . . D C
essey Co Ltd Ilford Essex . . . . England
acal Electronics Ltd Bracknell Berks . . . . England
emens America Inc New York . . . . N Y
chnical Materiel Corp Mamaroneck . . . . N Y
lautograph Corp Los Angeles . . . . Cal
opping Electronics Ltd Scarborough . . . . Ont

ACSIMILE EQUIPMENT—RECORDERS

NRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
PPON ELECTRIC CO LTD TOKYO . . . . JAPAN
den Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
den Systems, Inc Brockton . . . . Mass
ritsu Electric Co Ltd Tokyo . . . . Japan
eckman Instruments Inc Fullerton, ... Cal
entury Electronics & Instruments Inc Tulsa . . . . Okla
ncord Electronics Corp Los Angeles . . . . Cal
G & G Inc, Systems Group Bedford . . . . Mass
amilton Standard Div UAC Elctns Systems Windsor Locks . . . . Conn
formation International Inc Boston . . . . Mass
ternational Scanatron Systems Corp Wyandanch . . . . . . N Y
etox Paris 20 . . . . France
incom Div 3M Co Camarillo . . . . Cal
uirhead Instruments Inc Mountainside . . . . N J
ppon Electric Co Ltd Tokyo . . . . Japan
cean Sonics Inc El Segundo . . . . Cal
oneer Instrument Inc Hanover . . . . Mass
lautograph Corp Los Angeles . . . . Cal
hermionic Products Electronics Ltd Southampton . . . England

FACSIMILE EQUIPMENT—RECORDING PAPER

LUDLOW CHARTS DIV, LUDLOW CORP WARE . . . . . . MASS
Alden Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
Alden Systems, Inc Brockton . . . . Mass
Alfax Paper & Engineering Co Westboro . . . . Mass
Beckman Instruments Inc Fullerton, ... Cal
Concord Electronics Corp Los Angeles . . . . Cal
Fitchburg Coated Products Inc Scranton . . . . Pa
International Scanatron Systems Corp Wyandanch . . . . . . N Y
Ludlow Charts Div, Ludlow Corp Ware . . . . Mass
3M Company St Paul . . . . Minn
Muirhead Instruments Inc Mountainside . . . . N J
Pioneer Instrument Inc Hanover . . . . Mass
States Electronics Corp, Bludworth Marine Div Linden . . . . N J
Telautograph Corp Los Angeles . . . . Cal

FACSIMILE EQUIPMENT—SCANNERS

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Alden Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
Alden Systems, Inc Brockton . . . . Mass
American Astrionics Inc Palo Alto . . . . Cal
Beckman & Whitley Mountain View . . . . Cal
E G & G Inc, Systems Group Bedford . . . . Mass
Hamilton Standard Div UAC Elctns Systems Windsor Locks . . . . Conn
Information International Inc Boston . . . . Mass
International Scanatron Systems Corp Wyandanch . . . . . . N Y
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Metox Paris 20 . . . . France
Muirhead Instruments Inc Mountainside . . . . N J
Nippon Electric Co Ltd Tokyo . . . . Japan
Ocean Sonics Inc El Segundo . . . . Cal
Philco-Ford Corp Washington . . . . D C
Telautograph Corp Los Angeles . . . . Cal

FACSIMILE EQUIPMENT—SYSTEMS

***See* Communication Systems**

FACSIMILE EQUIPMENT—TRANSMITTERS

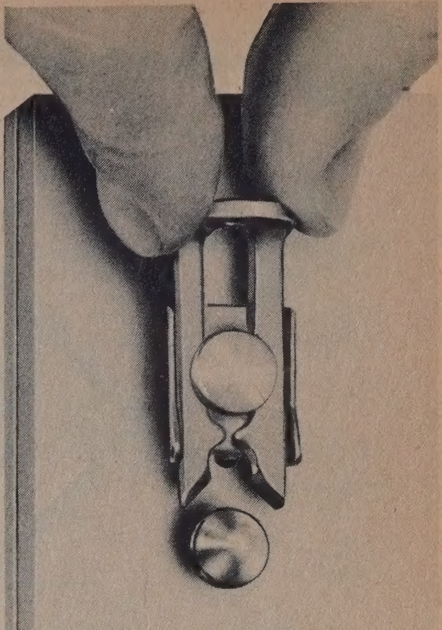
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
Alden Electronic & Impulse Recording Equip Co Inc Westboro . . . . Mass
Alden Systems, Inc Brockton . . . . Mass
C C A Electronics Corp Gloucester . . . . NJ
Concord Electronics Corp Los Angeles . . . . Cal
E G & G Inc, Systems Group Bedford . . . . Mass
Hamilton Standard Div UAC Elctns Systems Windsor Locks . . . . Conn
International Scanatron Systems Corp Wyandanch . . . . . . N Y
Microwave Associates Inc Burlington . . . . Mass
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Muirhead Instruments Inc Mountainside . . . . N J
Nippon Electric Co Ltd Tokyo . . . . Japan
Ocean Sonics Inc El Segundo . . . . Cal
Plessey Co Ltd Ilford Essex . . . . England
Racal Electronics Ltd Bracknell Berks . . . . England
Siemens America Inc New York . . . . N Y
Technical Materiel Corp Mamaroneck . . . . N Y
Telautograph Corp Los Angeles . . . . Cal

FANS

***See* Blowers**

FASTENERS & FASTENING DEVICES

ART WIRE & STAMPING CO NEWARK . . . . N J
CARR FASTENER CO DIV UNITED-CARR INC CAMBRIDGE MASS . . . . ADV PGS 250,251
DABURN ELECTRONICS & CABLE CORP BRONX . . . . N Y
DIMCO-GRAY CO DAYTON OHIO . . . . ADV PG 249
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
KINETRON CORP ASBURY PARK . . . . NJ
NATIONAL LEAD CO NEW YORK . . . . N Y
STAR STAINLESS SCREW CO PATERSON N J . . ADV PG 252
TIMBER-TOP INC FREEPORT . . . . N Y
ZIERICK MFG CORP MOUNT KISCO . . . . N Y
Abacus Electronics Corp Dobbs Ferry . . . . N Y
Abbott Products, Inc College Point . . . . N Y
Abscoa Industries Inglewood . . . . Cal
Adams Rite Mfg Co Glendale . . . . Cal
Adjustable Bushing Corp North Hollywood . . . . Cal
Aikow Shoji Kaisha Ltd Osaka . . . . Japan
Allen Mfg Co Hartford . . . . Conn
Allmetal Screw Products Co Inc Garden City . . . . N Y
Aluminum Co of America Pittsburgh . . . . Pa
Amatom Electronic Hardware New Rochelle . . . . N Y
AMP Incorporated Harrisburg . . . . Pa
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Art Wire & Stamping Co Newark . . . . N J
Atomite Electronics Corp Roosevelt . . . . N Y
Auto-Swage Products, Inc Shelton . . . . Conn
Bergen Wire Rope Co Lodi . . . . N J
Bigelow Components Corp Newark . . . . N J
Blinn Co Inc, Delbert Pomona . . . . Cal
Boots Aircraft Nut Div Townsend Co Santa Ana . . . . Cal
Bostitch Div Textron Inc East Greenwich . . . . R I
Camcar Screw & Mfg, A Textron Div Rockford Ill
Camloc Div Rex Chainbelt Inc Paramus . . . . N J
Carr Fastener Co Div United-Carr Inc Cambridge . . . . . . Mass
Central Screw Co Broadview Ill



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Dimco Snapslide Fasteners hold assemblies securely despite shock or vibration, yet release quickly to allow removal of assembly. Fasteners never need adjustment and can be reused indefinitely. Approved under Military Standards. New Handbook shows sizes, typical applications, attachment methods . . . may have the ideal answer to your holding / release problem! Write for FREE copy today to DIMCO-GRAY CO., 204 East Sixth St., Dayton, Ohio 45402. Phone (513) 224-1913.

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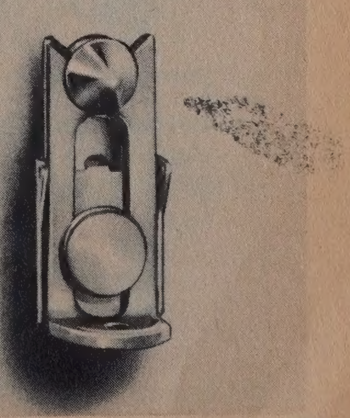


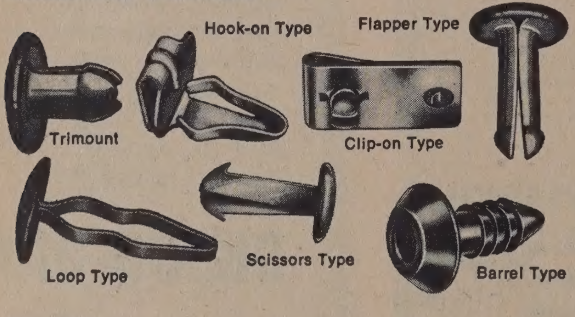
DOT / *Guideposts for Designers*

MASS
SAVINGS
ASSEMBLY

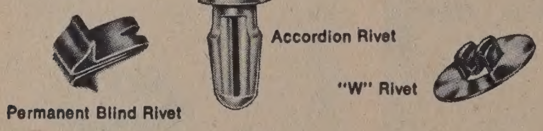
Put more profit in mass assembly with... Carr Fasteners

PANEL FASTENERS

Designed to hold two or more thicknesses of material firmly together. Simple, snap-in insertion assures vibration-free attachment.

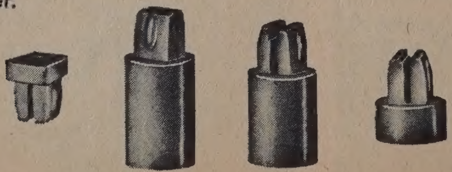

Hook-on Type
Flapper Type
Trimount
Clip-on Type
Loop Type
Scissors Type
Barrel Type

RIVETS


Accordion Rivet
"W" Rivet
Permanent Blind Rivet

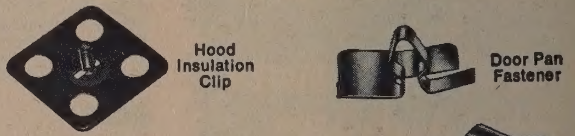
NYLON PUSH-IN NUTS

Used wherever it is necessary to apply a threaded fastener in sheet metal or plastic. Straight legs will not distort thin material or chip painted surfaces. Available with foam vinyl plastisol sealer.



BROAD FLANGE CLIPS

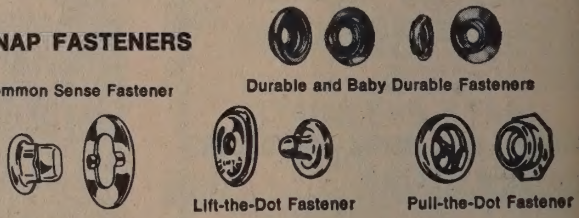
Positive holding power for attaching non-rigid material panels. Take-up is built into both the flange and stud, makes them ideal for compressible materials such as insulation.


Hood Insulation Clip
Door Pan Fastener

QUARTER-TURN PANEL FASTENERS

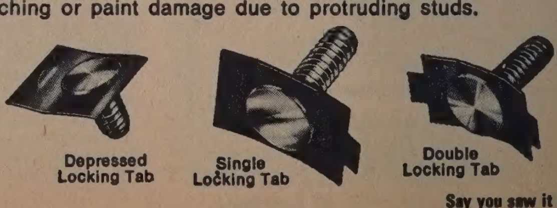
Securely holds two metal panels together and provides quick removal with a ¼-turn of the latch.

SNAP FASTENERS


Common Sense Fastener
Durable and Baby Durable Fasteners
Lift-the-Dot Fastener
Pull-the-Dot Fastener

QUICKEY BOLTS

These rugged, economical substitutes for welded studs won't rattle or shake loose. Snapped in during final assembly. Quickey Bolts permit nesting, storage, and transportation of sheet metal assemblies or subassemblies without danger of scratching or paint damage due to protruding studs.

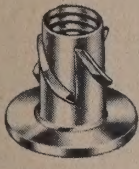

Depressed Locking Tab
Single Locking Tab
Double Locking Tab

TEENUT® FASTENERS

Threaded bushings for wood, metal, and similar materials. By combining the functions of a nut and a washer, TEENUT fasteners eliminate counter-sinking, save labor, and add strength to construction, and provide a steel thread without costly tapping.

For Wood:

Pronged Teenut

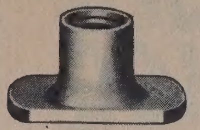

Propeller Nut

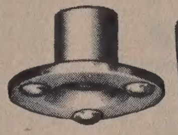
Petal Nut

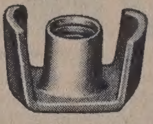
Dowel Nut

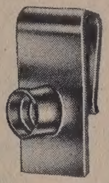
Octopus Fastener

For Metal:


Spot Weld Type


Projection Weld Type


Tubing Type

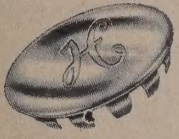

J-Nut

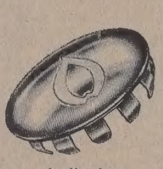
Capped, plain

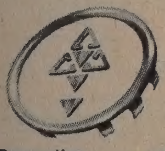
PLUG BUTTONS

Simple, decorative, and functional snap-in covers for holes that are drilled, punched, or molded in plastics, metals, or fiber board. Produced in a variety of metals and molded plastics. They may be styled in many decorative effects — painted, embossed, paint and wipe, applique, plated or anodized.

Standard Basic Plug Button


Faucet Identification

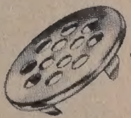

Indicator Light Lens


Decorative Color Insert

Plastic Access Hole Closure

Screen Type

Maintenance Access Hole Type


Ventilator Type

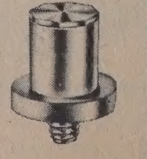
CARR KASE®

Custom metal plated plastic parts. Decorative, durable functional, and economical. Ideal for knobs, handles, bezels, escutcheons, nameplates for appliances, radio-TV, plumbing fixtures, etc.

Gear Shift Knob

CARR-FLEX® FASTENERS

Specially formulated rubber bushings, integrally molded onto engineered screw, absorb vibration, provide electrical isolation of parts. Unique design cannot be over-torqued.



DOT, LIFT-THE-DOT, PULL-THE-DOT, TEENUT, and CARR-KASE are reg. trademarks of United-Carr Incorporated.

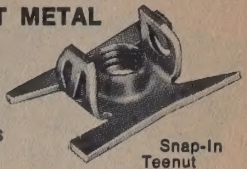
HEX WASHER NUTS

For firm, rattle-free, watertight and leak-proof assemblies. Greater tensile loading ability than sheet metal nuts. Available with or without sealer.

Hex Washer Nuts

SNAP-IN FASTENERS FOR SHEET METAL

New Snap-In TEENUT fasteners add threads to .030/.062 sheet metal for practically any fastening application. Install with a simple tap into a rectangular hole. Fastens leveling feet on clothes washers, dryers, office furniture. Eliminates welding, staking, metal distortion. In 5/16-18 thread size.


Snap-In Teenut Fasteners

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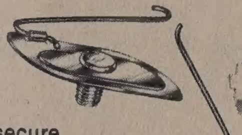
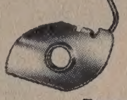
For speedy attachment and secure fastening of plain or tapered moldings. Spring finger or side wing types provide accurate positioning and constant tension which prevents displacement of bolt during attachment.


Side-wing Molding Fastener

Nylon Molding Fastener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Plain, Uncapped Ratchet Plate

Helix Washer

Rod End Clip

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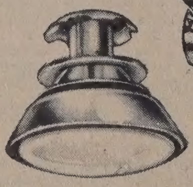
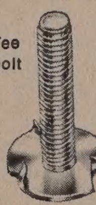

Glide

Upholstery Clip


Tee Bolt

Chair Back Fastener

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FILM RECORDERS

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See Resistors

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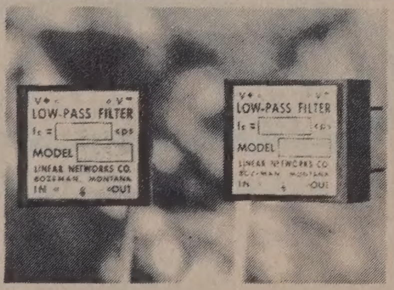

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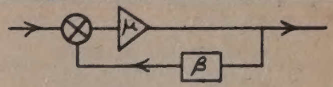

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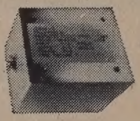
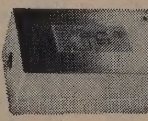
Example 111
- 600 ohm line
- 370 Hz to 3040 Hz
- —60 dB minimum attenuation from 6290 Hz to 20 kHz

Size: 3½" x 3" x 2¾" approx.



Example 112
- 600 ohm line
- 300 Hz to 3040 Hz
- 0.4 dB maximum ripple in pass band
- 450 microseconds maximum delay distortion
- Harmonic distortion 70 dB below output level
- —55 dB minimum attenuation from 3350 Hz to 20 kHz

Size: 5½" x 3" x 2¾" approx.



Example 113 (Not illustrated)
- 600 ohm line
- 3300 Hz to 5870 Hz
- 0.4 dB maximum ripple in pass band
- 450 microseconds maximum delay distortion
- Harmonic distortion 70 dB below output level
- —55 dB minimum attenuation from 6350 Hz to 20 kHz and from 2950 Hz to 25 Hz

Size: 9" x 3" x 2¾"

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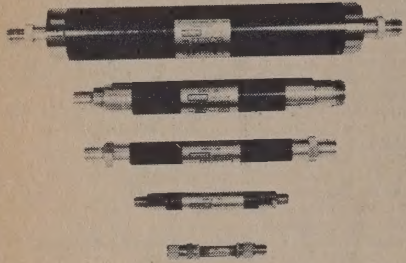

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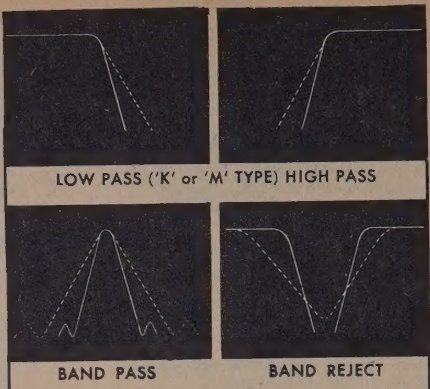

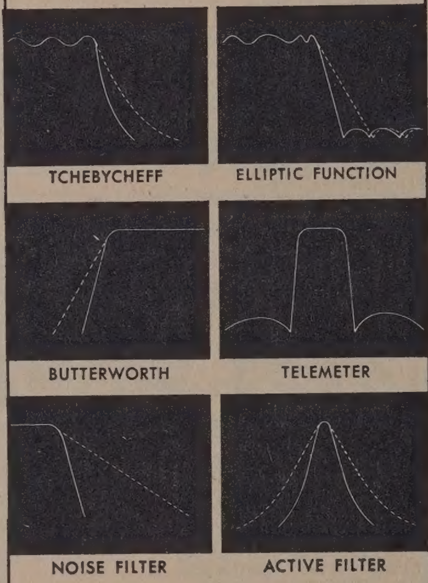

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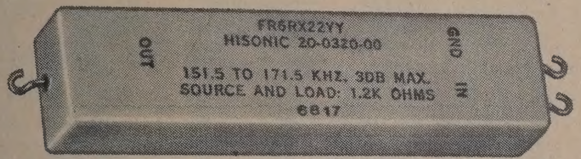
CUSTOM FILTERS

Low, band or high pass and band stop filters with optimum characteristics can be supplied to your special requirements and MIL-F-18327. Construction utilizes toroidal inductors and high quality capacitors of special films or silvered mica, according to frequency and space requirements. Operating frequencies range to 10 mc/s. Temperature stabilization for both amplitude and frequency can be effected. Mechanical styles may be epoxy encapsulated or hermetically sealed steel in sizes from 0.2 to 200 cu. in.



A PARTIAL LIST OF HISONIC FILTERS BY PART NUMBER

BAND PASS FILTERS

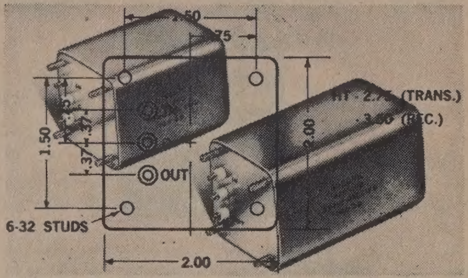
PART NUMBER	FREQ.	INS. LOSS	SOURCE/ LOAD	PASS BAND	STOP BAND	SIZE
20-0184-10	100 c/s	5 db	600/600	3 db @ ± 20 c/s	60 db @ 50 c/s 54 db @ 250	3 x 3 1/2 x 6
20-0199-10	210 c/s	2 db	600/4.6M	3 db @ ± 4 c/s	60 db @ 170 c/s	3 x 3 1/2 x 4 1/2
20-0038-11	800 c/s	9 ± 1 db	15K/15K	3 db @ ± 160 c/s	35 db from 1600 to 1Mc/S	1 3/16 x 1 11/16 x 2 1/4
20-0205-10	1150 c/s	2.8 db	600/10K	3 db @ ± 10 c/s	30 db @ ± 300 c/s	2 Sq. x 3 1/2
20-0206-10	1600 c/s	.2 db	600/10K	3 db @ ± 50 c/s	50 db @ ± 350 c/s	2 Sq. x 3 1/2
20-0018-10	1940 c/s	6 db	1K/1K	3 db @ ± 500 c/s	40 db @ ± 1 Kc/S	1 5/8 x 1 3/4 x 2 1/4
20-0027-10	3.35 K/S	6 db	1K/1.6K	3 db @ ± 180 c/s	30 db @ 1200 c/s	2 1/2 Sq. x 1 1/4
20-0029-10	4 Kc/S	3 ± 1/2 db	1K/1.6K	3 db @ ± 175 c/s	30 db @ ± 1000 c/s	1 3/4 Sq. x 2 1/4
20-0030-10	8 Kc/S	6 db	1K/100K	3 db @ ± 225 c/s	40 db @ 11.5 Kc/S	1 13/32 Sq. x 2 5/16
20-0080-10	12 Kc/S	11 db	33K/33K	3 db @ ± 200 c/s	60 db @ ± 6000 c/s	2 x 3 x 2 1/4
20-0020-11	18 Kc/S	8 db	47K/500	3 db ± @ 250 c/s	30 db @ ± 2 Kc/S	2 x 3 x 1 1/2
20-0091-11	26 Kc/S	6 ± 1/2 db	10K/30K	3 db @ ± 1500 c/s	40 db @ ± 12.5 Kc/S	2 x 2 1/4 x 3 1/16
20-0100-10	48 Kc/S	4 db	15K/5M	± 1 db @ ± 50 c/s	60 db @ ± 4 Kc/S	1 1/32 x 1 29/32 x 3 25/32
20-0093-10	64.75 Kc/S	5 db	600/20K	3 db @ ± 2200 c/s	60 db @ ± 6250 c/s	2 5/8 x 4 1/8 x 3 7/16
20-0104-10	88 Kc/S	6 db	600/600	.5 db @ ± .1 Kc/S	20 db @ ± 4 Kc/S	2 1/32 x 2 17/32 x 1 1/64
20-0177-11	142.5 KC/S	20 db	5K/5K	3 db @ ± 1.75 Kc/S	70 db @ ± 9 Kc/S	1 3/4 x 2 x 7/8
20-0168-11	156 Kc/S	6 db	300/1K	.5 db @ ± 10 Kc/S	60 db @ ± 39 Kc/S	3/4 x 1 3/4 x 3
20-0105-10	216 Kc/S	6 db	600/600	.5 db @ ± .1 Kc/S	20 db @ ± 4 Kc/S	2 1/32 x 2 17/32 x 1 1/64
20-0103-10	216 Kc/S	1.5 db	600/600	.25 db @ ± 52 Kc/S	55 db @ 304 Kc/S	2 9/16 x 1 5/16 x 2 5/32
20-0157-10	336 Kc/S	2.5 db	600/600	2 db @ 312 to 360 Kc/S	70 db @ 250 & 450 Kc/S	1 1/32 x 2 19/32 x 2 5/32
20-0098-10	338 Kc/S	3 db	600/600	within .5 db @ 310 to 367 Kc/S	70 db @ 479 Kc/S	2 13/16 x 3 x 1 1/64
20-0097-10	384 Kc/S	3 db	600/600	within .5 db @ 360 to 408 Kc/S	70 db @ 528 Kc/S + 112	2 13/16 x 3 x 1 1/64
20-0101-10	384 Kc/S	2.5 db	600/600	within 2 db @ 360 to 480 Kc/S	70 db @ — 88 Kc/S	2 9/16 x 1 5/16 x 2 5/32
20-0095-10	424 Kc/S	2.5 db	124/124	within 1 db @ ± 424 c/s	50 db @ 848 Kc/S	1 x 1 1/2 x 1
20-0096-10	435 Kc/S	2.5 db	600/600	3 db @ ± 29 Kc/S	55 db @ 516 Kc/S	2 13/16 x 3 x 1 1/64
20-0169-10	781 Kc/S	3 db	1K/1K	±.5 db @ 10 Kc/S	40 db @ 39 Kc/S + 436	3/4 x 1 3/4 x 2
20-0185-10	2.172 Mc/S	5 db	135/135	.5 db @ ± 120 Kc/S	50 db @ — 376 Kc/S	2 3/4 x 7 x 1 1/16
20-0014-10	3 Mc/S	1 ± 1/2 db	300/300	3 db @ ± .55 Mc/S	40 db @ ± .8 Mc/S	2 1/4 x 2 1/2 x 4
20-0179-10	14 Mc/S	15 db	500/500	3 db @ ± .15 Mc/S	65 db @ 1 Mc/S	1 5/8 x 2 x 1 1/8
20-0234-10	21.5 Kc/S	6 db	600/2500	3 db 21.5 to 24.3 Kc/S	25 db @ 21.06 Kc/S 40 db @ 20.46 & 35 Kc/S	1 11/16 x 2 5/32 x 1
20-0215-10	31.8 Kc/S	7 db	3K/1.5K	3 db 31.8 to 34.5 Kc/S	25 db @ 31.29 Kc/S 40 db @ 30.69 & 45 Kc/S	1 11/16 x 2 1/64 x 1

LOW PASS FILTERS

PART NUMBER	SOURCE/ LOAD	PASS BAND	STOP BAND	SIZE
20-0153-10	10/5M	2 ± 1 db @ 15 to 37 c/s	40 db @ 400 c/s	1 1/4 Sq. x 1 1/2
20-0127-10	1K/10K	3 db @ 40 c/s	40 db @ 75 c/s	1 1/2 Sq. x 2
20-0212-10	1K/1K	3 db @ 185 c/s	60 db @ 430 c/s	7/8 x 1 5/8 x 1 1/2
20-0213-10	1K/1K	3 db @ 300 c/s	24 db @ 1200 c/s	7/8 x 1 5/8 x 1 1/2
20-0221-10	15K/47K	.5 db @ 430 c/s	25 db @ 800 c/s	3/4 x 1 3/4 x 3
20-0145-11	600/600	3 db @ 2350 c/s	40 db @ 2575 c/s	3 1/2 x 3 x 6
20-0268-10	1K/1K	±.5 db .3 to 3 Kc/S	50 db above 4 Kc/S	1 1/4 x 3 3/64 x 21/32
20-0223-10	600/600	±.5 db .25 to 3 Kc/S	35 db 3.4 to 4.5 Kc/S	1 1/2 x 4 x 1 1/16
20-0117-10	600/600	±.5 db .25 to 3.4 Kc/S	35 db 3.8 to 5.0 Kc/S	1 1/2 x 4 x 1 1/16
20-0072-10	10K/10K	within 1 db 300 c/s to 30 Kc/S	40 db @ 44 Kc/S	1 1/2 Sq. x 2
20-0102-10	600/600	within .25 db 36 to 140 Kc/S	35 db @ 164 Kc/S	2 7/64 x 2 13/64 x 1 1/64
20-0198-10	75/75	±.1 —.5 db @ 2.05 Mc/S	40 db @ 2.5 Mc/S	2 3/64 Sq. x 1 1/4

HIGH PASS FILTERS

PART NUMBER	SOURCE/ LOAD	PASS BAND	STOP BAND	SIZE
20-0001-10	2K/2K	3 db @ 300 c/s	50 db @ 120 c/s	1 1/4 Cube
20-0214-10	2K/2K	3 db @ 350 c/s	40 db @ 175 c/s	7/8 x 1 5/8 x 1 1/2
20-0145-12	600/600	3 db @ 2575 c/s	40 db @ 1000 c/s	3 1/2 x 3 x 6
20-0002-11	100/150	3 db @ 5 Kc/S	50 db @ 4 Kc/S	1 3/4 x 2 3/8 x 4 1/4



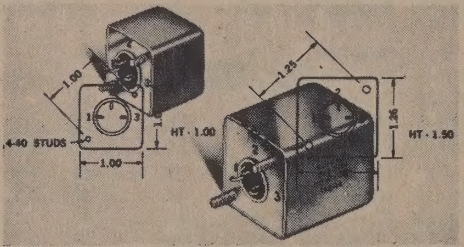
SERIES 03 TELEGRAPH TONE CHANNEL BAND PASS

(170 cycle spacing)

SPECIFICATIONS:

	Freq.	Receiver No.	Trans. No.
Relative Attenuation			
(Receive Filters)	425	03-01	03-21
3 db max at ± 42.5 cps	595	03-02	03-22
20 db min at ± 85 cps	765	03-03	03-23
40 db min at ± 128 cps	935	03-04	03-24
(Transmit Filters)	1105	03-05	03-25
3 db max at ± 42.5 cps	1275	03-06	03-26
15 db min at ± 85 cps	1445	03-07	03-27
30 db min at ± 128 cps	1615	03-08	03-28
	1785	03-09	03-29
Insertion Loss—10 db max	1955	03-10	03-30
	2125	03-11	03-31
Terminations	2295	03-12	03-32
Input: 600 ohms	2465	03-13	03-33
(inputs all channels may	2635	03-14	03-34
be operated in parallel)	2805	03-15	03-35
Output: Receive 50K ohms	2975	03-16	03-36
Transmit 600 ohms	3145	03-17	03-37
	3315	03-18	03-38

In addition to series listed, other tone channel series with spacings from 85 to 500 c/s are available.



SERIES 68 MINIATURE LOW PASS

SPECIFICATIONS:

	f_c cps	Part No.
Relative Attenuation		
3 db ± .5 @ f_c		
20 db min @ 1.3 f_c	330	68-01
40 db min @ 1.5 f_c	450	68-02
	600	68-03
Insertion loss—1 db max	660	68-04
	790	68-05
Terminations	900	68-06
Input—10K ohms	1050	68-07
Output—10K ohms	1200	68-08
	1600	68-09
Physical Specifications	2100	68-10
Case Hermetically Sealed Steel	3000	68-11
Size (330 to 900 cps)	3300	68-12
1.26"x1.26"x1.5" High	4000	68-13
Mounting: two 6-32 studs	4500	68-14
spaced 1.25"	5250	68-15
Size (1050 to 13000 cps)	6000	68-16
1"x1"x1" High	8000	68-17
Mounting: two 4-40 studs	10500	68-18
spaced 1"	11500	68-19
Terminals—3 solder type	13000	68-20

hisonic inc.

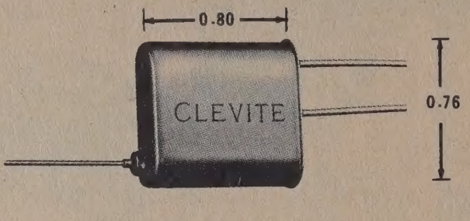
OTHER PRODUCTS: Precision Inductors • Transformers & Reactors • Tuned Circuits • Amp/Phase Equalizers • Lumped Constant Delay Lines

Clevite Quartz Filters

for the man with designs on something better.

Small, lightweight and rugged. Ideal for matching IC circuitry in communications receivers operating in the VHF and UHF frequency ranges as well as in telemetry, radar and aerospace systems.

Independent Mode Quartz Uni-Wafer Filter



Four-pole crystal filters with center frequencies of 10.7MHz, 15MHz 20MHz, and 30MHz. Except for termination, each filter is contained complete in a standard HC-6/U crystal can. Typical characteristics are: ripple 1db peak to valley and temperature stability ±.005 percent maximum from —40° to +85°C. Outstanding advantage is its small size (¾" x ¾" x ⅜"), light weight and good electrical isolation.

In addition, an independent mode filter gives higher spurious mode supression than a coupled mode filter. Special independent mode filters are also inexpensive to tool.

Independent Mode Uni-Wafer filters are smaller than standard quartz filters by a factor of at least three to one. They are characterized by fewer interconnections and higher selectivity per unit volume.

Specials are available as follows: 10.7MHz to 60MHz—bandwidths .02% to .3% of center frequency.

Independent Mode Quartz UW Filter

Model Number	Center Frequency (MHz)	Bandwidth		Ultimate Attenuation (dB)	Impedance In & Out (ohms)
		3dB (Min.) (kHz)	40dB (Max.) (kHz)		
UW-2C10-10.7	10.7±1kHz[3]	2	10	55	470
UW-6C22-10.7	10.7±1kHz[3]	6	22	55	1200
UW-12C42-10.7	10.7±1kHz[3]	12	42	55[1]	2700
UW-20C65-10.7	10.7±1kHz[3]	20	65	50[2]	3900
UW-3C15-15.0	15.0±1kHz[3]	3	15	55	560
UW-6C22-15.0	15.0±1kHz[3]	6	22	55	1200
UW-12C42-15.0	15.0±1kHz[3]	12	42	55[1]	2200
UW-20C65-15.0	15.0±1kHz[3]	20	65	50[2]	3900
UW-30C100-15.0	15.0±1kHz[3]	30	100	50[2]	5600
UW-4C20-20.0	20.0±1kHz[4]	4	20	55	680
UW-12C44-20.0	20.0±1kHz[4]	12	44	55	1800
UW-24C84-20.0	20.0±1kHz[4]	24	84	55[1]	4700
UW-40C130-20.0	20.0±1kHz[4]	40	130	50[2]	5600
UW-6C30-30.0	30.0±2kHz[4]	6	30	55	330
UW-12C44-30.0	30.0±2kHz[4]	12	44	55	560
UW-24C84-30.0	30.0±2kHz[4]	24	84	55	820
UW-30C100-30.0	30.0±2kHz[4]	30	100	55[1]	1800
UW-40C130-30.0	30.0±2kHz[4]	40	130	50[2]	7200

Stability:
TIME ±.0007%/year
TEMP ±.005%

Operating Temp. Range:
—45°C +85°C

(1) There is the possibility of one spurious response down to 50db in the upper stopband between the upper 40db point and f. +300Khz

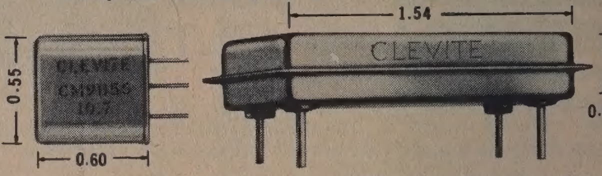
(2) There is the possibility of one spurious response down to 45db in the upper stopband between the upper 40db point and f. +300 khz. Beyond f. +300kHz the upper stopband will be 55db. The lower stopband will support 55db continuously.

(3) Insertion Loss 4dB max.

(4) Insertion Loss 5dB max.

For more information, write for Bulletin 94027. Clevite Corporation, Piezoelectric Division, 232 Forbes Road, Bedford, Ohio 44146.

Coupled Mode Quartz Uni-Wafer Filter



Available in two-, four- and six-pole models with center frequencies ranging from 10.7MHz to 30MHz. These monolithic filters offer IC compatibility, low insertion loss and high stopband rejection. Standard two-pole models are provided in solderseal packages. Four- and six-pole filters are provided in coldweld packages.

They were developed using Clevite's original thin film approach to quartz filters. Arrays of resonators are achieved on a single quartz wafer. Spurious suppression is controlled by the trapped energy principle.

Performance of these computer designed filters is achieved by carefully controlled elastic coupling between metal plated regions.

Two-Pole Coupled Mode Quartz UW Filter

Model Number	Center Frequency (MHz)	Bandwidth		Spurious Mode Rej. (dB)	Ripple Max. (dB)
		3dB(Min.) (kHz)	30dB(Max.) (kHz)		
CM9B55-10.7	10.7±1kHz	9	55	25	1.0
CM14B85-10.7	10.7±1kHz	14	85	20	1.0
CM30B180-10.7	10.7±1kHz	30	180	20	1.5
CM9B55-20.5	20.5±1kHz	9	55	25	1.0
CM14B85-20.5	20.5±1kHz	14	85	25	1.0
CM30B180-20.5	20.5±1kHz	30	180	20	1.5
CM9B55-30.0	30.0±2kHz	9	55	25	1.0
CM14B85-30.0	30.0±2kHz	14	85	25	1.0
CM30B180-30.0	30.0±2kHz	30	180	20	1.5

Four-Pole Coupled Mode Quartz UW Filter

Model Number	Center Frequency (MHz)	Bandwidth		Spurious Mode Rej. (dB)	Ripple Max. (dB)
		3dB(Min.) (kHz)	60dB(Max.) (kHz)		
CM9D45-10.7	10.7±1kHz	9	45	70	1.0
CM14D70-10.7	10.7±1kHz	14	70	70	1.0
CM30D150-10.7	10.7±1kHz	30	150	60	1.5
CM9D45-20.5	20.5±1kHz	9	45	70	1.0
CM14D70-20.5	20.5±1kHz	14	70	70	1.0
CM30D150-20.5	20.5±1kHz	30	150	60	1.5
CM9D45-30.0	30.0±2kHz	9	45	70	1.0
CM14D70-30.0	30.0±2kHz	14	70	70	1.0
CM30D150-30.0	30.0±2kHz	30	150	60	1.5

Six-Pole Coupled Mode Quartz UW Filter

Model Number	Center Frequency (MHz)	Bandwidth		Spurious Mode Rej. (dB)	Ripple Max. (dB)
		3dB(Min.) (kHz)	60dB(Max.) (kHz)		
CM9D25-10.7	10.7±1kHz	9	25	90	1.0
CM14D35-10.7	10.7±1kHz	14	35	90	1.0
CM30D75-10.7	10.7±1kHz	30	75	80	1.5
CM9D25-20.5	20.5±1kHz	9	25	90	1.0
CM14D35-20.5	20.5±1kHz	14	35	90	1.0
CM30D75-20.5	20.5±1kHz	30	75	80	1.5
CM9D25-30.0	30.0±2kHz	9	25	90	1.0
CM14D35-30.0	30.0±2kHz	14	35	90	1.0
CM30D75-30.0	30.0±2kHz	30	75	80	1.5

Stability:
TIME ±.0007%/year
TEMP ±.005%
Operating Temp. Range:
—45°C to +85°C

	2-Pole Models	4-Pole Models	6-Pole Models
Insertion Loss	2dB	3dB	4dB
Ultimate Attenuation	50dB	80dB	100dB

IMPEDANCES: Terminating impedances will run between 5000 ohms and 6000 ohms depending upon frequency and bandwidth. The 30kHz at 10.7MHz will be in the 6000 ohm range and the 9kHz at 30MHz will be in the 500 ohm range with all others in-between. Specific impedances will be determined at the time a design is finalized.

For more information, write for Bulletin 94028. Clevite Corporation, Piezoelectric Division, 232 Forbes Road, Bedford, Ohio 44146.

CLEVITE

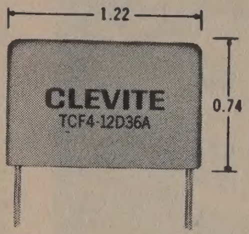
Clevite Ceramic Filters
for the man with designs on something better.

Small, lightweight and rugged. Steep-sided selectivity. Large range of bandwidths. Non-microphonic. Permanently-tuned. Immune to magnetic fields. High stop band rejection free of spurious response. Highly stable with both temperature and time.

Computer Designed TCF Hybrid Ceramic Filter

High efficiency design combines the input advantage of a tuned transformer with the stability and high performance of Clevite cermic filters. This design offers manufacturers of quality communications equipment greater selectivity at a lower cost. Made specifically for CB, mobile, aircraft and marine radios . . . in a package less than 0.6 cu. in.

(A selection of other bandwidths and characteristics to cover a range of applications from FM to CW is available on special request.)



TCF-4 CERAMIC FILTERS

Model Number	Bandwidth 6dB (Min.) (kHz)	Bandwidth 60dB (Max.) (kHz)	Insertion Loss (dB)	Stopband Rejection (dB)	Impedance (Kilohms) In**	Impedance (Kilohms) Out
TCF4-8D20A[1]	8	20	8	60	40	1.5
TCF4-12D36A[1]	12	36	8	60	40	2.2
TCF4-18G45A[2]	18	45	6	50	40	2.2

1.—Center Frequency* 455kHz ±1.0. 2.—Center Frequency* 455kHz ±1.5.
*Stability: TIME—within +0.2% for 5 years.
TEMP—within 0.2% from −20 to +60°C.
**Max. Ratings: 100 volts DC, 5 ma DC.

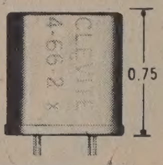
TCF-6 CERAMIC FILTERS

Model Number	Bandwidth 6dB (Min.) (kHz)	Bandwidth 60dB (Max.) (kHz)	Insertion Loss (dB)	Stopband Rejection (dB)	Impedance (Kilohms) In**	Impedance (Kilohms) Out
TCF6-4D10A[1]	4	10	10	60	40	4.7
TCF6-30D55A[3]	30	55	5	60	20	1.0
TCF6-35D60A[3,4]	35	60	5	60	20	1.0
TCF6-12F36A[1]	12	36***	10	90	40	2.2

3.—Center Frequency* 455kHz ±2.0.
4.—Available on special order at a center frequency of 500kHz.
*Stability: TIME—within +0.2% for 5 years.
TEMP—within 0.2% from −20 to +60°C.
Max. Ratings: 100 volts DC, 5 ma DC, *@90dB.

For more information, write for Bulletin 94026. Clevite Corporation, Piezoelectric Division, 232 Forbes Road, Bedford, Ohio 44146.

Split Ring Low Frequency Filter



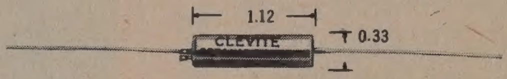
These miniature, fixed-tuned filters combine very narrow band widths and high performance with small size and weight. Optimum applications include low frequency communications receivers, selective calling systems and control circuits.

Model Number	Center Frequency (kHz)	Insertion Loss (dB)	Impedance (Kilohms)
TSR-9B	9	4	56
TSR-12B	12	4	56
TSR-15B	15	4	56
TSR-18B	18	4	47
TSR-21B	21	4	47
TSR-24B	24	4	47
TSR-27B	27	4	33
TSR-30B	30	4	33

(Note: These Filters are available at all center frequencies from 9kHz to 50kHz.)
Bandwidth: (%f_0): 1% @ 3dB; 13% @ 20dB.
Stability: TIME—within 0.2% for 5 years.
TEMP—within 0.2% from −40°C to +85°

For more information, write for Bulletin 94029. Clevite Corporation, Piezoelectric Division, 232 Forbes Road, Bedford, Ohio 44146.

Compact D-11 Ladder Filter — 60dB Stopband Rejection



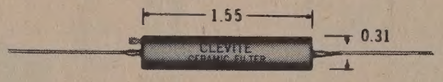
Improved D-11 cermic i-f filters are designed for communications circuit applications where the precise center frequency tolerance and high stop band rejection of the widely-used 17 disc Clevite ladder filter are not required.

Model Number	Center Frequency Tolerance (kHz)	Bandwidth 6dB (Min.)* (kHz)	Bandwidth 60dB (Max.)* (kHz)	Insertion *Loss (dB)
TL-6D11-12A	±2	6	12	6
TL-10D11-20A	±2	10	20	4
TL-16D11-32A	±2.5	16	32	5
TL-20D11-38A	±2.5	20	38	5
TL-30D11-57A	±3	30	57	5
TL-40D11-72A	±3	40	72	4

Packaged Size: 1.12 ±.030 x .327 Dia. Max. *At Room Temperature 27°C.
Center Frequency: 455kHz. Also available at 500kHz on special order.
Stability: TIME—within + 0.2% for 5 years.
TEMP—within 0.2% from −40°C to +85°C.
Impedance: 10kHz B/W and below—2000 ohms.
(In and Out) 16kHz B/W and above—1000 ohms.
Stopband Rejection: 60dB.

For more information, write for Bulletin 94021. Clevite Corporation, Piezoelectric Division, 232 Forbes Road, Bedford, Ohio 44146.

Standard 17-disc Ceramic Ladder Filter



Clevite 17-disc ceramic ladder filters are designed for i-f stages of military and top-of-the-line commercial superheterodyne radio receivers used in airborne or ground AM and FM communications equipment.

Model Number	Bandwidth 6dB (Min.)* (kHz)	Bandwidth 60dB (Max.)* (kHz)	Insertion Loss * (dB)
TL-2D5A	2	5	10
TL-4D8A	4	8	7
TL-6D11A	6	11	6
TL-8D14A	8	14	5
TL-10D16A	10	16	4
TL-16D25A	16	25	5
TL-20D32A	20	32	5
TL-30D45A	30	45	5
TL-40D55A	40	55	4
TL-45D65A	45	65	4

Center Frequency: 455kHz: ±1kHz for narrow band;
±2kHz for bandwidths above 20kHz.
Stability: TIME—within +0.2% for 5 years.
TEMP—within 0.2% from −40°C to +85°C.
*At Room Temperature 27°C.
Impedance: 10kHz B/W and below—2500 ohms.
(In and Out) 16kHz and 20kHz B/W—1500 ohms.
30kHz B/W and above—1200 ohms.

For more information, write for Bulletin 94017. Clevite Corporation, Piezoelectric Division, 232 Forbes Road, Bedford, Ohio 44146.

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Struthers Electronics Corp Sub Struthers-Wells
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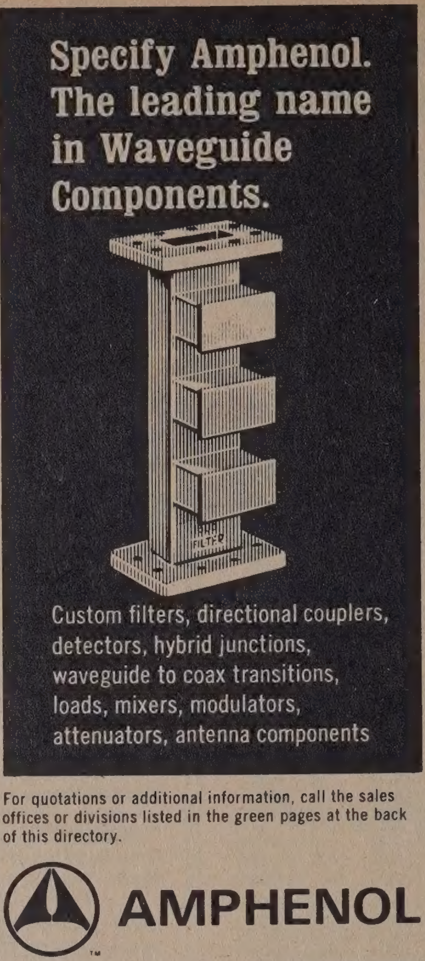
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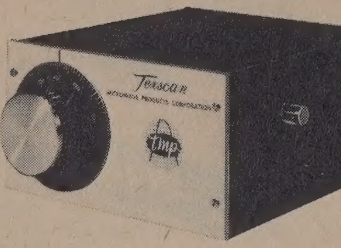
Filters

- TUNABLE BANDPASS
- 50 MHz—4000 MHz



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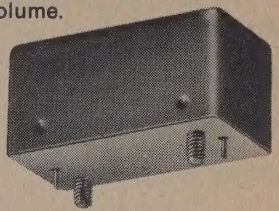
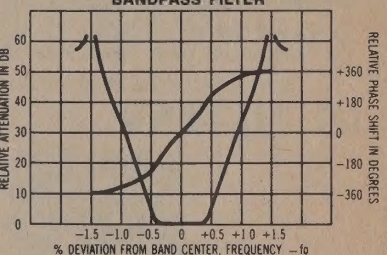
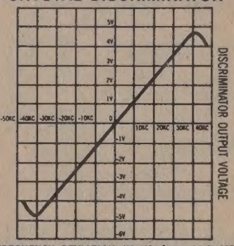


BANDPASS FILTER



MODEL NO. B-881

CRYSTAL DISCRIMINATOR



FREQUENCY DEVIATION IN KC from 11.5 MC
MODEL No. D-115M-40K*

TYPICAL BANDPASS FILTERS

Center Frequency	Minimum 6 DB BW	Maximum 6 DB BW
1.75 MHz	2.8 kHz	6.0 kHz
5.125 MHz	84 kHz	180 kHz
10.7 MHz	13 kHz	23 kHz
10.7 MHz	240 kHz	700 kHz
11.5 MHz	36 kHz	64 kHz
21.4 MHz	18 kHz	32 kHz
30 MHz	100 kHz	200 kHz
77.75 MHz	65 kHz	200 kHz

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5 to 30 MHz CENTER FREQUENCY IN VARIOUS BANDWIDTHS

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Center Frequency	Peak to Peak Bandwidth	Maximum Harmonic Distortion
11.5 MHz	± 40 kHz	2%
11.5 MHz	±100 kHz	3%
30 MHz	±100 kHz	2%

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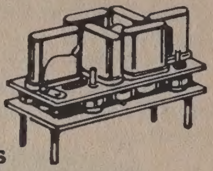
FILTERS

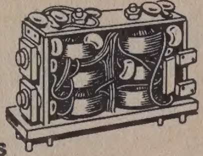
CRYSTAL FILTERS



- Bandpass
- Combbank
- Single Sideband
- Band Elimination

Cover Frequency Spectrum
2.5 kHz to 100 mHz

LC FILTERS



- Bandpass
- Highpass
- Low pass
- Notch
- Telemetry Bank

Cover Frequency Spectrum
DC to 100 mHz

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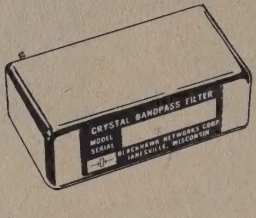

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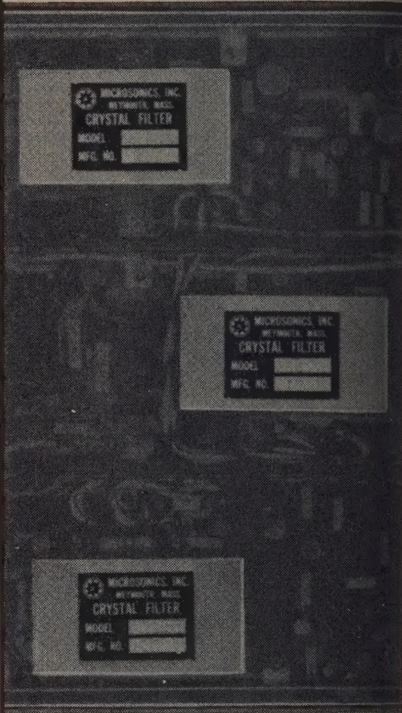
CRYSTAL
FILTERS



Microsonics, Inc. has designed and developed phase tracking crystal filters, in which the phase between filters will track within close tolerances, over wide temperature ranges, without temperature control. Any one of the standard multi-pole filters such as Butterworth, Tchebycheff, Bessel, etc. may be obtained with phase tracking requirements. In the event of tight tracking requirements, the filters are produced in matched sets according to the customer's requirements.

The set of 3 filters shown above have been produced in production quantities and the specifications are shown below.

SPECIFICATIONS

Center frequencies: ......5MC ±150 cps
Bandwidth 3db: ....1KC ±100 cps
Shape-factor 60/3db: 5:1
Ultimate rejection: ....70db min.
Initial phase off-set: ....1°
Phase tracking across the 3db bandwidth: ....5° max.
Operating temperature: −35°C to +75°C

Send for Microsonics' Brochure No. 4350

MICROSONICS, INC.
60 Winter Street
Weymouth, Mass. 02188
Tel: 617 337-4200

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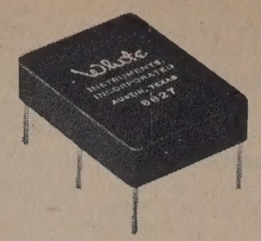

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FAST PROTOTYPES!

CUSTOM-BUILT

L-C FILTERS

200 CYCLES TO 50 MC

TYPES:
Low Pass, High Pass, Band Pass, Band Stop.

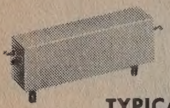
FREQUENCY RANGE:
200 cycles to 50 megacycles.

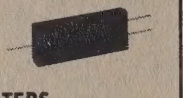
IMPEDANCE RANGE:
50 ohms to 100,000 ohms.

CONSTRUCTION:
Epoxy encapsulated or hermetically sealed in steel cans.

SIZE:
From .625 x .625 x .450 depending on electrical specifications.

DELIVERY:
Prototypes can be delivered in one week.





TYPICAL FILTERS

LOW PASS

Cut Off Frequency (3 db max.)	Attenuation (Minimum)	Maximum Passband Ripple	Z Ohms
375 kc	30 db @ 510 kc 50 db @ 645 kc	.5 db	600
3.3 mc	40 db @ 5.2 mc 50 db @ 5.95 mc	.25 db	100
16.5 mc	40 db @ 26 mc	.25 db	100
27.5 mc	20 db @ 39.5 mc 30 db @ 46.5 mc	1 db	75

HIGH PASS

Cut Off Frequency (3 db max.)	Attenuation (Minimum)	Maximum Passband Ripple	Z Ohms
350 kc	30 db @ 285 kc 50 db @ 245 kc	1 db	500
3.5 mc	20 db @ 2.65 mc 40 db @ 2.05 mc	.25 db	400
10.5 mc	20 db @ 8.05 mc 40 db @ 6.25 mc	.25 db	100
17.5 mc	20 db @ 11.6 mc 40 db @ 7.75 mc	.25 db	75

BAND PASS

Center Freq.	Bandwidth (3 db max.)	Attenuation (Minimum)	Maximum Passband Ripple	Z Ohms
80 kc	20 kc	20 db below 66 kc above 97 kc	1 db	500
1.2 mc	300 kc	30 db below 985 kc above 1.46 mc	3 db	500
4.5 mc	1 mc	20 db below 3.8 mc above 5.4 mc	1 db	75
8 mc	1.6 mc	20 db below 6.8 mc above 9.4 mc	1 db	100

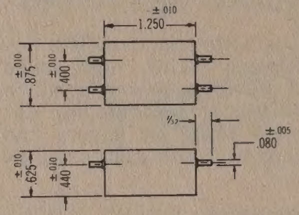
BAND STOP

Notch Freq.	Bandwidth (3 db max.)	Attenuation (Minimum)	Maximum Passband Ripple	Z Ohms
680 kc	150 kc	35 db from 665 kc to 695 kc	.5 db	500
3.6 mc	800 kc	20 db from 3.45 mc to 3.75 mc	.25 db	75
10.7 mc	2.5 mc	20 db from 10.3 mc to 11.1 mc	.25 db	150

SEE OUR OTHER ADS IN THE
DELAY LINE SECTION

LOWPASS HIGHPASS
L-C FILTERS
FOR IMMEDIATE DELIVERY!

The "FL" & "FH" Filter Series are a group of 9 Pole Tchebycheff Low & Highpass Filters which are diminutive in size. A very useful application is the series connection of a Lowpass & Highpass unit to produce an effective Bandpass Filter. Both Filter Groups contain components made to meet the requirements of the latest applicable Mil-Specs and conform to the best electrical and mechanical design practice. **All Filters listed can be delivered from stock.**



LOWPASS FILTERS—SERIES "FL"

Size: 1¼ x ⅞ x ⅝ inches
Impedance: 100Ω
1db maximum ripple in passband
1db maximum insertion loss (referenced at 350kc)
20db Min. Attenuation at 3db cut-off Freq. x 1.15
40db Min. Attenuation at 3db cut-off Freq. x 1.4

Maximum 3db Attenuation	Minimum 20db Attenuation	Minimum 40db Attenuation
30 meg.	34.50 meg.	42.00 meg.
29	33.40	41.60
28	32.20	39.20
27	31.05	37.80
26	29.90	36.40
25	28.75	35.00
24	27.60	33.60
23	26.45	32.20
22	25.30	30.80
21	24.15	29.40
20	23.00	28.00
19	21.85	26.60
18	20.70	25.20
17	19.55	23.80
16	18.40	22.40
15	17.25	21.00
14	16.10	19.60
13	14.95	18.20
12	13.80	16.80
11	12.65	15.40
10	11.50	14.00
9	10.35	12.60
8	9.20	11.20
7	8.05	9.80
6	6.90	8.40
5	5.75	7.00

HIGHPASS FILTERS—SERIES "FH"

Size: 1¼ x ⅞ x ⅝ inches
Impedance: 100Ω
1db maximum ripple in passband
1db max. insertion loss (referenced at 30 meg.)
20db Min. Attenuation at $\frac{\text{3db cut-cff Frequency}}{1.15}$
40db Min. Attenuation at $\frac{\text{3db cut-off Frequency}}{1.40}$

Maximum 3db Attenuation	Minimum 20db Attenuation	Minimum 40db Attenuation
20.0 meg.	17.40 meg.	14.30 meg.
19.0	16.50	13.55
18.0	15.65	12.85
17.0	14.75	12.15
16.0	13.90	11.45
15.0	13.05	10.70
14.0	12.15	10.00
13.0	11.30	9.30
12.0	10.45	8.55
11.0	9.55	7.85
10.0	8.70	7.15
9.0	7.80	6.40
8.0	6.95	5.70
7.0	6.10	5.00
6.0	5.20	4.30
5.0	4.35	3.55
4.0	3.48	2.86
3.0	2.61	2.14

TO ORDER SPECIFY "FL" FOR LOWPASS OR "FH" FOR HIGHPASS AND THE CUT-OFF FREQUENCY

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American Trans-Coil Corp Richmond Hill . . . . .N
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LTERS—INFRARED

See **Infrared Equipment**

LTERS—LOW-PASS, R-F

LEN AVIONICS INC,DIV A K ALLEN CO INC MINEOLA N Y ....ADV PG 264
NALOG DEVICES INC CAMBRIDGE ....MASS
P CIRCUIT CORP NEW YORK ....N Y
XEL ELECTRONICS, INC JAMAICA N Y .....ADV PG 266
NDIX CORP, MICROWAVE DEVICES DIV FRANKLIN ..IND
RD ELECTRONIC CORP CLEVELAND (SOLON) ....OHIO
APTOR CORP TIPP CITY ....OHIO
MPUTER INSTRUMENTS CORP HEMPSTEAD ....N Y
ALE ELECTRONICS INC, SIOUX DIV YANKTON ....S DAK
EWLETT-PACKARD PALO ALTO ....CAL
SONIC INC OLATHE KAN ....ADV PG 257
ONEYWELL TEST INSTRUMENTS DIV DENVER COLO ....ADV PG 8
OPKINS ENGINEERING CO SAN FERNANDO CAL ....ADV PG 268
FD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN ....N Y
APPA NETWORKS INC CARTERET N J ......ADV PG 270
ICROSONICS DIV WEYMOUTH ....MASS
ICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
PPON ELECTRIC CO LTD TOKYO ....JAPAN
ORTH HILLS ELECTRONICS INC GLEN COVE ....N Y
CA ELECTRONICS INC SEPULVEDA ....CAL
EMIER MICROWAVE CORP PORT CHESTER ....NY
EACTION INSTRUMENTS INC VIENNA ....VA
F INTERONICS INC BAY SHORE N Y ....ADV PG 269
EMENS AMERICA INC NEW YORK ....N Y
YSTRON-DONNER CORP CONCORD ....CAL
DK ELECTRONICS CO LTD CHIYODA-KU, TOKYO ...JAPAN
EXSCAN CORP INDIANAPOLIS ....IND
OROTEL, INC GRANDVIEW ....MO
NITED TRANSFORMER CO DIV TRW INC NEW YORK ..N Y
ETA LABORATORIES INC MOUNTAIN VIEW ....CAL
DC Products Minneapolis ....Minn
erovox Corp Distr Sales New Bedford ....Mass
erovox Corp New Bedford Div New Bedford ....Mass
rborne Instruments Lab, Div Cutler-Hammer Inc Deer Park ....N Y
addin Electronics Div Aladdin Industries, Inc Nashville ..Tenn
LA Industries Inc Harrison ....NY
ford Mfg Co Winchester ....Mass
len Avionics Inc,Div A K Allen Co Inc Mineola ....N Y
len-Bradley Co Milwaukee ....Wis
l-Tronics, Inc Westbury ....N Y

Alpha Industries Inc Newton Upper Falls ....Mass
Ameco Inc Phoenix ....Ariz
American Electronic Labs Inc Lansdale ....Pa
American Technical Ceramics Huntington Station ....N Y
American Trans-Coil Corp Richmond Hill ....NY
Americon Corp Waltham ....Mass
Amk Electronics Co Inc Edison ....N J
Analog Devices Inc Cambridge ....Mass
Anaren Microwave Inc Syracuse ....N Y
Ando Electric Co Ltd Ohta-ku, Tokyo ....Japan
A P Circuit Corp New York ....N Y
Applied Microwave Lab, Inc Andover ....Mass
Applied Research, Inc Port Washington ....N Y
A R F Products, Inc Raton ....N M
Aritech Corp Brighton ....Mass
Ark Electronics Corp Willow Grove ....Pa
Artronic Instrument Co Silver Spring ....Md
Astrodata Inc Anaheim ....Cal
Astrolab Inc Linden ....N J
Atlas Coil Corp Ansonia ....Conn
Automatic Coil Co Div Designatronics, Inc Mineola ......N Y
Automatic Metal Products Corp Brooklyn ....N Y
Aviation Electric Ltd St Laurent, Montreal ....Que
Axel Electronics, Inc Jamaica ....N Y
Ballastran Corp Fort Wayne ....Ind
Bendix Corp, Microwave Devices Div Franklin ....Ind
Beukers Labs Inc Hauppauge ....NY
Bird Electronic Corp Cleveland (Solon) ....Ohio
Blonder-Tongue Labs Inc Newark ....N J
Borders Electronics Co Inc Medford ....NJ
Bourns Pacific Magnetic Corp Romoland ....Cal
Bramco Controls Div Ledex Inc Piqua ....Ohio
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside ....N Y
Bundy Electronics Corp Div Covington Corp Springfield ...N J
Burnell/Nytronics Alpha ....NJ
Caddell-Burns Mfg Co Inc Mineola ....N Y
Caledonia Elctns & Transformer Div Connrex Corp Caledonia ....N Y
Cambridge Thermionic Corp Cambridge ....Mass
Canadian Marconi Co Montreal 16 ....Quebec
Captor Corp Tipp City ....Ohio
Carol Electronics Div Weeco Inc Martinsburg ....W Va
Cathodeon Crystals Ltd Cambridge ....Eng
CEI Div, Watkins-Johnson Co Rockville ....Md
Centroid Inc Garden City Park ....N Y
Collins Radio Co Dallas ....Tex
Collins Radio Co, Electronic Components Newport Beach ..Cal
Components Corp Chicago Ill
Computer Instruments Corp Hempstead ....N Y
Condensateurs F A C O N Paris 12e ....France
Control Science Corp Alexandria ....Va
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark ....N J
CTS Knights Inc Sandwich Ill
Dale Electronics Inc, Sioux Div Yankton ....S Dak
Daltronics Inc Providence ....R I
Data Delay Devices Clifton ....N J
Daytron Inc Mountain View ....Cal
Denes Co Inc Burbank ....Cal
Denki Kogyo Co Ltd Tokyo ....Japan
Dietz Design Inc Belton ....Mo
Dorsett Electronics Inc Tulsa ....Okla
Drake Co, R L Miamisburg ....Ohio
Dresser Systems, Inc Houston ....Tex
Dynamics Instrumentation A Multitech Co Monterey Park .Cal
Dytronics Co Inc Columbus ....Ohio
E-H Research Labs Inc Oakland ....Cal
Electra/Midland Corp Kansas City ....Kan
Electro Cube Inc San Gabriel ....Cal
Electromagnetic Technology Corp Mountain View ....Cal
Electro Networks Div Connrex Corp Caledonia ....N Y
Electronic Applications Co Pine Brook ....N J
Electronic Specialty Co Portland Elctns Div Portland ....Ore
Electro Winders Co Inc Covina ....Cal
Electro Windings & Components Inc Kenilworth ....N J
Elmag Corp Newark ....N J
Elpac Inc, Components Div Irvine ....Cal
El-Rad Mfg Co Chicago Ill
Engelmann Microwave Co Montville ....NJ
Erie Technological Products Inc Erie ....Pa
Erie Technological Products Inc Erie ....Pa
Filtaire Inc Div Walter Kidde Co Charlottesville ....Va
Filtron Co Inc Sub Liquidonics Ind Inc Flushing ....N Y
Fisher Engineering Inc Huntington ....Ind
Forbes & Wagner Inc Silver Creek ....N Y
Frequency Engineering Labs Farmingdale ....N J
Fugle-Miller Labs Inc Kenilworth ....N J
Fujitsu Ltd Tokyo ....Japan
Fullmer Electronics Inc Northridge ....Cal
General Coil Products Corp Brooklyn ....N Y
General Dynamics, Electronics Div Rochester ....N Y
General Instrument Corp F W Sickles Div Chicopee .....Mass
General Microwave Corp Farmingdale ....N Y
General Radio Co West Concord ....Mass
Genisco Technology Corp Compton ....Cal
Genisco Technology Corp Components, Genistron Divs Compton ....Cal
Geo Space Corp Houston ....Tex
Gombos Microwave Inc Clifton ....N J
Gudeman Div Gulton Industries, Inc Chicago Ill
Guide Industries Inc Sun Valley ....Cal
Gulton Industries Inc Metuchen ....N J
Hertz Filter Corp Garden City Park ....N Y
Hewlett-Packard Palo Alto ....Cal
Hisonic Inc Olathe ....Kan
Honeywell Test Instruments Div Denver ....Colo
Hopkins Engineering Co San Fernando ....Cal
Ikor, Inc Burlington ....Mass
Inductor Engineering Inc Lewes ....Del
Industrial Condenser Corp Chicago Ill
ITT Europe Inc Components Gp Brussels 1 ....Belgium
ITT Telecommunications New York ....N Y
Jampro Antenna Div Computer Equip Corp. Sacramento ..Cal
JFD Electronics Corp, Components Div Brooklyn ....N Y
Johnson Co, E F Waseca ....Minn
Kappa Networks Inc Carteret ....N J
Karkar Electronics Inc San Francisco ....Cal
Knox Electronics Inc Leawood ....Kan
Krohn-Hite Corp Cambridge ....Mass

Lafayette Radio Electronics Syosset ....NY
Laselco Pacific Palo Alto ....Cal
Lundy Electronics & Systems Inc Glen Head ....N Y
Lynch Communication Systems San Francisco ....Cal
Maury Microwave Corp Cucamonga ....Cal
McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs ....Pa
MCS Corp Monrovia ....Cal
Meridian Metalcraft Inc Whittier ....Cal
Merrimac Research & Development Inc West Caldwell, ...N J
Microlab/F X R Livingston ....N J
Micronetics Div Teledyne Systems Co San Diego ....Cal
Microphase Corp Cos Cob ....Conn
Microsonics Div Weymouth ....Mass
Microtek Electronics Inc Cambridge ....Mass
Microwave Associates Inc Burlington ....Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights ....Mass
Microwave Filter Co Inc East Syracuse ....NY
Microwave Labs of America Brooklyn ....N Y
Montedoro Corp San Luis Obispo ....Cal
Motorola Communications & Electronics Inc Chicago Ill
Motorola, Govt Electronics Div Scottsdale ....Ariz
Multimetries Inc Bronx ....NY
Multronics Inc Rockville ....Md
Narda Microwave Corp Plainview ....N Y
National Coil Co Inc Douglas ....Ariz
Neshaminy Electronic Corp Furlong ....Pa
Nippon Electric Co Ltd Tokyo ....Japan
North Hills Electronics Inc Glen Cove ....N Y
Nu-Devices Inc Norwalk ....Conn
Nytronics Inc Berkeley Heights ....N J
Palmer Ltd, G A Stanley W Molesey, Surrey ....England
Parzen Research Elctn Prods Gr Ovitron Corp Westbury ..N Y
PCA Electronics Inc Sepulveda ....Cal
Peninsula Microwave Labs Mountain View ....Cal
Physical Electronics Labs Menlo Park ....Cal
Plessey Co Ltd Ilford Essex ....England
Portchester Instrument Corp Port Chester ....N Y
Powercube Corp Waltham ....Mass
Premier Microwave Corp Port Chester ....NY
Quest Electronic Development Inc Sun Valley ....Cal
Quindar Electronics Inc, Controls Div Springfield ....NJ
Radio Engineering Labs, Div DCA Long Island City ......N Y
Rantec Div Emerson Electric Co Calabasas ....Cal
Raven Electronics Inc Burbank ....Cal
Ray Proof Corp Norwalk ....Conn
Reaction Instruments Inc Vienna ....Va
Renco Electronics Inc Hicksville ....N Y
R F Interonics Inc Bay Shore ....N Y
RLC Electronics Inc Port Chester ....N Y
Rohde & Schwarz Sales Co USA Inc Passaic ....N J
Sartron Inc Newberg ....Ore
Scott Electronics Corp Orlando ....Fla
Seg Electronics Corp Brooklyn ....NY
Siemens America Inc New York ....N Y
Sinclair Radio Labs Inc Tonawanda ....N Y
Solid State Electronics Corp Sepulveda ....Cal
Sonoma Engineering & Rsch Inc Santa Rosa ....Cal
Southern Electronics Corp Burbank ....Cal
Space Craft Inc Huntsville ....Ala
Spectrum Control Inc Fairview ....Pa
Spencer-Kennedy Labs Inc Boston ....Mass
Sprague Electric Co North Adams ....Mass
Standard Telephones & Cables Ltd London WC 2 ....England
Stoddart Components Div Tamar Electronics Inc Gardena .Cal
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck ....N Y
Systems Research Labs Inc Dayton ....Ohio
Systron-Donner Corp Concord ....Cal
TDK Electronics Co Ltd Chiyoda-ku, Tokyo ....Japan
Technical Materiel Corp Mamaroneck ....N Y
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach ....Cal
Texscan Corp Indianapolis ....Ind
T M C Systems (Ariz) Inc Tempe ....Ariz
Torotel, Inc Grandview ....Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck .N Y
Transformer Design Inc of Milwaukee Milwaukee ....Wis
TRF Inc Springfield ....Va
Triad Transformer Corp Venice ....Cal
TRW Electronic Components Div TRW Inc Camden ......N J
TT Electronics Inc Culver City ....Cal
U S Capacitor Corp Burbank ....Cal
United Transformer Co Div TRW Inc New York ....N Y
Vanguard Electronics Co Inglewood ....Cal
Varian Palo Alto ....Cal
Vector Industries A Teledyne Co Palo Alto ....Cal
Versatek Industries Inc Indianapolis ....Ind
Vitra Instrument & Electronics Corp Syosset ....N Y
Vitramon Microwave Corp Middlesex ....N J
Waber Electronics Inc Philadelphia ....Pa
Weecoil Inc Sub Wells Electronics South Bend ....Ind
Welex Electronics, Div Halliburton Co Silver Spring ......Md
Whitewater Electronics Inc Whitewater ....Wis
Y T & T Corp Roslyn Heights ....NY
Zeta Laboratories Inc Mountain View ....Cal

FILTERS—MAGNETOSTRICTIVE

TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO ...JAPAN
Acton Laboratories Inc Acton ....Mass
Burnell/Nytronics Alpha ....NJ
Condensateurs F A C O N Paris 12e ....France
Palmer Ltd, G A Stanley W Molesey, Surrey ....England
TDK Electronics Co Ltd Chiyoda-ku, Tokyo ....Japan

FILTERS—MECHANICAL

TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO ...JAPAN
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPAN
Alcatel Paris 8eme ....France
Allen Aircraft Radio Inc Elk Grove Village Ill
American Time Products, Elctns Div Bulova Watch Co Inc Woodside ....N Y
Automatic Metal Products Corp Brooklyn ....N Y

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Captor Corporation is a specialist in the manufacture of communications, security and shielded room filters. Our goal is to satisfy the industry's long-standing needs: the need for a supplier who makes on-time deliveries . . . whose sales promises are fulfilled . . . whose products meet all applicable specifications . . . who gives good overall service. Captor offers one of the industry's most complete line of security filters, including units capable of carrying very large power line loads. Our security filters meet even more rigorous specifications than EMC filters, including DCA and FED-STD-222. If your requirements are unusual or unique, Captor engineers are available to evolve special filter designs. Now that you have an alternative, let Captor bid on your next security filter requirement!

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Collins Radio Co, Electronic Components Newport Beach	Cal
Dinsmore Instrument Co Flint	Mich
Fujitsu Ltd Tokyo	Japan
Genisco Technology Corp Components, Genistron Divs Compton	Cal
H B Engineering Corp Silver Spring	Md
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Kokusai Electric Co Ltd Tokyo-105	Japan
Koppers Co Inc Pittsburgh	Pa
Motorola, Govt Electronics Div Scottsdale	Ariz
North American Rockwell Corp, Filter Prods Div Cleveland	Ohio
Pall Trinity Micro Corp Cortland	N Y
Palmer Ltd, G A Stanley W Molesey, Surrey	England
Research Products Corp Madison	Wis
Riverbank Labs, Dept of Engrg Geneva	Ill
Sintered Specialties Div Janesville	Wis
TDK Electronics Co Ltd Chiyoda-ku, Tokyo	Japan
Telefunken Sales Corp Garden City	N Y
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan
Toko Inc Ohta-ku Tokyo	Japan
Torit Corp St Paul	Minn
TRW Electronic Components Div TRW Inc Camden	N J
Unique Wire Weaving Co Inc Hillside	N J
Whitewater Electronics Inc Whitewater	Wis

FILTERS—NOISE

A P CIRCUIT CORP NEW YORK	**N Y**
AXEL ELECTRONICS, INC JAMAICA N Y	**ADV PG 266**
CAPTOR CORP TIPP CITY OHIO	**ADV PG 266**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
DECOURSEY ENGINEERING LAB CULVER CITY	**CAL**
HOPKINS ENGINEERING CO SAN FERNANDO CAL	**ADV PG 268**
KAPPA NETWORKS INC CARTERET N J	**ADV PG 270**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
PLASTIC CAPACITORS INC CHICAGO	**ILL**
REACTION INSTRUMENTS INC VIENNA	**VA**
REEVES-HOFFMAN DIV CARLISLE PA	**ADV PG 212**
R F INTERONICS INC BAY SHORE N Y	**ADV PG 269**
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO	**JAPAN**
TOROTEL, INC GRANDVIEW	**MO**
TRACOR INC AUSTIN	**TEX**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
ADC Products Minneapolis	Minn
Aerovox Corp Distr Sales New Bedford	Mass
Aerovox Corp New Bedford Div New Bedford	Mass
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ	U K
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
Allen-Bradley Co Milwaukee	Wis
Allied Witan Co, Inc Cleveland	Ohio
A P Circuit Corp New York	N Y
A R F Products, Inc Raton	N M
Ark Electronics Corp Willow Grove	Pa
Axel Electronics, Inc Jamaica	N Y
Bramco Controls Div Ledex Inc Piqua	Ohio
Canadian Marconi Co Montreal 16	Quebec
Capcon Inc New York	N Y
Captor Corp Tipp City	Ohio
Components Corp Chicago	Ill
Computer Instruments Corp Hempstead	N Y
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Dawe Instruments Ltd London W3	England
Daytron Inc Mountain View	Cal
DeCoursey Engineering Lab Culver City	Cal
Dietz Design Inc Belton	Mo
Dresser Systems, Inc Houston	Tex
Electro Cube Inc San Gabriel	Cal
Electro Marine Corp Falmouth	Mass
Electronic Applications Co Pine Brook	N J
Elgar Corp San Diego	Cal
Elmag Corp Newark	N J
Elpac Inc, Components Div Irvine	Cal
Erie Technological Products Inc Erie	Pa
Erie Technological Products Inc Erie	Pa
Estes Engineering Co Gardena	Cal
Fedtro Inc Rockville Centre	N Y
Filtron Co Inc Sub Liquidonics Ind Inc Flushing	N Y
Fisher Engineering Inc Huntington	Ind
Freed Transformer Co Inc Brooklyn	N Y
Fugle-Miller Labs Inc Kenilworth	N J
G C Electronics Div, Hydrometals Inc Rockford	Ill
General Dynamics, Electronics Div Rochester	N Y
General Radio Co West Concord	Mass
Genisco Technology Corp Compton	Cal
Genisco Technology Corp Components, Genistron Divs Compton	Cal
Hopkins Engineering Co San Fernando	Cal
Industrial Condenser Corp Chicago	Ill
Kapitol Magnetic Corp Chicago	Ill
Kappa Networks Inc Carteret	N J
Koppers Co Inc Pittsburgh	Pa
Lab Electro-Acoustique 92 Rueil-Malmaison	France
Lundy Electronics & Systems Inc Glen Head	N Y
Magnetic Circuit Elements Inc Monterey	Cal
McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs	Pa
Neff Instrument Corp Duarte	Cal
Nippon Electric Co Ltd Tokyo	Japan
Nu-Devices Inc Norwalk	Conn
Philco-Ford Corp Washington	D C
Philmore Mfg Co Inc Richmond Hill	N Y
Plastic Capacitors Inc Chicago	Ill
Potter Co Inglewood	Cal
Princeton Applied Research Corp Princeton	N J
Quest Electronic Development Inc Sun Valley	Cal
Reaction Instruments Inc Vienna	Va
Reeves-Hoffman Div Carlisle	Pa
Renco Electronics Inc Hicksville	N Y
R F Interonics Inc Bay Shore	N Y
San Fernando Electric Mfg Co San Fernando	Cal
Scott Inc, H H Maynard	Mass
Seg Electronics Corp Brooklyn	NY
Southern Electronics Corp Burbank	Cal

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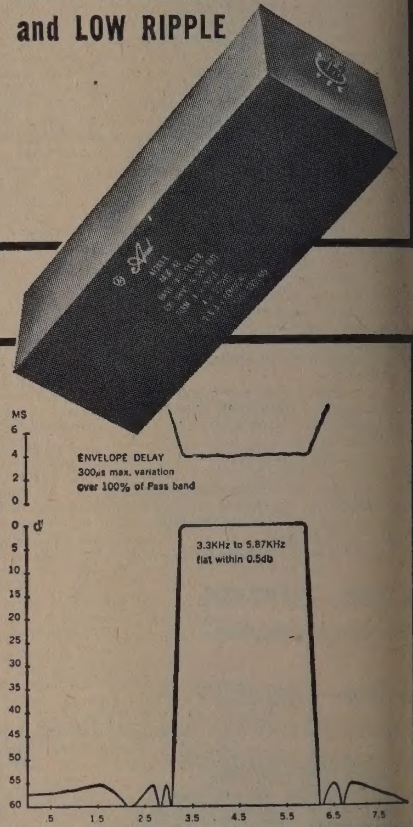

Check These Specifications

- 300 μsec max. delay distortion from 3300Hz to 5920Hz
- ±0.25db max. amplitude variation from 3300Hz to 5870Hz
- 55db or greater below 3070Hz and above 6160Hz
- Size: 3x9x2¾ high
- Manufactured to meet Govt. Specifications: MIL-F-18327C

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ctrum Instruments Inc Tuckahoe	N Y
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ddart Components Div Tamar Electronics Inc Gardena	Cal
o Denki Co Ltd Sakai-C., Osaka	Japan
Electronics Co Ltd Chiyoda-ku, Tokyo	Japan
nical Materiel Corp Mamaroneck	N Y
tel, Inc Grandview	Mo
tron Co Div Struthers Electronics Corp Mamaroneck	N Y
cor Inc Austin	Tex
Electronics Inc Culver City	Cal
ed Transformer Co Div TRW Inc New York	N Y
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Co Pasadena	Cal
del & Goltermann, W & G Instr Inc Hanover	N J
lass Electric Co Santa Ana	Cal
ex Electronics, Div Halliburton Co Silver Spring	Md
ng Industries Inc Carmel	Ind

.TERS—NOTCH, R-F

EN AVIONICS INC,DIV A K ALLEN CO INC INEOLA	**N Y**
CIRCUIT CORP NEW YORK N Y	**ADV PG 267**
L ELECTRONICS, INC JAMAICA N Y	**ADV PG 266**
IDIX CORP, MICROWAVE DEVICES DIV FRANKLIN	**IND**
TOR CORP TIPP CITY	**OHIO**
TRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
MPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
E ELECTRONICS INC, SIOUX DIV YANKTON	**S DAK**
CTRONIC RESEARCH CO, A TEXTRON CO VERLAND PARK	**KAN**
VLETT-PACKARD PALO ALTO	**CAL**
ONIC INC OLATHE KAN	**ADV PG 257**
KINS ENGINEERING CO SAN FERNANDO AL	**ADV PG 268**
ELECTRONICS CORP, COMPONENTS DIV ROOKLYN	**N Y**
PPA NETWORKS INC CARTERET N J	**ADV PG 270**
RTH HILLS ELECTRONICS INC GLEN COVE	**N Y**
ELECTRONICS INC SEPULVEDA	**CAL**
CTION INSTRUMENTS INC VIENNA	**VA**
VES-HOFFMAN DIV CARLISLE PA	**ADV PG 212**
ROLD FILTERS DIV TYCO PHOENIX	**ARIZ**
MENS AMERICA INC NEW YORK	**N Y**
OTEL, INC GRANDVIEW	**MO**
TED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
A LABORATORIES INC MOUNTAIN VIEW	**CAL**
C Products Minneapolis	Minn
ovox Corp New Bedford Div New Bedford	Mass
orne Instruments Lab, Div Cutler-Hammer Inc eer Park	N Y
ord Mfg Co Winchester	Mass
n Avionics Inc,Div A K Allen Co Inc Mineola	N Y
Circuit Corp New York	N Y
lied Microwave Lab, Inc Andover	Mass
lied Research, Inc Port Washington	N Y
F Products, Inc Raton	N M
ech Corp Brighton	Mass
Electronics Corp Willow Grove	Pa
omatic Metal Products Corp Brooklyn	N Y
l Electronics, Inc Jamaica	N Y
ker & Williamson Div Sunshine Mining Co Bristol	Pa
ndix Corp, Microwave Devices Div Franklin	Ind
ron-IRE-SpA Livorno	Italy
kers Labs Inc Hauppauge	NY
nder-Tongue Labs Inc Newark	N J
amco Controls Div Ledex Inc Piqua	Ohio
ova Watch Co Inc Elctns Div Frequency Control Prods Voodside	N Y
ndy Electronics Corp Div Covington Corp Springfield	N J
nell/Nytronics Alpha	NJ
edonia Elctns & Transformer Div Connrex Corp Caledonia	N Y
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pcon Inc New York	N Y
ptor Corp Tipp City	Ohio
ntralab, Div Globe-Union Inc Milwaukee	Wis
ntroid Inc Garden City Park	N Y
lins Radio Co, Electronic Components Newport Beach	Cal
mponents Corp Chicago	Ill
mputer Instruments Corp Hempstead	N Y
ntrol Science Corp Alexandria	Va
S Knights Inc Sandwich	Ill
le Electronics Inc, Sioux Div Yankton	S Dak
ytron Inc Mountain View	Cal
ta Electronics Inc Alexandria	Va
tz Design Inc Belton	Mo
esser Systems, Inc Houston	Tex
tronics Co Inc Columbus	Ohio
ctra/Midland Corp Kansas City	Kan
ctro Assemblies Inc Chicago	Ill
ctro Cube Inc San Gabriel	Cal
ctro-Data Inc Garland	Tex
ctro-Mechanics Co Austin	Tex
ctro-Metrics Corp Sub Fairchild Cam & Instr Corp Amsterdam	N Y
ctronic Research co, A Textron Co Overland Park	Kan
ctro Winders Co Inc Covina	Cal
tron Inc Silver Spring	Md
e Technological Products Inc Erie	Pa
taire Inc Div Walter Kidde Co Charlottesville	Va
ney Co Bedford	Ohio
her Engineering Inc Huntington	Ind
rbes & Wagner Inc Silver Creek	N Y
lmer Electronics Inc Northridge	Cal
neral Dynamics, Electronics Div Rochester	N Y
neral Microwave Corp Farmingdale	N Y
nisco Technology Corp Compton	Cal
o Space Corp Houston	Tex
mbos Microwave Inc Clifton	N J
ide Industries Inc Sun Valley	Cal
rtz Filter Corp Garden City Park	N Y
wlett-Packard Palo Alto	Cal
Electronics Inc Erie Freq Control Div Carlisle	Pa
Hisonic Inc Olathe	Kan
Hopkins Engineering Co San Fernando	Cal
JFD Electronics Corp, Components Div Brooklyn	N Y
Kappa Networks Inc Carteret	N J
Krohn-Hite Corp Cambridge	Mass
Maury Microwave Corp Cucamonga	Cal
McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs	Pa
MCS Corp Monrovia	Cal
Melabs Palo Alto	Cal
Micronetics Div Teledyne Systems Co San Diego	Cal
Microphase Corp Cos Cob	Conn
Montedoro Corp San Luis Obispo	Cal
Motorola Communications & Electronics Inc Chicago	Ill
Motorola, Govt Electronics Div Scottsdale	Ariz
Multimetries Inc Bronx	NY
North Hills Electronics Inc Glen Cove	N Y
Nu-Devices Inc Norwalk	Conn
Nytronics Inc Berkeley Heights	N J
PCA Electronics Inc Sepulveda	Cal
Peninsula Microwave Labs Mountain View	Cal
Physical Electronics Labs Menlo Park	Cal
Piezo Crystal Co Carlisle	Pa
Piezo Technology Inc Orlando	Fla
Princeton Applied Research Corp Princeton	N J
Rantec Div Emerson Electric Co Calabasas	Cal
Reaction Instruments Inc Vienna	Va
Reeves-Hoffman Div Carlisle	Pa
RLC Electronics Inc Port Chester	N Y
San Fernando Electric Mfg Co San Fernando	Cal
Scott Electronics Corp Orlando	Fla
Seg Electronics Corp Brooklyn	NY
Sherold Filters Div Tyco Phoenix	Ariz
Siemens America Inc New York	N Y
Sinclair Radio Labs Inc Tonawanda	N Y
Solid State Electronics Corp Sepulveda	Cal
Sonoma Engineering & Rsch Inc Santa Rosa	Cal
Space Craft Inc Huntsville	Ala
Spectran Electronics Div Novatronics Inc Pompano Beach	Fla
Sprague Electric Co North Adams	Mass
Stoddart Components Div Tamar Electronics Inc Gardena	Cal
Technical Materiel Corp Mamaroneck	N Y
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach	Cal
T M C Systems (Ariz) Inc Tempe	Ariz
Torotel, Inc Grandview	Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck	N Y
TRF Inc Springfield	Va
TT Electronics Inc Culver City	Cal
United Transformer Co Div TRW Inc New York	N Y
Vector Industries A Teledyne Co Palo Alto	Cal
Watkins-Johnson Co Palo Alto	Cal
Wavecom Inc Chatsworth	Cal
Welex Electronics, Div Halliburton Co Silver Spring	Md
Whitewater Electronics Inc Whitewater	Wis
Y T & T Corp Roslyn Heights	NY
Zeta Laboratories Inc Mountain View	Cal

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865 West End Ave., New York, N.Y. 10025
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FILTERS—OPTICAL

***See* Optical Filters**

FILTERS—RADIO INTERFERENCE

A P CIRCUIT CORP NEW YORK N Y	**ADV PG 267**
AXEL ELECTRONICS, INC JAMAICA N Y	**ADV PG 266**
CAPTOR CORP TIPP CITY OHIO	**ADV PG 266**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
DECOURSEY ENGINEERING LAB CULVER CITY	**CAL**
DECOURSEY ENGINEERING LAB CULVER CITY	**CAL**
ELECTRONIC RESEARCH CO, A TEXTRON CO OVERLAND PARK	**KAN**
HISONIC INC OLATHE KAN	**ADV PG 257**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG 8**
HOPKINS ENGINEERING CO SAN FERNANDO CAL	**ADV PG 268**
R F INTERONICS INC BAY SHORE N Y	**ADV PG 269**
TOBE DEUTSCHMANN LABS INC CANTON	**MASS**
TOROTEL, INC GRANDVIEW	**MO**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
AAI Corp Baltimore	Md
Ace Shielded Products Corp Huntingdon Valley	Pa
ADC Products Minneapolis	Minn
Aerovox Corp Distr Sales New Bedford	Mass
Aerovox Corp New Bedford Div New Bedford	Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
ALA Industries Inc Harrison	NY
Allen-Bradley Co Milwaukee	Wis
All-Tronics, Inc Westbury	N Y
American Technical Ceramics Huntington Station	N Y
American Trans-Coil Corp Richmond Hill	NY
A P Circuit Corp New York	N Y
A R F Products, Inc Raton	N M
Ark Electronics Corp Willow Grove	Pa
Atlas Coil Corp Ansonia	Conn
Axel Electronics, Inc Jamaica	N Y
Blonder-Tongue Labs Inc Newark	N J
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside	N Y
Canadian Marconi Co Montreal 16	Quebec
Capcon Inc New York	N Y
Captor Corp Tipp City	Ohio
Components Corp Chicago	Ill
Computer Instruments Corp Hempstead	N Y
Condensateurs F A C O N Paris 12e	France
Control Science Corp Alexandria	Va
Core-Tronics, Inc Orange	N J
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
CTS Knights Inc Sandwich	Ill
Culbertson Products Inc Bernardsville	N J
Daytron Inc Mountain View	Cal
DeCoursey Engineering Lab Culver City	Cal
DeCoursey Engineering Lab Culver City	Cal
Denes Co Inc Burbank	Cal
Dietz Design Inc Belton	Mo
Elcor, Div Halliburton Co Silver Spring	Md
Electro Cube Inc San Gabriel	Cal
Electro Marine Corp Falmouth	Mass
Electro-Mechanics Co Austin	Tex

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FILTERS

- EMI/RFI Custom
- Power
- Shielded Panelboards
- Signal Communications
- Gen. Purpose Tubular/Rectangular
- UL Data Processing
- Band Pass/Wave
- Special Chokes

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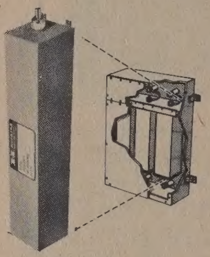
POWER FILTERS

Hopkins Power Line Filters are designed, built and tested to deliver maximum trouble-free continuous service year-after-year. Available as individual power filters, or housed in cabinet assemblies, these units are intended for use in shielded enclosures, secure installation and general power applications. They are available in various current ratings from 1 AMP through 200 AMPS.



1960 Series

The 1960 Series filters furnish 100 DB of attenuation from 14KHZ to 10GHZ when measured in accordance with Mil Standard 220A load conditions.

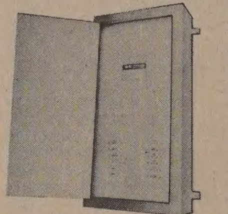
12600 Series

The 12600 Series filters furnish 100 DB of attenuation from 14KHZ to 10GHZ when measured in accordance with Mil Standard 220A. Also measured under full load conditions from 14KHZ to 20MHZ with special buffer networks to allow valid measurements below 100KHZ.

1776 Series and 1620 Series

Filters are also available in single and dual circuit units offering lower performance characteristics when required.

RF SHIELDED & FILTERED CIRCUIT BREAKER PANELBOARD



Hopkins R-F Shielded and Filtered C/B Panelboards are intended for use in installations where secure communication is mandatory. The unique design of these Panelboards maintains shielding integrity with the cabinet door **open.** Designs are available utilizing both the 1960 Series and 12600 Series filters. Circuit Breaker Complement must be specified when ordering.

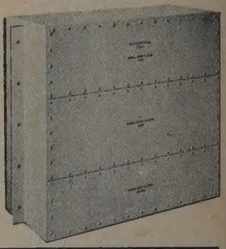
COMMUNICATIONS/ SIGNAL LINE FILTERS

258B-S2

This unit is a Voice and Signal Line Filter offering 100 DB attenuation from 14KHZ to 1GHZ per Mil Standard 220A with outstanding reliability. Originally designed for use in 600 OHM balance system, it has been widely used in other applications such as Secure Communications.

F-4386 & F-4386-1

These Voice and Signal Filters are designed to meet the requirements of DCA Cir 175-6A Application #1. They are single circuit bulkhead mounting tubular filters intended for cabinet installation.

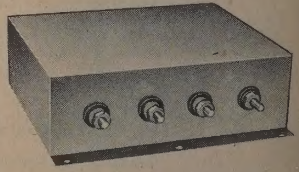


Special cabinet designs are available incorporating any number of the above filters modified for cabinet installation. These units are constructed with an R-F Shielded bulkhead between input and output housings in order to maintain shielding integrity required for secure installations.

UL RECOGNIZED FILTERS FOR DATA PROCESSING EQUIPMENT

The 44 Hopkins RFI Filters designed expressly for data processing equipment provide maximum suppression of Radio Frequency Interference and other extraneous signals detrimental to efficient operation of data processing equipment.

Hopkins RFI Filters are designed and tested to deliver maximum, trouble-free duty for many years.



You will speed production and save both time and money in the manufacture of your data processing equipment when you specify, whenever possible, off-the-shelf Hopkins RFI Filters which are included as recognized components.

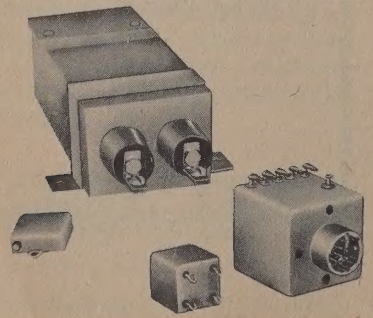
The Hopkins line offers the widest selection of RFI filters recognized under the component program of Underwriters' Laboratories, Inc.

U.L. Yellow Card listings available upon request. Available in various amperage ratings and case styles.

CUSTOM AND GENERAL PURPOSE EMI/RFI FILTERS

Custom Filters

Hopkins has long been a leader in the design and development of special custom filters to satisfy specific customer requirements. Thousands of designs are on file incorporating all voltage, current ratings and case configurations. Design and performance are verified by computer. Our complete Engineering and Manufacturing Facility is available to assist in the solution of your particular filter problems.

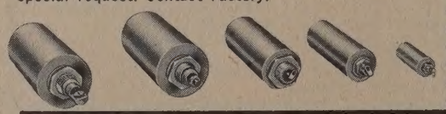


General Purpose Tubular Filters—14000 Series

Intended for use in critical applications where the "feed-thru" characteristic is necessary for good high frequency performance. Available in various circuit configurations from a single element capacitor thru multiple element Pi and T sections. Various performance characteristics are available to allow the user to select the unit best suited to his needs. Typical ratings from 50VDC @ 1 Amp. to 277 VAC @ 50 Amp.

All units designed to meet requirements of MIL-F-15733.

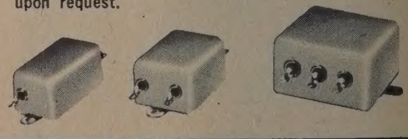
These Units are available mounted in cabinets on special request. Contact Factory.



General Purpose Rectangular Filters—16000 Series

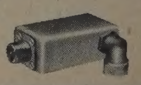
These units are intended to be used where installation is not critical. They are available in one, two and three circuit configuration as well as a wide variety of voltage and current ratings. Various attenuation characteristics allow the user to select the unit best suited to fit his particular needs. Typical ratings are from 50 VDC @ 1 Amp. to 277 VAC @ 50 Amp. All units are designed to meet the requirements of MIL-F-15733.

Electronic Wave Filters utilizing modern network design techniques are available as custom filters upon request.



SPECIAL CHOKES

BAND PASS/WAVE FILTERS



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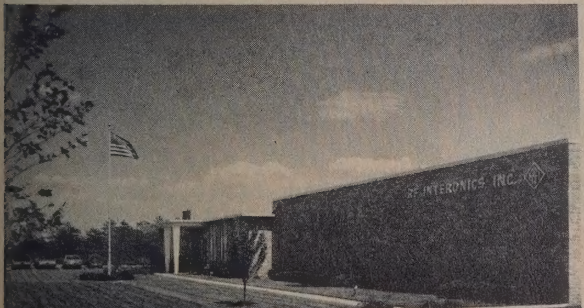
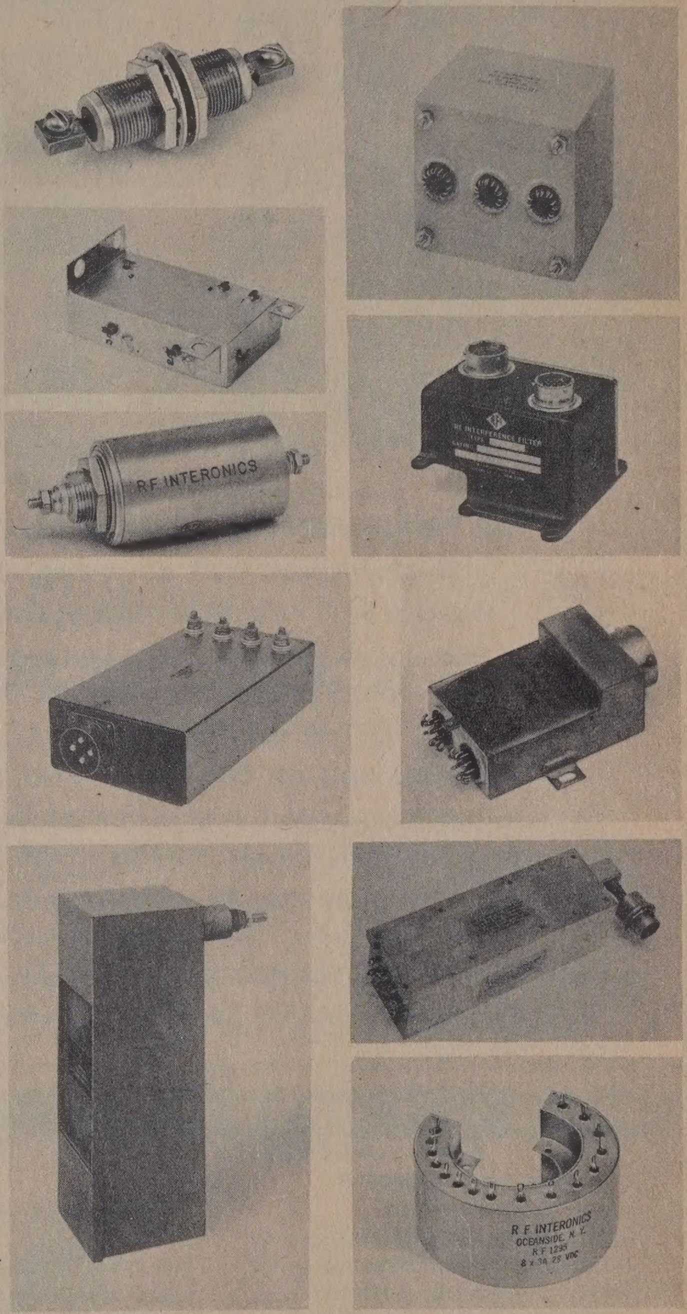
We've got them, too. *Thousands* of proven types available as standard or custom-engineered assemblies. Ratings from 1 milliamp up to 2,000 amps, from 0.1 volt to 20,000 volts, from fractions of an ounce to more than 1,000 lbs.!

Complete Capability, that's our story.

We produce to MIL-F-15733E or, where required, to NASA or other high-reliability specs.



The RF Interonics facility is the most modern of its type in the country, and is industrially engineered for the efficient manufacture of high reliability radio frequency filters and capacitors. The plant is fully air conditioned and humidity controlled. Clean rooms are maintained for capacitor winding and the assembly of NASA quality filters. A complete in-house capability includes sheet metal fabrication, inductor winding, vacuum impregnation and all necessary processing and test equipment to assure adequate control and quick-reaction time.



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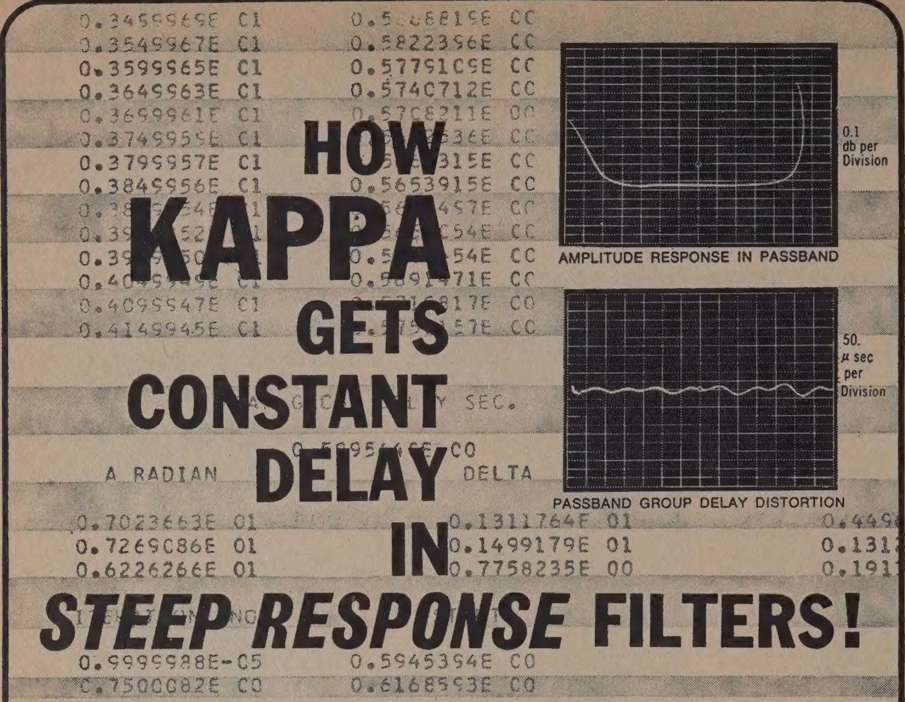
MULTI-CIRCUIT FILTER PACKAGES. Many circuits in one compact filter assembly. Incorporating the input connector eliminates need for a separately-shielded RF compartment.

SINGLE-CIRCUIT FILTERS. Chassis-mounted (utilizing mounting brackets), or bulkhead-mounted (through a panel that isolates filter input from output).

SHIELDED ROOM FILTERS. Easily bulkhead-mounted directly to shielded enclosures or equipment panels. Removable access covers on shielded side (often an RF leakage source) have been eliminated.

FEED-THROUGH CAPACITORS. Designed and built to exceed MIL-C-11693. Available in a wide range of current and voltage ratings, with attenuation over a broad frequency range.



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(TYPE: BAND PASS)

PASS BAND RESPONSE:	
Frequency Range:	3300-6000 Hz (1 db points)
Amplitude ripple:	± 0.25 db.
Group Delay Distortion:	Less than ± 100 usec.
Insertion Loss at 4500 Hz:	Less than 2.5 db
STOP BAND RESPONSE:	Min 50 db at 3000 Hz and lower Min 50 db at 6420 Hz and higher
Impedance Range:	500-6000 ohms
Pass Band Harmonic Distortion:	Less than −65 db
Intermodulation Distortion between equal simultaneous level tones:	55 db below −10 dbm
Environmental:	MIL F-18237 B

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Impedance:

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A P CIRCUIT CORP NEW YORK ... N Y
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CLEVITE CORP PIEZOELECTRIC DIV BEDFORD
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TEXSCAN CORP INDIANAPOLIS ... IND
TOROTEL, INC GRANDVIEW ... MO
UNITED TRANSFORMER CO DIV TRW INC NEW YORK
N Y ... ADV PG 272
ACDC Electronics, Inc Burbank ... Cal
ADC Products Minneapolis ... Minn
Aerovox Corp New Bedford Div New Bedford ... Mass
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 Deer Park ... N Y
Airpax Electronics Inc Seminole Div Fort Lauderdale ... Fla
Aladdin Electronics Div Aladdin Industries, Inc Nashville ... Tenn
Allen-Bradley Co Milwaukee ... Wis
AMBAC Industries Inc Garden City ... N Y
Anaren Microwave Inc Syracuse ... N Y
A P Circuit Corp New York ... N Y
A R F Products, Inc Raton ... N M
Aritech Corp Brighton ... Mass
Ark Electronics Corp Willow Grove ... Pa
Astrodata Inc Anaheim ... Cal
Axel Electronics, Inc Jamaica ... N Y
Bayly Engineering Ltd Ajax ... Ont
Beukers Labs Inc Hauppauge ... NY
Bramco Controls Div Ledex Inc Piqua ... Ohio
Bulova Watch Co Inc Elctns Div Frequency Control Prods
 Woodside ... N Y
Burnell/Nytronics Alpha ... NJ
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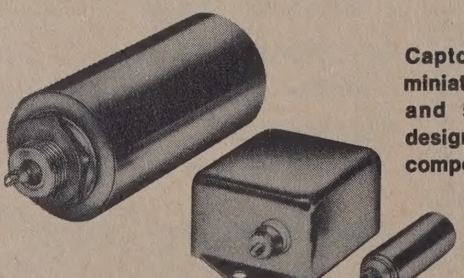

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DeCoursey Engineering Lab Culver City	Cal
Dietz Design Inc Belton	Mo
Dorsett Electronics Inc Tulsa	Okla
Douglas Randall Inc Westerly	R I
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Electra/Midland Corp Kansas City	Kan
Electro Networks Div Connrex Corp Caledonia	N Y
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Electronic Specialty Co Portland Elctns Div Portland	Ore
Electro Winders Co Inc Covina	Cal
Electro Windings & Components Inc Kenilworth	N J
EMR Div Weston Instruments Inc Princeton	N J
Filtech Corp Franklin Park	Ill
Forbes & Wagner Inc Silver Creek	N Y
Freed Transformer Co Inc Brooklyn	N Y
Fujitsu Ltd Tokyo	Japan
Fullmer Electronics Inc Northridge	Cal
General Dynamics, Electronics Div Rochester	N Y
Gulton Industries Inc Metuchen	N J
H B Engineering Corp Silver Spring	Md
Hertz Filter Corp Garden City Park	N Y
Hisonic Inc Olathe	Kan
Hopkins Engineering Co San Fernando	Cal
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Industrial Electronetics Corp Satellite Beach	Fla
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Microphase Corp Cos Cob	Conn
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Torotel, Inc Grandview	Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck	N Y
Trepac Corp of America Englewood	N J
TRF Inc Springfield	Va
Triad Distributor Div Litton Industries Huntington	Ind
Triad Transformer Corp Venice	Cal
TT Electronics Inc Culver City	Cal
United Transformer Co Div TRW Inc New York	N Y
Vanguard Electronics Co Inglewood	Cal
Vector Industries A Teledyne Co Palo Alto	Cal
Washington Technological Assoc Inc Rockville	Md
Wavecom Inc Chatsworth	Cal
Y T & T Corp Roslyn Heights	NY

FILTERS—TOWER LIGHTING

Aerovox Corp New Bedford Div New Bedford	Mass
Jampro Antenna Div Computer Equip Corp. Sacramento	Cal
Quest Electronic Development Inc Sun Valley	Cal
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Seg Electronics Corp Brooklyn	NY

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NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
R F INTERONICS INC BAY SHORE N Y	**ADV PG 269**
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Blonder-Tongue Labs Inc Newark	N J
Captor Corp Tipp City	Ohio
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Delta Electronics Ltd Rexdale	Ont
Denki Kogyo Co Ltd Tokyo	Japan
Entron Inc Silver Spring	Md
Finney Co Bedford	Ohio
JFD Electronics Corp, Components Div Brooklyn	N Y
Marconi Div, English Electric Corp New York	N Y
Montedoro Corp San Luis Obispo	Cal
Nippon Electric Co Ltd Tokyo	Japan
Quest Electronic Development Inc Sun Valley	Cal
R F Interonics Inc Bay Shore	N Y
Sanders Assoc Inc Bedford Div Bedford	Mass
Seg Electronics Corp Brooklyn	NY
Spencer-Kennedy Labs Inc Boston	Mass
Taco (Technical Appliance Corp Sub Jerrold Corp) Sherburne	NY
Vikoa Inc Hoboken	N J

FINISHES

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See **Paints—Luminous**

FIRE-CONTROL COMPUTERS

See **Computers—Special**

FIRE-CONTROL SYSTEMS

See **Radar**

FIRE DETECTORS

See **Detectors—Fire**

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Acme Model Engineering Co Ridgefield	N J
Anchor Specialty Mfg Co Inc Teterboro	N J
Churchill Corp Melrose	Mass
Colbert Die Cast Co Inc South Gate	Cal
Dit-Mco International Kansas City	Mo
Flotron Industries Inc El Segundo	Cal
G C Electronics Div, Hydrometals Inc Rockford	Ill
General Hardware Mfg Co Inc New York	N Y
Mann Co, Henry Cornwell Heights	Pa
Matrix Engineering Corp Gardena	Cal
Metal Fab Div, Artisan Industries Inc Waltham	Mass
Panel Controls Corp Detroit	Mich
Sandefur Engineering Co, Inc Lawndale	Cal
Skyline Products Inc Deer Park	N Y
Techni-Tool Inc Philadelphia	Pa
Wharton Unitools Moosup	Conn

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Alch Instrument Co, Inc Westbury	N Y
Alpha Products, Inc Chicago	Il
Anchor Specialty Mfg Co Inc Teterboro	N J
Barnes Corp Lansdowne	Pa
Birtcher Corp, Industrial Div Monterey Park	Ca
Cambridge Thermionic Corp Cambridge	Mass
Churchill Corp Melrose	Mass
Colbert Die Cast Co Inc South Gate	Ca
Daymarc Corp Waltham	Mass
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park	N J
Flotron Industries Inc El Segundo	Ca
Hunter Industries Santa Fe Springs	Ca
Jettron Products Inc Hanover	N J
Kawecki Berylco Industries Inc New York	N Y
Mann Co, Henry Cornwell Heights	Pa
Maryland Lava Co Inc Bel Air	Md
Matrix Engineering Corp Gardena	Ca
Metal Ceram Inc Mount Vernon	N Y
Micro Parts Inc Los Angeles	Ca
O'Hara Metal Products Co San Francisco	Ca
Panel Controls Corp Detroit	Mich
Poco Graphite, Inc Garland	Tex
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Tyton Corp of America Metuchen	N
Wakefield Engineering Inc Wakefield	Mass
Waldom Electronics Inc Chicago	Il
Wharton Unitools Moosup	Con

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Colbert Die Cast Co Inc South Gate	Ca
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park	N
Elco Corp Willow Grove	Pa
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MacDonald & Co Glendale	Ca
Mann Co, Henry Cornwell Heights	P
Matrix Engineering Corp Gardena	Ca
Metal Ceram Inc Mount Vernon	N
O'Hara Metal Products Co San Francisco	Ca
Panel Controls Corp Detroit	Mic
Poco Graphite, Inc Garland	Te
Sandefur Engineering Co, Inc Lawndale	Ca
Semi-Alloys Inc Mt Vernon	N
Staffall, Inc Providence	R
Sylvania Electric Prods Inc, Parts Div Warren	P
Transitron Electronic Corp Wakefield	Mas

FIXTURES, HOLDING—PRINTED WIRING BOARDS

ELCO CORP WILLOW GROVE	**P**
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK	**N**
Anchor Specialty Mfg Co Inc Teterboro	N
Birtcher Corp, Industrial Div Monterey Park	C
Colbert Die Cast Co Inc South Gate	C
Dit-Mco International Kansas City	M
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park	N
Elco Corp Willow Grove	P
Flotron Industries Inc El Segundo	C
Hunter Industries Santa Fe Springs	C
IBM, Industrial Products Marketing New York	N
MacDonald & Co Glendale	C
Mann Co, Henry Cornwell Heights	P
Matrix Engineering Corp Gardena	C
Micro Metrics Inc Paterson	N
Panel Controls Corp Detroit	Mi
Sandefur Engineering Co, Inc Lawndale	C
Staffall, Inc Providence	R
Technical Devices Co Culver City	C
Techni-Tool Inc Philadelphia	P
Vero Electronics, Inc Farmingdale	N
Vero Electronics Ltd Southampton	Engla

FLANGES—WAVEGUIDE

See **Waveguide Flanges**

FLASHERS

EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT	**IOW**
ELCO CORP WILLOW GROVE	
G-V CONTROLS INC LIVINGSTON	**N**
TEMPO INSTRUMENT INC IND DIV PLAINVIEW	**N**
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y	**ADV PG 6**
ACR Electronics Corp New York	N
Aerolite Electronics Corp Union City	N
Aircraft Instruments Co Montgomeryville	
Amglo Corp Chicago	
Autronics Corp Pasadena	
Bayside Timers, Inc Flushing	N
Cole-Hersee Co S Boston	Ma
Condor Industrial Corp Wheaton	
Controlotron Corp Farmingdale	N
Dynalectron Corp Aerospace Prods Div San Leandro	
Dynamic Controls Corp South Windsor	Co

igle Electric Mfg Co Inc Long Island City	N Y
igle Signal A Gulf & Western Co Davenport	Iowa
co Corp Willow Grove	Pa
ectronic Modules Corp Timonium	Md
ectronic Resources Inc Tasker Indus Los Angeles	Cal
ectronic Specialties Co Div Fidelitone Batavia	Ill
cona Corp Bellmore	NY
annini-Voltex-Radex-Irvine Whittier	Cal
imes Mfg Co Urbana	Ohio
iardian Electric Mfg Co of Cal Inc Culver City	Cal
V Controls Inc Livingston	N J
iydon Co The, A W Waterbury	Conn
-Tek Corp Santa Ana	Cal
ighey & Phillips Inc Burbank	Cal
or, Inc Burlington	Mass
igitek Div General Devices Inc. Farmingdale	N Y
el-Rain Corp Indianapolis	Ind
etric Systems Corp Fort Walton Beach	Fla
irko Electronics Co Inc Santa Ana	Cal
illak Corp, Joseph Boston	Mass
ervo Development Corp Hicksville	NY
ylvania Elec Prods Inc Special Prod Div Danvers	Mass
ymbolic Displays Inc Orange	Cal
empo Instrument Inc Ind Div Plainview	N Y
empo Instrument Inc, Military Div Plainview	N Y
me-O-Matic Inc Danville	Ill
iited Control Corp Redmond	Wash
S Scientific Instruments Inc Watertown	Mass
tility Communication Systems Inc West Chester	Pa
'allace & Tiernan Div Pennwalt Corp Belleville	N J

LATPACKS (FOR MICROELECTRONIC CIRCUITS WITH SEALED LEADS)

oors Porcelain Co Golden	Colo
ansteel Inc North Chicago	Ill
erranti, Ltd Lancashire	England
TI Corp Meadville	Pa
arris-Intertype Corp Cleveland	Ohio
hilco-Ford Corp Washington	D C
esearch Instrument Co Inc Westbury	N Y
eritron West Inc Chatsworth	Cal

LEXIBLE SHAFTS

See **Shafts—Flexible**

LIGHT SIMULATORS

See **Simulators**

LOWMETERS

See Also **Indicators—Fluid Flow**

OMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
ENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
coustica Associates Inc Los Angeles	Cal
ircraft Components Inc Benton Harbor	Mich
adger Meter Mfg Co Milwaukee	Wis
ailey Meter Co Wickliffe	Ohio
eckman Instruments Inc Fullerton,	Cal
eckman Instruments Intl SA 1207 Geneva	Switzerland
issett-Berman Corp Sub Alloys Unltd Inc Santa Monica	Cal
ristol Div, American Chain & Cable Co Waterbury	Conn
rooks Instrument Div Emerson Elec Canada Ltd Markham	Ont
hesapeake Instrument Corp Shadyside	Md
omputer Instruments Corp Hempstead	N Y
ox Instruments Div Lynch Corp Detroit	Mich
ecker Corp Bala Cynwyd	Pa
ietz Co Inc, Henry G Long Island City	N Y
igital Blending Systems Inc Providence	R I
ynamic Precision Controls Corp Hagerstown	Ind
lectro-Med Instruments Inc Houston	Tex
llison Instrument Div Dieterich Std Corp New Buffalo	Mich
nsco Medical Div Fluidics Prod & Sls Inc Salt Lake City	Utah
Erdco Engineering Corp Addison	Ill
Fischer & Porter Co Warminster	Pa
Flowcon Co Anaheim	Cal
Flow Corp Watertown	Mass
Flow Technology Inc Tempe	Ariz
Foxboro Co Foxboro	Mass
Fuji Electric Co Ltd Tokyo	Japan
Gelman Instrument Co Ann Arbor	Mich
General Electric Co, ECSO Schenectady	N Y
Gilmont Instruments Inc Roger Great Neck	N Y
Gow-Mac Instrument Co Madison	N J
Hersey-Sparling Meter Co El Monte	Cal
Howell Instruments Co Fort Worth	Tex
Inca Engineering Corp San Gabriel	Cal
Intertechnique Plaisir 78	France
In-Val-Co Tulsa	Okla
ITT Barton Controls & Instr Div Monterey Park	Cal
Kahl Scientific Instrument Corp El Cajon	Cal
Kingmann-White Inc Placentia	Cal
Kontes Glass Co Vineland	N J
Leeds & Northrup Co North Wales	Pa
Lion Research Corp Newton	Mass
Matheson Gas Products East Rutherford	N J
Medistor Instrument Co Seattle	Wash
Moore Products Co Spring House	Pa
National Instrument Labs Inc Rockville	Md
Ramapo Instrument Co Inc Bloomingdale	NJ
Signet Controls Inc Tulsa	Okla
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Statham Instruments Inc Oxnard	Cal
Superior Continental Corp Hickory	N C
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Technical Development Co Glenolden	Pa
Technology Inc Dayton	Ohio
Technology/Versatronics Inc Yellow Springs	Ohio
Thermo-Systems Inc St Paul	Minn
Tylan Corp Torrance	Cal
Wallace & Tiernan Div Pennwalt Corp Belleville	N J

FLUORESCENT COMPOUNDS—PHOSPHORS

Aceto Chemical Co, Inc Flushing	NY
Associated Engineering & Mfg Corp Glen Ridge	N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Black Light Products Chicago	Ill
Canrad Precision Industries Inc New York	N Y
Eastman Kodak Co Rochester	N Y
General Electric Co Lamp Metals & Components Dept Cleveland	Ohio
Griffiths Electronics Inc Linden	N J
Matsushita Electric Industrial Co Ltd Osaka	Japan
Nuclear Enterprises Ltd Edinburgh	Scotland
Pilot Chemicals Inc Watertown	Mass
Polysciences Inc Warrington	Pa
Product Techniques, Inc Downey	Cal
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine	France
Radio Corp of America, Electronic Components Harrison	N J
Shannon Luminous Materials Co Hollywood	Cal
Sigmatron Inc Goleta	Cal
Stroblite Co Inc New York	N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda	Pa
Ultra-Violet Products Inc San Gabriel	Cal
United Mineral & Chemical Corp New York	N Y
United States Radium Corp Morristown	N J
Var-Lac-Oid Chemical Co Elizabeth	N J
Westinghouse Electric Corp, Lamp Div Bloomfield	N J

FLUOROCARBONS

See **Plastics**

FLUTTER ANALYZERS

See **Analyzers—Flutter**

FLUXES

BOW SOLDER PRODUCTS CO INC NEWARK N J	**ADV PG 273**
NATIONAL LEAD CO NEW YORK N Y	**ADV PG 579**
Acton Associates Pittston	Pa
All-State Welding Alloys Co, Inc White Plains	N Y
Alpha Metals Inc Jersey City	NJ
Aluminum Co of America Pittsburgh	Pa
American Circuit-Tronics Corp Royal Oak	Mich
American Silver Co Div Flushing	N Y
American Solder & Flux Co Inc Philadelphia	Pa
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights	NY
Bow Solder Products Co Inc Newark	N J
Chase Metals Service Div Chase Brass & Copper Co Cleveland	Ohio
Cramco Solder Alloys Scarborough	Ont
Division Lead Co Summit	Ill
Dunton Co, M W Providence	R I
Du Pont De Nemours & Co Inc E I Wilmington	Del
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Fairmount Chemical Co Inc Newark	N J
Farrelloy Co Philadelphia	Pa
Gale Systems Inc North Reading	Mass
Gardiner Solder Co Chicago	Ill
Handy & Harman New York	N Y
Hi-Grade Alloy Corp East Hazelcrest	Ill
Indium Corp of America Utica	N Y
Johnson Mfg Co Inc Princeton	Iowa
Kester Solder Co Chicago	Ill
Lake Chemical Co Chicago	Ill
Liquid Carbonic Div, Gen Dynamics Corp Chicago	Ill
London Chemical Co Inc Bensenville	Ill
Mann Co, Henry Cornwell Heights	Pa
Metal Ceram Inc Mount Vernon	N Y
Micro Co Easton	Pa
National Lead Co New York	N Y
Roosevelt Metal Co Inc Brooklyn	N Y
Superior Flux & Mfg Co Cleveland	Ohio
Transene Co Inc Rowley	Mass
Unibraze Corp White Plains	N Y
United American Metals Div Brooklyn	N Y

FLUXES—BRAZING

NATIONAL LEAD CO NEW YORK N Y	**ADV PG 579**
All-State Welding Alloys Co, Inc White Plains	N Y
Aluminum Co of America Pittsburgh	Pa
American Silver Co Div Flushing	N Y
American Solder & Flux Co Inc Philadelphia	Pa
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights	NY
Cramco Solder Alloys Scarborough	Ont
Dunton Co, M W Providence	R I
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Farrelloy Co Philadelphia	Pa
Handy & Harman New York	N Y
Hi-Grade Alloy Corp East Hazelcrest	Ill
Johnson Mfg Co Inc Princeton	Iowa
Johnson Matthey & Mallory Ltd Toronto 15	Ont
Kester Solder Co Chicago	Ill
Lake Chemical Co Chicago	Ill
London Chemical Co Inc Bensenville	Ill
Metal Ceram Inc Mount Vernon	N Y
National Lead Co New York	N Y
Pyromet Industries San Carlos	Cal
Roosevelt Metal Co Inc Brooklyn	N Y
Semi-Alloys Inc Mt Vernon	N Y
Superior Flux & Mfg Co Cleveland	Ohio
Unibraze Corp White Plains	N Y
United American Metals Div Brooklyn	N Y

BOW
MAKES
& SELLS
ALL
SOLDERING
FLUXES
(QPL approved rosin and activated rosin, organic, acid, thinners and residue removers)

BOW

BOW SOLDER PRODUCTS CO., INC.
PIONEERS IN SOLDER PRODUCTS
25 AMSTERDAM ST. NEWARK, N.J. 07105
201-621-6996 ☐ 212-227-5125

FLUXES—SOLDERING, LEAD-TIN, ACID

BOW SOLDER PRODUCTS CO INC NEWARK	**N J**
CAIG LABS INC WESTBURY	**N Y**
NATIONAL LEAD CO NEW YORK N Y	**ADV PG 579**
Acton Associates Pittston	Pa
All-State Welding Alloys Co, Inc White Plains	N Y
Alpha Metals Inc Jersey City	NJ
American Silver Co Div Flushing	N Y
American Solder & Flux Co Inc Philadelphia	Pa
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights	NY
Bow Solder Products Co Inc Newark	N J
Caig Labs Inc Westbury	N Y
Cramco Solder Alloys Scarborough	Ont
Division Lead Co Summit	Ill
Dunton Co, M W Providence	R I
Farrelloy Co Philadelphia	Pa
Gale Systems Inc North Reading	Mass
Gardiner Solder Co Chicago	Ill
Hi-Grade Alloy Corp East Hazelcrest	Ill
Indium Corp of America Utica	N Y
Johnson Mfg Co Inc Princeton	Iowa
Kester Solder Co Chicago	Ill
London Chemical Co Inc Bensenville	Ill
Metal Ceram Inc Mount Vernon	N Y
National Lead Co New York	N Y
Roosevelt Metal Co Inc Brooklyn	N Y
Semi-Alloys Inc Mt Vernon	N Y
Superior Flux & Mfg Co Cleveland	Ohio
Transene Co Inc Rowley	Mass
United American Metals Div Brooklyn	N Y

FLUXES—SOLDERING, LEAD-TIN, NONCORROSIVE

BOW SOLDER PRODUCTS CO INC NEWARK	**N J**
CAIG LABS INC WESTBURY	**N Y**
NATIONAL LEAD CO NEW YORK N Y	**ADV PG 579**
Acton Associates Pittston	Pa
All-State Welding Alloys Co, Inc White Plains	N Y

Alpha Metals Inc Jersey City ....NJ
American Circuit-Tronics Corp Royal Oak ....Mich
American Solder & Flux Co Inc Philadelphia ....Pa
Anchor Alloys Inc Brooklyn ....N Y
Anchor Metal Co, Inc Div Brooklyn ....N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
  Roslyn Heights ....NY
Bow Solder Products Co Inc Newark ....N J
Caig Labs Inc Westbury ....N Y
Chase Metals Service Div Chase Brass & Copper Co
  Cleveland ....Ohio
Cramco Solder Alloys Scarborough ....Ont
Division Lead Co Summit Ill
Dunton Co, M W Providence ....R I
Eagle Electric Mfg Co Inc Long Island City ....N Y
Fairmount Chemical Co Inc Newark ....N J
Farrelloy Co Philadelphia ....Pa
Gardiner Solder Co Chicago Ill
Hi-Grade Alloy Corp East Hazelcrest Ill
Indium Corp of America Utica ....N Y
Johnson Mfg Co Inc Princeton ....Iowa
Kester Solder Co Chicago Ill
Lake Chemical Co Chicago Ill
London Chemical Co Inc Bensenville Ill
Mann Co, Henry Cornwell Heights ....Pa
Metal Ceram Inc Mount Vernon ....N Y
Mico Instrument Co Cambridge ....Mass
National Lead Co New York ....N Y
Roosevelt Metal Co Inc Brooklyn ....N Y
Semi-Alloys Inc Mt Vernon ....N Y
Superior Flux & Mfg Co Cleveland ....Ohio
Transene Co Inc Rowley ....Mass
United American Metals Div Brooklyn ....N Y
Zeva Electric Corp Hanover ....N J

FLUXES—SOLDERING, SILVER

CAIG LABS INC WESTBURY ....N Y
NATIONAL LEAD CO NEW YORK N Y ....ADV PG 579
All-State Welding Alloys Co, Inc White Plains ....N Y
Alpha Metals Inc Jersey City ....NJ
American Silver Co Div Flushing ....N Y
American Solder & Flux Co Inc Philadelphia ....Pa
Anchor Alloys Inc Brooklyn ....N Y
Anchor Metal Co, Inc Div Brooklyn ....N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
  Roslyn Heights ....NY
Caig Labs Inc Westbury ....N Y
Cramco Solder Alloys Scarborough ....Ont
Division Lead Co Summit Ill
Dunton Co, M W Providence ....R I
Fairmount Chemical Co Inc Newark ....N J
Farrelloy Co Philadelphia ....Pa
Gardiner Solder Co Chicago Ill
Handy & Harman New York ....N Y
Hi-Grade Alloy Corp East Hazelcrest Ill
Indium Corp of America Utica ....N Y
Johnson Mfg Co Inc Princeton ....Iowa
Johnson Matthey & Mallory Ltd Toronto 15 ....Ont
Kester Solder Co Chicago Ill
Kestler Electronics Rosemead ....Cal
Lake Chemical Co Chicago Ill
Leach & Garner Co, Industrial Div Attleboro ....Mass
Metal Ceram Inc Mount Vernon ....N Y
Metz Refining Co South Plainfield ....N J
National Lead Co New York ....N Y
Roosevelt Metal Co Inc Brooklyn ....N Y
Semi-Alloys Inc Mt Vernon ....N Y
Superior Flux & Mfg Co Cleveland ....Ohio
United American Metals Div Brooklyn ....N Y

FLUXMETERS

BELL, INC F W COLUMBUS ....OHIO
HEWLETT-PACKARD PALO ALTO ....CAL
Alpha Scientific Labs Inc Oakland ....Cal
A & M Instruments Inc Great Neck ....N Y
Annis Co, R B Indianapolis ....Ind
Bell, Inc F W Columbus ....Ohio
Epic Inc New York ....N Y
Hallmark Standards Inc Mount Vernon ....N Y
Hewlett-Packard Palo Alto ....Cal
High Voltage Engineering Corp Burlington ....Mass
Industrial Control Co Farmingdale ....N Y
Irwin Labs Inc Los Angeles ....Cal
Magnetics Div Instrument Systems Corp Huntington ....NY
Permanent Magnet Co Inc Indianapolis ....Ind
Rawson-Lush Instrument Co Inc Acton ....Mass
Singer Co Instrumentation Div Bridgeport ....Conn
Thomas & Skinner Inc Indianapolis ....Ind
Varian Palo Alto ....Cal
Wac Line Div Simmonds Precision Prods Dayton ....Ohio
Yaskawa Electric Mfg Co Ltd Tokyo ....Japan

FLYBACK TRANSFORMERS

See **Transformers Special**

F-M AMPLIFIERS

See **Amplifiers—R-F Preamplifiers**

F-M ANTENNAS

See **Antennas**

F-M DEVIATION METERS

See **Meters—F-M Deviation**

F-M RECEIVERS

See **Receivers—Radio Communication; Receivers—Radio**

F-M SIGNAL GENERATORS

See **Generators—Signal**

F-M TRANSMITTERS

See **Transmitters—Broadcast**

F-M TUNERS

See **Tuners—Radio**

FOAM RUBBER

See **Rubber**

FOIL—MAGNETIC

MAGNETIC SHIELD DIV, PERFECTION MICA CO
  BENSENVILLE ILL
American Silver Co Div Flushing ....N Y
Bram Metallurgical Chemical Co Philadelphia ....Pa
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark ....N J
Emerson & Cuming Inc Canton ....Mass
G-L Industries Inc, G-L Electronics Div Westville ....N J
Hamilton Precision Metals Div Hamilton Watch Co
  Lancaster ....Pa
Inter-Technical Group Inc Irvington-on-Hudson ....N Y
Kawecki Berylco Industries Inc New York ....N Y
Lash Labs, Inc San Diego ....Cal
Mackay Inc, A D New York ....N Y
Magnetic Metals Co Camden ....N J
Magnetic Shield Div, Perfection Mica Co Bensenville Ill
Metal Ceram Inc Mount Vernon ....N Y
Millen Mfg Co Inc, James Malden ....Mass
Permaluster Inc Burbank ....Cal
Primec Corp Los Angeles ....Cal
Revere Copper & Brass, Inc New York ....N Y
Ring, Inc, Bernard New York ....N Y
Rodney Metals A Teledyne Co New Bedford ....Mass
Semi-Alloys Inc Mt Vernon ....N Y
Var-Lac-Oid Chemical Co Elizabeth ....N J
Westinghouse Elec. Corp., Specialty Metals Div Blairsville .Pa
Zippertubing Co Los Angeles ....Cal

FOILS

See **Aluminum, Copper Lead, Tin & Tantalum**

FOIL-WOUND COILS

See **Coils**

FOIL-WOUND CORES

See **Cores—Laminated Special**

FOIL-WOUND TRANSFORMERS

See **Transformers—Special**

FORKS—TUNING

FORK STANDARDS INC WEST CHICAGO ILL . . . ADV PG 409
Accutronics, Inc Geneva Ill
American Time Products, Elctns Div Bulova Watch Co Inc
  Woodside ....N Y
Barden Co Los Angeles ....Cal
Edmund Scientific Co Barrington ....N J
Fork Standards Inc West Chicago Ill
Frequency Electronics Inc New Hyde Park ....N Y
Greenray Industries Inc Mechanicsburg ....Pa
H B Engineering Corp Silver Spring ....Md
Melpar Inc, Special Prods Dept Falls Church ....Va
Meson Electronics Co, Inc Rochester ....N Y
Muirhead Instruments Inc Mountainside ....N J
Murata Mfg Co, Ltd Kyoto ....Japan
Philamon Inc Westbury ....N Y
Riverbank Labs, Dept of Engrg Geneva Ill
Spectrum Technology Inc Goleta ....Cal

FORMS—COIL & RESISTOR

See Also **Bobbins**

AMERICAN LAVA CORP CHATTANOOGA ....TENN
GRAYHILL INC LA GRANGE ILL
SUPERIOR STEATITE & CERAMIC CORP ENGLEWOOD . . . N J
Airco Speer Electronic Components Dubois ....Pa
American Lava Corp Chattanooga ....Tenn
Anchor Plastics Co Inc Long Island City ....N Y
Asheville-Schoonmaker Mica Co Newport News ....Va
Atomite Electronics Corp Roosevelt ....N Y
Basic Ceramics Inc Sub Basic Inc Hawthorne ....NJ
Buckeye Bobbin & Mfg Div Prec Paper Tube Co Westlake . Ohio
Caddell-Burns Mfg Co Inc Mineola ....N Y
Cambridge Thermionic Corp Cambridge ....Mass
Carborundum Co Electrical & Elctns Br Niagara Falls ....NY
Cerro Corp New York ....NY
Chemplast Inc Wayne ....N J
Cincinnati Development & Mfg Co Cincinnati ....Ohi
Clevepak Corp New York ....N
Coilcraft Inc Cary I
Conap Inc Allegany ....N
Cosmo Plastics Co Cleveland ....Ohi
Dorco Electronics Inc Compton C
Electrical Plastics Corp Lyndhurst ....N
Electrical Refractories Co East Palestine ....Ohi
Electro Assemblies Inc Chicago I
EpoxyCast Electronic Case Co Yonkers ....N
Fastex Div Illinois Tool Works Des Plaines I
Ferricore Div Natl Moldite Co Inc Newark ....N
Grayhill Inc La Grange I
Gries Reproducer Co Div Coats & Clark Inc New Rochelle . . N
Hydro Molding Co Inc Plattsburgh ....N
Impectron Inc New York ....N
Industra Products Inc Fort Wayne ....In
Isolantite Mfg Corp Stirling ....N
Maryland Lava Co Inc Bel Air ....M
Micrometals Inc City of Industry C
Millen Mfg Co Inc, James Malden ....Mas
Miller Co, J W Compton C
Mindrum Precision Products Cucamonga C
National Moldite Co Inc Newark ....N
Norrich Plastics Corp Roosevelt ....N
Ny-Glass Co Paramount C
Paramount Industries Inc Fort Wayne ....In
Precision Paper Tube Co Wheeling ....
Product Components Corp Hastings-on-Hudson ....N
Quality Components Inc St Marys ....P
Resdel Corp Rio Grande ....N
Rostone Corp Lafayette ....In
Saxonburg Ceramics Inc Pittsburgh ....P
Severna Div Bunker-Ramo Corp Roseland ....N
Slocum Industries Reseda C
Spaulding Fibre Co Inc Tonawanda ....N
Staffall, Inc Providence ....R
Stettner-Trush Inc Cazenovia ....N
Stevens Products Inc East Orange ....N
Stone Industrial Corp Tubular Prods Div Washington ....D
Superior Steatite & Ceramic Corp Englewood ....N
Synthane-Taylor Corp Valley Forge ....P
Thermotech Industries Inc Hopkins ....Mi
Union Carbide Corp, Carbon Products Div New York ....N
Wilmad Glass Co Inc Buena ....N

FORSTERITE

See **Ceramics**

FRACTIONAL-HP MOTORS

See **Motors**

FRAMES, MOUNTING—MEMORY CORE (WITHOUT CORES)

Amco Engineering Co Chicago ....
Benson Mfg Div E C I Inc Kansas City ....
Chemical Micro Milling Co Pennsauken ....
Donnelly Mfg Co Waltham ....M
Eugene Engineering Co Inc Rockland ....M
Industrial Circuits Co Fairfield ....
Lockhart Industries Inc Paramount ....
Lockheed Electronics Co Data Prods Div Los Angeles ....
Metal Fab Div, Artisan Industries Inc Waltham ....M
Sealectro Corp Mamaroneck ....
Sylvania Electric Prods Inc, Parts Div Warren ....

FRAMES, MOUNTING—PLUG-IN UNITS

Abtronics, Inc Livermore ....
Birtcher Corp, Industrial Div Monterey Park ....
Buckeye Stamping Co Columbus ....O
California Systems Components, Inc Chatsworth ....
Cambridge Thermionic Corp Cambridge ....M
Churchill Corp Melrose ....M
Data Instrument Div Pennsauken ....
Donnelly Mfg Co Waltham ....M
EICO Electronic Instrument Co Inc Brooklyn ....
Eugene Engineering Co Inc Rockland ....M
Mid-West Metal Products Inc Kansas City ....K
Nuclear Enterprises Ltd Edinburgh ....Scotl
Sylvania Electric Prods Inc, Parts Div Warren ....
Vector Electronic Co Inc Sylmar ....
Vero Electronics, Inc Farmingdale ....
Vero Electronics Ltd Southampton ....Engl

FRAMES, MOUNTING—PRINTED CIRCUIT BOARD

ELCO CORP WILLOW GROVE ....
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK .
Astro-Space Labs Inc Huntsville ....
Birtcher Corp, Industrial Div Monterey Park ....
Buckeye Stamping Co Columbus ....
California Systems Components, Inc Chatsworth ....
Churchill Corp Melrose ....
Colbert Die Cast Co Inc South Gate ....
Data Instrument Div Pennsauken ....
Design Products Corp Troy ....
Donnelly Mfg Co Waltham ....
Douglas Electronics Inc San Leandro ....
Elco Corp Willow Grove ....
Eugene Engineering Co Inc Rockland ....
Gibson-Egan CO Arcadia ....
IBM, Industrial Products Marketing New York ....
Ikor, Inc Burlington ....
Lake Engineering Co Ltd Scarborough ....
Lockheed Electronics Co Data Prods Div Los Angeles ....

letal Fab Div, Artisan Industries Inc Waltham	Mass
letal Works Inc Hermann	Mo
lethode Electronics Inc Chicago	Ill
lid-West Metal Products Inc Kansas City	Kans
lonitor Systems Inc an Aydin Co Fort Washington	Pa
remier Metal Products Co Bronx	N Y
canbe Mfg Corp El Monte	Cal
eelye Plastic Fab Inc Minneapolis	Minn
pace Products Inc Long Beach	Cal
taffall, Inc Providence	R I
echmar Corp Los Angeles	Cal
echni-Tool Inc Philadelphia	Pa
itchener & Co, E H Binghamton	N Y
ector Electronic Co Inc Sylmar	Cal
ero Electronics, Inc Farmingdale	N Y
ero Electronics Ltd Southampton	England
Vinchester Electronic Div, Litton Industries Oakville	Conn
ero Mfg Co Burbank	Cal

REQUENCY ANALYZERS

***See* Analyzers**

REQUENCY CALIBRATION SERVICES

***See* Calibration Services**

REQUENCY CALIBRATORS

***See* Calibrators—Frequency**

FREQUENCY CONTROLS

***See* Regulators—Frequency**

FREQUENCY COUNTERS

***See* Counters—Electronic**

FREQUENCY TO D-C CONVERTERS

***See* Converters—Frequency To D-C**

FREQUENCY DIVIDERS

***See* Dividers—Frequency**

FREQUENCY INDICATORS

***See* Meters—Frequency**

FREQUENCY MARKERS—MICROWAVE

***See* Generators-Signal**

FREQUENCY METERS

***See* Meters—Frequency**

FREQUENCY REGULATORS

***See* Regulators—Frequency**

FREQUENCY-SHIFT KEYERS

***See* Keyers**

FREQUENCY-SHIFT SYSTEMS

***See* Communication Systems**

FREQUENCY STANDARDS

***See* Standards**

FUEL CELLS

Allis-Chalmers Mfg Co Milwaukee	Wis
American Cyanamid Co Wayne	N J
Benson Mfg Div E C I Inc Kansas City	Mo
Chemalloy Electronics Corp Santee	Cal
Electrochimica Corp Menlo Park	Cal
Executive Electronics Inc. Denver	Colo
Matsushita Electric Industrial Co Ltd Osaka	Japan
Texas Instruments Incorporated Dallas	Tex
TRW Systems Group Redondo Beach	Cal

FUNCTION GENERATOR—COMPUTER

***See* Generators—Function**

FUNGICIDAL COATINGS

***See* Coatings**

FUNGIPROOFING SERVICES

Amatom Electronic Hardware New Rochelle	N Y
Hi-Lo Mfg Corp Chicago	Ill
National Tel-Tronics Corp Yonkers	N Y
Tricraft Products Corp Chicago	Ill

FURNACES—CONTROLLED ATMOSPHERE

BLUE M ENGINEERING CO BLUE ISLAND	**ILL**
Abar Corp Feasterville	Pa
Alcatel Paris 8eme	France
American Gas Furnace Co Elizabeth	N J
Aremco Products Inc Briarcliff Manor	N Y
Astro Industries, Inc Santa Barbara	Cal
Atlas Engineering Corp West Hartford	Conn
Blue M Engineering Co Blue Island	Ill
Brew & Co Inc, Richard D Concord	N H
BTU Engineering Corp Waltham	Mass
Centorr Associates Inc Suncook	N H
C M Mfg Co Bloomfield	N J
Consolidated Controls Corp El Segundo	Cal
Electro Applications, Inc Canonsburg	Pa
Grieve Corp Chicago	Ill
Harper Electric Furnace Corp Lancaster	N Y
Hayes Inc, C I Cranston	R I
Huppert Co, K H South Holland	Ill
Industrial Winding Machinery Corp River Edge	N J
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Kahle Engineering Co Union City	N J
Keith Co Inc, W P Pico Rivera	Cal
Kokusai Electric Co Ltd Tokyo-105	Japan
Leeds & Northrup Co North Wales	Pa
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
Little Inc, Arthur D Cambridge	Mass
Litton Engineering Labs Grass Valley	Cal
L & L Mfg Co Twin Oaks	Pa
Norton Co Vacuum Equip Div Newton	Mass
Norton Vacuum Equipment Div, Columbus Plant Columbus	Ohio
Nuclide Corp, AGV Div Acton	Mass
Philips Metalonics Mount Vernon	N Y
Pyromet Industries San Carlos	Cal
RCK, Inc Sunnyvale	Cal
Research Inc, R-I Controls Div Minneapolis	Minn
Selas Corp of America Dresher	Pa
Sentry Co Foxboro	Mass
Spectra-Mat Inc Watsonville	Cal
Sunbeam Equipment Corp Meadville	Pa
Systems Research Labs Inc Dayton	Ohio
Tafa Div Humphreys Corp Concord	N H
Thermo Electron Engineering Corp Waltham	Mass
Thomson-CSF 78 Versailles	France
Trent Inc Philadelphia	Pa
Ulvac Corp Tokyo	Japan
Vacuum/Atmospheres Corp N Hollywood	Cal
Watkins-Johnson Co Palo Alto	Cal

FURNACES—DIFFUSION

NEY CO, J M BLOOMFIELD	**CONN**
BTU Engineering Corp Waltham	Mass
Despatch Oven Co Minneapolis	Minn
Electroglas Inc Menlo Park	Cal
Hayes Inc, C I Cranston	R I
Kahle Engineering Co Union City	N J
Kokusai Electric Co Ltd Tokyo-105	Japan
Kulicke & Soffa Industries Inc Fort Washington	Pa
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
L & L Mfg Co Twin Oaks	Pa
Ney Co, J M Bloomfield	Conn
Norton Vacuum Equipment Div, Columbus Plant Columbus	Ohio
Pyromet Industries San Carlos	Cal
RCK, Inc Sunnyvale	Cal
Syncor Products Co, Inc Malden	Mass

FURNACES—ELECTRIC (FOR COMPONENT PRODUCTION)

BLUE M ENGINEERING CO BLUE ISLAND	**ILL**
NEY CO, J M BLOOMFIELD	**CONN**
Abar Corp Feasterville	Pa
Aremco Products Inc Briarcliff Manor	N Y
Astro Industries, Inc Santa Barbara	Cal
Barkling Industrial Furnace Corp South Holland	Ill
Blue M Engineering Co Blue Island	Ill
Brew & Co Inc, Richard D Concord	N H
BTU Engineering Corp Waltham	Mass
Centorr Associates Inc Suncook	N H
C M Mfg Co Bloomfield	N J
Cole-Parmer Instrument Co Chicago	Ill
Despatch Oven Co Minneapolis	Minn
Electra Products Inc Montgomeryville	Pa
Electro Applications, Inc Canonsburg	Pa
Electroglas Inc Menlo Park	Cal
Feco A Bangor Punta Co Cleveland	Ohio
Futurecraft Corp City of Industry	Cal
Gardner Lab Inc Bethesda	Md
Grieve Corp Chicago	Ill
Gruenberg Electric Co Inc Garden City	N Y
Harper Electric Furnace Corp Lancaster	N Y
Hayes Inc, C I Cranston	R I
Hi-Shear Corp Torrance	Cal
Hotpack Corp Philadelphia	Pa
Huppert Co, K H South Holland	Ill
Industrial Winding Machinery Corp River Edge	N J
Infra-Red Systems Inc Riverdale	N J
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Jelrus Instrument Corp New Hyde Park	N Y
Kahle Engineering Co Union City	N J
Keith Co Inc, W P Pico Rivera	Cal
Kokusai Electric Co Ltd Tokyo-105	Japan
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
L & L Mfg Co Twin Oaks	Pa
Ney Co, J M Bloomfield	Conn
Norton Co Vacuum Equip Div Newton	Mass
Norton Vacuum Equipment Div, Columbus Plant Columbus	Ohio
OAL Associates Inc Westbury	N Y
Philips Metalonics Mount Vernon	N Y
Phoenix Materials Corp Forbes Road	Pa
Pyromet Industries San Carlos	Cal
Research Inc, R-I Controls Div Minneapolis	Minn
Research Instrument Co Inc Westbury	N Y
Semimetals Inc, Western Div Mountain View	Cal
Sentry Co Foxboro	Mass
Sunbeam Equipment Corp Meadville	Pa
Tafa Div Humphreys Corp Concord	N H
Taylor-Winfield Corp Warren	Ohio
Thermolyne Corp Dubuque	Iowa
Trent Inc Philadelphia	Pa

FURNACES—GAS FIRED (FOR COMPONENT PRODUCTION)

American Gas Furnace Co Elizabeth	N J
Barkling Industrial Furnace Corp South Holland	Ill
BTU Engineering Corp Waltham	Mass
Despatch Oven Co Minneapolis	Minn
Electro Applications, Inc Canonsburg	Pa
Feco A Bangor Punta Co Cleveland	Ohio
Grieve Corp Chicago	Ill
Gruenberg Electric Co Inc Garden City	N Y
Harper Electric Furnace Corp Lancaster	N Y
Industrial Winding Machinery Corp River Edge	N J
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Kahle Engineering Co Union City	N J
Keith Co Inc, W P Pico Rivera	Cal
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
Nuclide Corp, AGV Div Acton	Mass
OAL Associates Inc Westbury	N Y
Pyromet Industries San Carlos	Cal
Selas Corp of America Dresher	Pa
Sunbeam Equipment Corp Meadville	Pa
Tafa Div Humphreys Corp Concord	N H

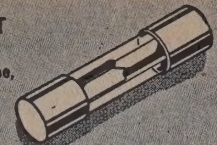
FURNACES—HIGH FREQUENCY

Ajax Magnethermic Corp Warren	Ohio
Alcatel Paris 8eme	France
Cycle-Dyne, Inc Jamaica	N Y
Denki Kogyo Co Ltd Tokyo	Japan
Denton Vacuum Inc Cherry Hill	N J
Eisler Engineering Co Newark	N J
Industrial Winding Machinery Corp River Edge	N J
Industron Corp Needham Heights	Mass
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Kokusai Electric Co Ltd Tokyo-105	Japan
Laboratory Equipment Corp St Joseph	Mich
Larose & Assoc Inc, W T Cohoes	NY
Lepel High Frequency Labs, Inc Maspeth	N Y
Leybold-Heraeus, Inc. Monroeville	Pa
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
Pyromet Industries San Carlos	Cal
Reaction Research Labs of America Groton	Conn
Reeve Electronics Inc Chicago	Ill
Sunbeam Equipment Corp Meadville	Pa
Tafa Div Humphreys Corp Concord	N H
Tocco Div Park-Ohio Ind Inc Cleveland	Ohio

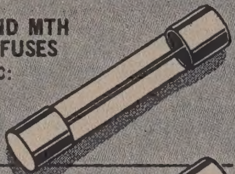
FURNACES—VACUUM

MITSUMI ELECTRIC CO LTD TOKYO	**JAPAN**
NEY CO, J M BLOOMFIELD	**CONN**
Abar Corp Feasterville	Pa
Ajax Magnethermic Corp Warren	Ohio
Alcatel Paris 8eme	France
Astro Industries, Inc Santa Barbara	Cal
Bendix Scientific Instr & Equip Div Rochester	N Y
Brew & Co Inc, Richard D Concord	N H
BTU Engineering Corp Waltham	Mass
Cathey Enterprises Mountain View	Cal
Centorr Associates Inc Suncook	N H
Denton Vacuum Inc Cherry Hill	N J
Edwards High Vacuum Inc Grand Island	N Y
Edwards High Vacuum (Canada) Ltd Oakville	Ont
Energy Beams Inc Haskell	N J
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Gardner Lab Inc Bethesda	Md
Hayes Inc, C I Cranston	R I
High Vacuum Equipment Corp Hingham	Mass
Hull Corp Hatboro	Pa
Huppert Co, K H South Holland	Ill
Industrial Winding Machinery Corp River Edge	N J
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill
Kahle Engineering Co Union City	N J
Keith Co Inc, W P Pico Rivera	Cal
Kewaunee Scientific Equipment Adrian	Mich
Kokusai Electric Co Ltd Tokyo-105	Japan
Leybold-Heraeus, Inc. Monroeville	Pa
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
Materials Research Corp Orangeburg	N Y
Mitsumi Electric Co Ltd Tokyo	Japan
Ney Co, J M Bloomfield	Conn
Norton Co Vacuum Equip Div Newton	Mass
Norton Vacuum Equipment Div, Columbus Plant Columbus	Ohio
Nuclide Corp, AGV Div Acton	Mass
Philips Metalonics Mount Vernon	N Y
Pyromet Industries San Carlos	Cal
Research Instrument Co Inc Westbury	N Y
Systems Research Labs Inc Dayton	Ohio
Tenvac, Inc Pembroke	Mass
Thermionics Lab Inc Hayward	Cal
T-M Vacuum Products Riverton	N J
Ultek Div Perkin-Elmer Palo Alto	Cal
Ulvac Corp Tokyo	Japan
Vacuum/Atmospheres Corp N Hollywood	Cal
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y
Watkins-Johnson Co Palo Alto	Cal

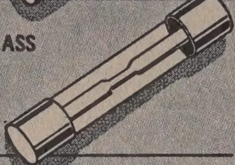
BUSS AGX FAST ACTING FUSES
¼ x 1 inch, glass tube, "quick-acting" type, 1/500 to 2 amp.



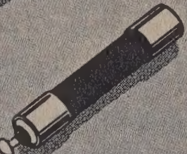
BUSS AGC AND MTH GLASS TUBE FUSES
¼ x 1¼ inch. AGC: 2½, 3 amps. MTH: 4, 5 or 6 amp.



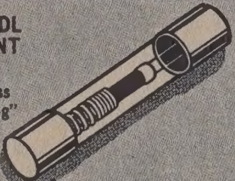
BUSS AGC GLASS TUBE FUSES
¼ x 1¼ inch. 4 to 30 amp.



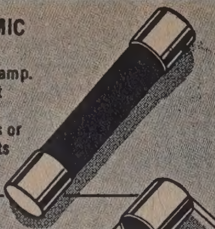
BUSS INDICATING FUSES
¼ x 1¼ inch, ⅛ to 30 amp., and $1\frac{13}{32}$ x 1½ inch, 1/10 to 30 amp. Silverplated pin pops out when fuse is blown and provides quick, positive identification of faulted circuit . . . by visual signal, by activating an alarm, or both.



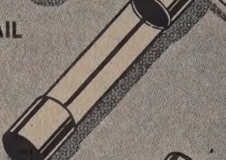
FUSETRON MDL DUAL-ELEMENT FUSES
¼ x 1¼ inch, glass tube "slow-blowing" 1/100 to 30 amp.



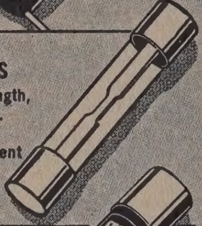
BUSS ABC CERAMIC TUBE FUSES
¼ x 1¼ inch, ¼ to 30 amp. For circuits having fault current capacity up to 25,000 amp. at 125 volts or 10,000 amps. at 250 volts



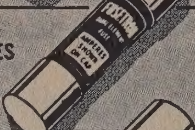
BUSS GJV PIGTAIL FUSES
¼ x 1½ inch, glass tube, with 1¼ inch leads of No. 20 tinned wire. $\frac{3}{16}$ to 6 amp.



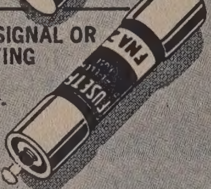
BUSS SFE STANDARD FUSES
⅝ to $1\frac{7}{16}$ inches in length, glass tube, 4 to 30 amp. Fuses of different amperages are of different lengths—to make it impossible to insert too large a size.



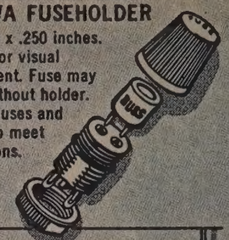
FUSETRON FNM FIBRE TUBE FUSES
$1\frac{13}{32}$ x 1½ inch, dual-element "slow-blowing" 1/10 to 30 amp.



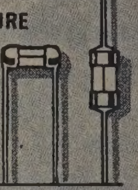
FUSETRON FNA SIGNAL OR VISUAL INDICATING FUSES
1/10 to 10 amp. Silver-plated pin pops out when fuse is blown and provides quick, positive identification of faulted circuit . . . by visual signal, by activating an alarm, or both.



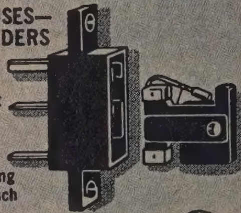
BUSS SUB-MINIATURE GMW FUSE AND HWA FUSEHOLDER
Fuse size only .270 x .250 inches. Fuse has window for visual inspection of element. Fuse may be used with or without holder. 1/200 to 5 amps. Fuses and holders available to meet military specifications.



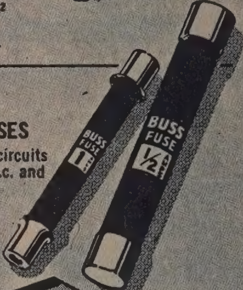
GFA TRON SUB-MINIATURE PIGTAIL FUSES
Body size only .145 x .300 inches. Glass tube construction permits visual inspection of element. Hermetically sealed. Twenty-three ampere sizes from 1/100 thru 15 amps.



BUSS GMT FUSES—HLT FUSEHOLDERS
Signal Indicating. Alarm Activating. For multiple circuit apparatus where space is at a premium. Holders take panel mounting space of only ¼ inch horizontal by $1\frac{15}{32}$ inches vertical. 18/100 to 10 amp.



BUSS HIGH VOLTAGE FUSES
For protection of circuits up to 20 KW on d.c. and 30KVA on a.c. 1/16 to 2 amp.



BUSS QUALITY
SMALL DIMENSION
FUSES and FUSEHOLDERS

FOR THE PROTECTION OF ALL TYPES OF ELECTRONIC & ELECTRICAL CIRCUITS & DEVICES

The complete BUSS line of fuses includes dual-element "slow-blowing," single-element "quick-acting" and signal or visual indicating types . . . in sizes from 1/500 amp. up—plus a companion line of fuse clips, blocks and holders.

Only a representative listing is shown here of the thousands of different types and sizes of fuses and holders available from BUSS.

All standard items are easily obtained through your BUSS distributor—but if you don't find what you want, get in touch with us.

When special fuses, fuse clips, fuse blocks or fuseholders are required, our staff of fuse engineers is at your service to help in selecting or designing the fuse or fuse mounting best suited to your requirements.

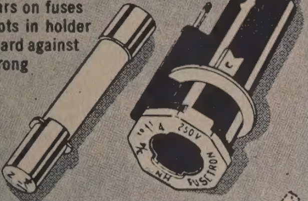
For detailed information on the complete BUSS line write for BUSS bulletin SFB.

BUSSMANN MFG. DIVISION, *McGraw-Edison Co.,* **St. Louis, Mo. 63107**

For fuses and fuseholders of unquestioned high quality . . . . . .

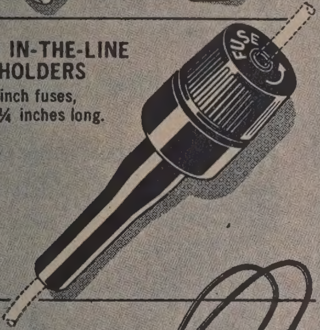
FUSETRON TYPE N FUSES AND FUSEHOLDERS

¼ x 1¼ inch, 0 to 1¼ amps. and ¼ x $1\frac{7}{16}$ inch, 1-3/10 to 7 amp. Glass tube, "slow-blowing". Especially suitable for protection of TV. Ears on fuses match slots in holder to safeguard against use of wrong size and type of fuse.



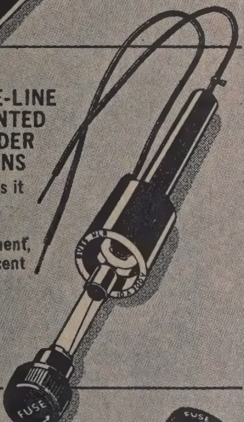
BUSS IN-THE-LINE FUSEHOLDERS

For ¼ inch fuses, ⅝ to 1¼ inches long.



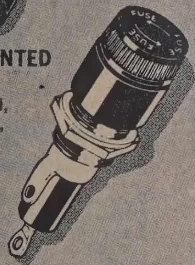
BUSS IN-THE-LINE PANEL MOUNTED FUSE & HOLDER COMBINATIONS

HLR holder makes it simple to protect wide variety of devices or equipment, including fluorescent fixtures. Should fuse open, entire fuse-knob assembly is replaced.



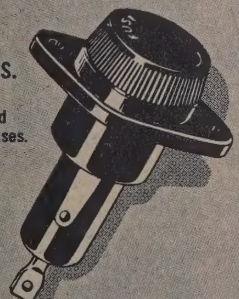
BUSS PANEL MOUNTED FUSEHOLDERS

Non-Indicating Series HJ, HK and HCM. For ¼ x 1, ¼ x 1¼ and $\frac{9}{32}$ x 1¼ inch fuses.



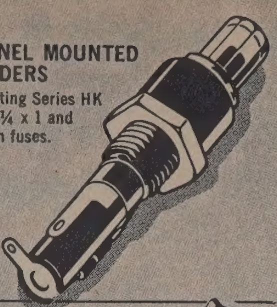
BUSS PANEL MOUNTED FUSEHOLDERS. SERIES HPC

For $\frac{13}{32}$ x 1⅜ and $\frac{13}{32}$ x 1½ inch fuses. Also available in military type.



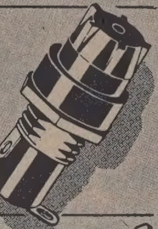
BUSS PANEL MOUNTED FUSEHOLDERS

Lamp Indicating Series HK and HJ. For ¼ x 1 and ¼ x 1¼ inch fuses.



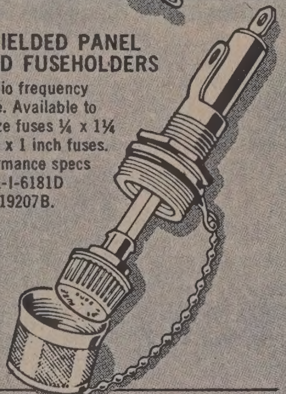
BUSS SPACE SAVER PANEL MOUNTED FUSEHOLDERS

Fuseholder only 1⅝ inches long . . . extends just $\frac{29}{32}$ inch behind front of panel. Takes ¼ x 1¼ inch fuses. Holder rated at 15 ampere for any voltage up to 250.



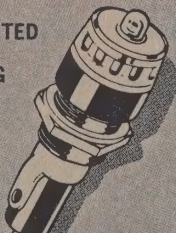
BUSS SHIELDED PANEL MOUNTED FUSEHOLDERS

Prevent radio frequency interference. Available to take two size fuses ¼ x 1¼ inch and ¼ x 1 inch fuses. Meet performance specs of both MIL-I-6181D and MIL-F-19207B.



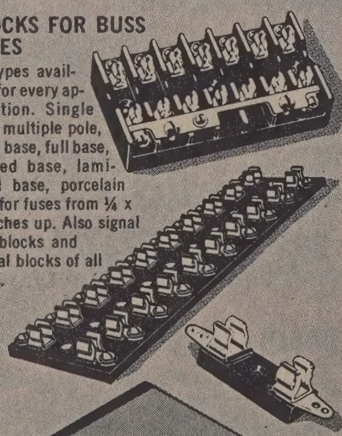
BUSS PANEL MOUNTED FUSEHOLDERS. VISUAL INDICATING SERIES HLD.

For ¼ x 1¼ inch BUSS GBA fuses (or GLD fuses) ¾ to 5 amps. Transparent knob permits visual indicating pin on open fuse to be seen.



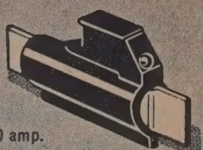
BLOCKS FOR BUSS FUSES

All types available for every application. Single pole, multiple pole, small base, full base, molded base, laminated base, porcelain base for fuses from ¼ x ⅝ inches up. Also signal fuse blocks and special blocks of all types.



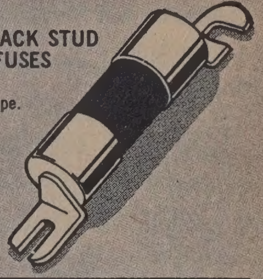
BUSS AIRCRAFT FUSES

Mechanical Indicating —Limiter type. Meet rigorous requirement of high speed, high performance aircraft. 1 to 60 amp.



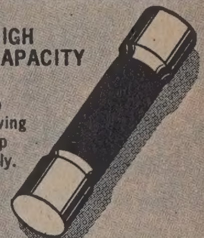
FUSETRON ACK STUD MOUNTED FUSES

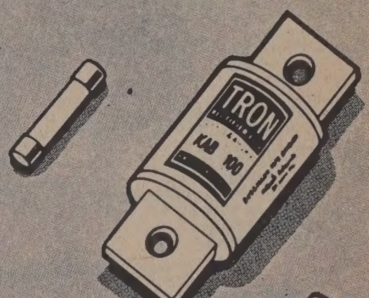
1 to 300 amp., dual-element type.



LIMITRON KTK HIGH INTERRUPTING CAPACITY FUSES

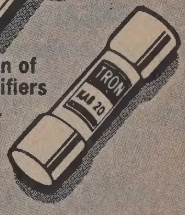
$1\frac{13}{32}$ x 1½ inch, 1/10 to 30 amp. For circuits having fault current capacity up to 100,000 amps. AC only.

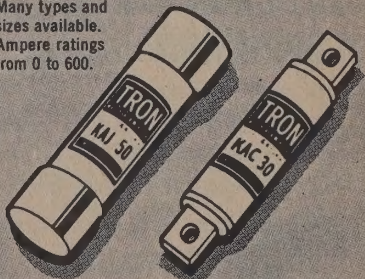




TRON RETCIFIER FUSES. For protection of Semi-Conductor Rectifiers and like applications.

Provide extremely fast opening on overload and fault currents, with a high degree of restriction of let-thru current. Many types and sizes available. Ampere ratings from 0 to 600.





SUPPLIED THE ECONOMICAL WAY
...THRU DISTRIBUTORS

....for every protection need, insist on **BUSS QUALITY**

FUSE BLOCKS

***See* Holders—Fuse**

FUSE HOLDERS

***See* Holders**

FUSES—CURRENT LIMITING

BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON .... CAL
BURNDY CORP NORWALK .... CONN
BUSSMANN MFG DIV MCGRAW-EDISON CO ST LOUIS MO .... ADV PGS 276,277
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
Appareillage Electrique Cehess Paris .... France
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Bellaire Electronics, Inc Red Bank .... N J
Burndy Corp Norwalk .... Conn
Bussmann Mfg Div McGraw-Edison Co St Louis .... Mo
Carbone Corp Boonton .... N J
Electronic Ideas Inc Wyncote .... Pa
En-Cer Inc South Holland Ill
Fuji Electric Co Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
I-T-E Imperial Corp Philadelphia .... Pa
ITT Wire & Cable Div Royal Products Pawtucket .... R I
Littelfuse Inc Des Plaines Ill
Metal Ceram Inc Mount Vernon .... N Y
Pacific Transformer Co Redwood City .... Cal
Schurter AG, H 6002 Lucerne .... Switzerland
Semi-Alloys Inc Mt Vernon .... N Y
Space Age Microcircuits Chatham .... N J
Standard Telephones & Cables Ltd London WC 2 .... England
Workman Electronic Products Inc Sarasota .... Fla

FUSES—STANDARD

BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON .... CAL
BUSSMANN MFG DIV MCGRAW-EDISON CO ST LOUIS MO .... ADV PGS 276,277
Appareillage Electrique Cehess Paris .... France
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Bussmann Mfg Div McGraw-Edison Co St Louis .... Mo
Cable Electric Products Inc Providence .... R I
Carbone Corp Boonton .... N J
Eagle Electric Mfg Co Inc Long Island City .... N Y
En-Cer Inc South Holland Ill
Ercona Corp Bellmore .... NY
Intelect Inc Honolulu .... Hawaii
I-T-E Imperial Corp Philadelphia .... Pa
ITT Wire & Cable Div Royal Products Pawtucket .... R I
Littelfuse Inc Des Plaines Ill
Schurter AG, H 6002 Lucerne .... Switzerland
Shigoto Industries Ltd New York .... N Y
Standard Telephones & Cables Ltd London WC 2 .... England
Star-A Electric Mfg Co Inc Brooklyn .... N Y
Thermal Controls Inc Belleville .... N J
Trico Fuse Mfg Co Milwaukee .... Wis

FUSES—THIN FILM

BUSSMANN MFG DIV MCGRAW-EDISON CO ST LOUIS MO .... ADV PGS 276,277
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Bussmann Mfg Div McGraw-Edison Co St Louis .... Mo
En-Cer Inc South Holland Ill
Littelfuse Inc Des Plaines Ill

FUSES—TIME DELAY

BUSSMANN MFG DIV MCGRAW-EDISON CO ST LOUIS MO .... ADV PGS 276,277
INTERELECTRONICS CORP CONGERS .... N Y
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW NY .... ADV PG 642
Appareillage Electrique Cehess Paris .... France
Autronics Corp Pasadena .... Cal
Bussmann Mfg Div McGraw-Edison Co St Louis .... Mo
Carbone Corp Boonton .... N J
Eagle Electric Mfg Co Inc Long Island City .... N Y
En-Cer Inc South Holland Ill
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset .... NY
Impectron Inc New York .... N Y
Interelectronics Corp Congers .... N Y
I-T-E Imperial Corp Philadelphia .... Pa
ITT Wire & Cable Div Royal Products Pawtucket .... R I
Littelfuse Inc Des Plaines Ill
Pacific Transformer Co Redwood City .... Cal
Schurter AG, H 6002 Lucerne .... Switzerland
Standard Telephones & Cables Ltd London WC 2 .... England
Tempo Instrument Inc, Military Div Plainview .... N Y

FUSES—WIRE

BUSSMANN MFG DIV MCGRAW-EDISON CO ST LOUIS MO .... ADV PGS 276,277
Bussmann Mfg Div McGraw-Edison Co St Louis .... Mo
Carbone Corp Boonton .... N J
Impectron Inc New York .... N Y
Littelfuse Inc Des Plaines Ill
Metal Ceram Inc Mount Vernon .... N Y
Pacific Transformer Co Redwood City .... Cal
Semi-Alloys Inc Mt Vernon .... N Y
United Mineral & Chemical Corp New York .... N Y

FUZES, ELECTRONIC—PROXIMITY

INTERELECTRONICS CORP CONGERS .... N Y
ZENRAD CONTROLS CO SANTA BARBARA .... CAL
Aerodyne Controls Corp Farmingdale .... N Y
Amecom Div Litton Industries College Park .... Md
Avco Systems Div Wilmington .... Mass
Baldwin Electronics Inc Little Rock .... Ark
Bendix Corp, Communications Div Towson .... Md
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset .... NY
Interelectronics Corp Congers .... N Y
ITT Aerospace, Optical Div Fort Wayne .... Ind
KDI Polytechnic Inc Div KDI Corp Cincinnati .... Ohio
Kollsman Instrument Corp Syosset .... N Y
Linden Labs Inc State College .... Pa
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Motorola, Govt Electronics Div Scottsdale .... Ariz
Philco-Ford Corp Washington .... D C
Raytheon Co, Government Marketing Lexington .... Mass
RCA, Defense Electronic Products Moorestown .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Space & Systems Div General Time Corp Stamford .... Conn
Sylvania Electronic Systems Waltham .... Mass
Texas Instruments Incorporated Dallas .... Tex
U S Time Corp Hartsdale .... N Y
Zenith Radio Co Govt & Special Prod Div Chicago Ill
Zenrad Controls Co Santa Barbara .... Cal

FUZES, ELECTRONIC—TIME

INTERELECTRONICS CORP CONGERS .... N Y
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y .... ADV PG 642
Aerodyne Controls Corp Farmingdale .... N Y
Autronics Corp Pasadena .... Cal
Baldwin Electronics Inc Little Rock .... Ark
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica .... Cal
Carbone Corp Boonton .... N J
En-Cer Inc South Holland Ill
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp Syosset .... NY
General Instrument Corp F W Sickles Div Chicopee .... Mass
Interelectronics Corp Congers .... N Y
ITT Aerospace, Optical Div Fort Wayne .... Ind
KDI Polytechnic Inc Div KDI Corp Cincinnati .... Ohio
Kollsman Instrument Corp Syosset .... N Y
Motorola, Govt Electronics Div Scottsdale .... Ariz
RCA, Defense Electronic Products Moorestown .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Space & Systems Div General Time Corp Stamford .... Conn
Tempo Instrument Inc, Military Div Plainview .... N Y
Texas Instruments Incorporated Dallas .... Tex
U S Time Corp Hartsdale .... N Y
Zenith Radio Co Govt & Special Prod Div Chicago Ill

GAGES—BETA

EON Corp Brooklyn .... N Y
Isotopes A Teledyne Co Westwood .... N J
Landis & Gyr, Inc New York .... N Y
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Supplies Encino .... Cal
Ohmart Corp Cincinnati .... Ohio
RIL Electronics Inc Southampton .... Pa
Robertshaw Controls Co, Aero & Instrument Div Anaheim .... Cal
Tracerlab, Div Lab for Electronics Inc Waltham .... Mass
Unit Process Assemblies Inc Woodside .... N Y

GAGES—BOURDON

American Instrument Co, Inc Silver Spring .... Md
American-Standard, Advanced Technology Div Monrovia .... Cal
Automatic Timing & Controls, Inc King of Prussia .... Pa
Bailey Meter Co Wickliffe .... Ohio
Edwards High Vacuum Inc Grand Island .... N Y
Foxboro Co Foxboro .... Mass
Futurecraft Corp City of Industry .... Cal
Glassco Instrument Co Pasadena .... Cal
Martin-Decker Corp Santa Ana .... Cal
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .... England
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Texas Instruments Incorporated Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
U S Gauge Div Ametek Inc Sellersville .... Pa
Volumetrics Inglewood .... Cal

GAGES—COATING THICKNESS

Allen-Jones Electronics Div WEMS Inc Gardena .... Cal
American Instrument Co, Inc Silver Spring .... Md
Automatic Timing & Controls, Inc King of Prussia .... Pa
Automation Products, Inc Houston .... Tex
Bausch & Lomb Inc Rochester .... N Y
Bendix Scientific Instr & Equip Div Rochester .... N Y
Bicron Electronics Co Canaan .... Conn
Biddle Co, James G Plymouth Meeting .... Pa
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus .... Ohio
Conrac Corp New York .... N Y
Controlomag Labs Roslyn .... Pa
Dawe Instruments Ltd London W3 .... England
Decker Corp Bala Cynwyd .... Pa
Electronic Control Corp Detroit .... Mich
Electron Machine Corp. Umatilla .... Fla
Empire Scientific Corp Garden City .... N Y
Engineered Technical Products Plainfield .... N J
Gardner Lab Inc Bethesda .... Md
ICC Mfg Corp South Hackensack .... N J
Industrial Control Co Farmingdale .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
Industrial Winding Machinery Corp River Edge .... N J
Janel Inc Stirling .... N J
Jonard Industries Corp Bronx .... N Y
Larson Aero Development Concord .... Cal
Lion Research Corp Newton .... Mass
Magnaflux Corp Chicago Ill
Measuring Instrument Controls Inc Berkeley Heights .... N J
Microwave Instruments Co Corona del Mar .... Cal
Minnetech Labs Inc Minneapolis .... Minn
MTI- Mechanical Technology Inc Latham .... NY
Nichols Co Ltd, R H Downsview .... Ont
Nuclear Enterprises Ltd Edinburgh .... Scotland
Ohmart Corp Cincinnati .... Ohio
Optics Technology Inc Palo Alto .... Cal
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Research Industrolectronics Roslyn .... Pa
RIL Electronics Inc Southampton .... Pa
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Tracerlab, Div Lab for Electronics Inc Waltham .... Mass
Twin City Testing Corp North Tonawanda .... N Y
Ultek Div Perkin-Elmer Palo Alto .... Cal
Unit Process Assemblies Inc Woodside .... N Y
Wayne Kerr Co c/o Southfield Electronics Southfield .... Mich
Zeiss Inc, Carl New York .... N Y

GAGES, DIMENSION—COMPARATOR TYPE

WEINSCHEL ENGINEERING CO INC GAITHERSBURG .... MD
AA Gage Div U S Industries Detroit .... Mich
Bendix Corp Industrial Metrology Div Ann Arbor .... Mich
Bicron Electronics Co Canaan .... Conn
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus .... Ohio
Chicago Dial Indicator Co Des Plaines Ill
Daytronic Corp Dayton .... Ohio
Decker Corp Bala Cynwyd .... Pa
DoAll Co Des Plaines Ill
Empire Scientific Corp Garden City .... N Y
Engineered Technical Products Plainfield .... N J
Ercona Corp Bellmore .... NY
Industrial Electronetics Corp Satellite Beach .... Fla
Mann Co, Henry Cornwell Heights .... Pa
Measuring Instrument Controls Inc Berkeley Heights .... N J
Minnetech Labs Inc Minneapolis .... Minn
Moore Products Co Spring House .... Pa
MTI- Mechanical Technology Inc Latham .... NY
Nuclear Research Instruments Berkeley .... Cal
Optical Gaging Products Rochester .... N Y
Optomechanisms Inc Plainview .... N Y
Pi Tape Lemon Grove .... Cal
Poole Instruments Inc Dallas .... Tex
Premium Allied Tool Inc Owensboro .... Ky
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Rustrak Instrument Div Gulton Ind Inc Manchester .... NH
Scherr Tumico Inc St James .... Minn
Simpson Electric Co Chicago Ill
Singer-GPE Controls Inc Morton Grove Ill
Starrett Co, L S Athol .... Mass
Taft-Peirce Mfg Co Woonsocket .... R I
Techni-Tool Inc Philadelphia .... Pa
Weinschel Engineering Co Inc Gaithersburg .... Md
Wharton Unitools Moosup .... Conn
Zeiss Inc, Carl New York .... N Y

GAGES, DIMENSION—DISPLACEMENT MEASURING

AA Gage Div U S Industries Detroit .... Mic
Affiliated Manufacturers Inc Whitehouse .... N
Automatic Timing & Controls, Inc King of Prussia .... P
Avionics, Inc South Bend .... In
Bendix Corp Industrial Metrology Div Ann Arbor .... Mic
Bently Nevada Corp Minden .... Ne
Biocom, Inc Culver City .... Ca
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus .... Ohi
C-E Electronics Div Ametek Feasterville .... P
Chicago Dial Indicator Co Des Plaines ....
Clinton Instrument Co Clinton .... Con
Daytronic Corp Dayton .... Ohi
Decker Corp Bala Cynwyd .... P
Dimensions Inc Hempstead .... N
DoAll Co Des Plaines ....
Electro Products Labs Inc Transducer Div Chicago ....
GMR, Inc Berkeley C
Hyde Park Electronics Inc Dayton .... Ohi
ICC Mfg Corp South Hackensack .... N
Indicating Caliper Co Oak Park ....
Industrial Electronetics Corp Satellite Beach .... F
Industrial Winding Machinery Corp River Edge .... N
Link Div Singer Co Binghamton .... N
Lion Research Corp Newton .... Ma
Measuring Instrument Controls Inc Berkeley Heights .... N
Microwave Instruments Co Corona del Mar C
Minnetech Labs Inc Minneapolis .... Mi
MTI- Mechanical Technology Inc Latham .... N
Muirhead Instruments Inc Mountainside .... N
Optomechanisms Inc Plainview .... N
Perkin-Elmer Corp Laser Dept Wilton .... Co
Pi Tape Lemon Grove C
Radio Corp of America, Comml Elctn Prods Div Camden .... N
Rustrak Instrument Div Gulton Ind Inc Manchester .... N
Scherr Tumico Inc St James .... Mi
Singer-GPE Controls Inc Morton Grove ....
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia ....
Starrett Co, L S Athol .... Ma
Taft-Peirce Mfg Co Woonsocket ....
Techni-Tool Inc Philadelphia ....
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia ....
Wayne Kerr Co c/o Southfield Electronics Southfield .... Mi
West Coast Research Corp Los Angeles ....

harton Unitools Moosup	Conn
iss Inc, Carl New York	N Y

AGES, DIMENSION—PHOTOELECTRIC

dcole Corp Waltham	Mass
utomatic Timing & Controls, Inc King of Prussia	Pa
inton Instrument Co Clinton	Conn
olan Jenner Industries Inc Melrose	Mass
ectronic Control Corp Detroit	Mich
ectron Machine Corp. Umatilla	Fla
ost Electronics Corp Rockaway	N J
TI- Mechanical Technology Inc Latham	NY
otron Corp New Haven	Conn
vitron Corp Industrial Syst Div Cheshire	Conn
notobell Co Inc New York	N Y
azdow Labs Inc Newark	N J

AGES—FUEL, ELECTRONIC

coustica Associates Inc Los Angeles	Cal
rcraft Components Inc Benton Harbor	Mich
miproducts Corp New York	N Y
utomation Products, Inc Houston	Tex
in-Dicator Ultrasonics Div. Detroit	Mich
entral Scientific Co Chicago	Ill
ontrolotron Corp Farmingdale	N Y
ecker Corp Bala Cynwyd	Pa
rexelbrook Engineering Co Glenside	Pa
dison, Thomas A Industries, Instr Div West Orange	N J
dwards High Vacuum Inc Grand Island	N Y
ems Co Inc Farmington	Conn
lassco Instrument Co Pasadena	Cal
riffiths Electronics Inc Linden	N J
iquid Level Lectronics Inc Richardson	Tex
lura Corp Great Neck	N Y
orton Co Vacuum Equip Div Newton	Mass
adatron Inc North Tonawanda	N Y
miths Industries North America Ltd Jamaica	N Y
miths Industries Ltd, Aviation Div Wembley, Mdsx	England
perry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
tandard Precision Div ECI an NCR sub Wichita	Kan
rans-Sonics Inc Lexington	Mass
S Gauge Div Ametek Inc Sellersville	Pa

AGES—ION

See **Gages—Vacuum**

AGES—IONIZATION

See **Chambers—Ionization**

AGES—LIQUID & MATERIAL LEVEL

See **Indicators—Level**

AGES—OPTICAL

See **Comparators—Optical**

AGES—PIRANI

See **Gages—Vacuum**

AGES—PRESSURE

See **Indicators—Pressure; Transducers—Pressure**

AGES—STRAIN

See Also **Indicators—Strain**

ICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
merican Instrument Co, Inc Silver Spring	Md
utomation Industries Inc Matls Evaluation Grp Danbury	Conn
ausch & Lomb Inc Rochester	N Y
ean Inc, William T Detroit	Mich
ell & Howell Co, Elctn Instr Grp Pasadena	Cal
iocom, Inc Culver City	Cal
LH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
-E Electronics Div Ametek Feasterville	Pa
onrac Corp New York	N Y
aytronic Corp Dayton	Ohio
ecker Corp Bala Cynwyd	Pa
entronics, Inc Hackensack	N J
ndevco Corp Pasadena	Cal
erranti, Ltd Lancashire	England
ulton Industries Inc Metuchen	N J
ickok Electrical Instrument Co Cleveland	Ohio
igh Temperature Instruments Corp Philadelphia	Pa
mpectron Inc New York	N Y
anel Inc Stirling	N J
orfund Dynamics Corp Westbury	N Y
ockheed Electronics Co Plainfield	N J
ann Co, Henry Cornwell Heights	Pa
artin-Decker Corp Santa Ana	Cal
icrodot, Inc South Pasadena	Cal
icro Measurements Inc Romulus	Mich
innetech Labs Inc Minneapolis	Minn
TI- Mechanical Technology Inc Latham	NY
erfectone Sound Labs Allendale	NJ
emiconductor Specialties Corp Fair Lawn	NJ
igma Systems Corp, Sub Applied Science Inc Dallas	Tex

Statham Instruments Inc Oxnard	Cal
West Coast Research Corp Los Angeles	Cal
Whittaker Corp Instrument Sys Div Chatsworth	Cal

GAGES—THICKNESS

See **Indicators—Thickness**

GAGES—VACUUM (GAGES ONLY, INCL. PIRANI)

See Also **Indicators—Vacuum**

GRANVILLE-PHILIPS CO BOULDER COLO	**ADV PG 696**
Abrax Instrument Corp Jamaica	N Y
Aero Vac Corp Troy	N Y
Alcatel Paris 8eme	France
Allen-Jones Electronics Div WEMS Inc Gardena	Cal
Amlab Inc Rahway	NJ
Andonian Associates, Inc Waltham	Mass
Aremco Products Inc Briarcliff Manor	N Y
Bacharach Instrument Co Pittsburgh	Pa
Beach-Russ Co New York	N Y
Bendix Scientific Instr & Equip Div Rochester	N Y
Bristol Div, American Chain & Cable Co Waterbury	Conn
Cathey Enterprises Mountain View	Cal
Centorr Associates Inc Suncook	N H
CHA Industries, Div Carl Herrmann Assoc Menlo Park	Cal
Cole-Parmer Instrument Co Chicago	Ill
Cooke Vacuum Products Inc South Norwalk	Conn
Cosmodyne Corp Torrance	Cal
Cryolab Div, Statics-Dynamics Inc Los Osos	Cal
Datametrics Inc Waltham	Mass
Decker Corp Bala Cynwyd	Pa
Denton Vacuum Inc Cherry Hill	N J
Edwards High Vacuum Inc Grand Island	N Y
Edwards High Vacuum (Canada) Ltd Oakville	Ont
Electron Technology Inc Kearny	N J
Ellison Instrument Div Dieterich Std Corp New Buffalo	Mich
Energy Beams Inc Haskell	N J
Fischer & Porter Co Warminster	Pa
Fredericks Co Huntingdon Valley	Pa
GCA Technology Div GCA Corp Bedford	Mass
Gilmont Instruments Inc Roger Great Neck	N Y
Granville-Philips Co Boulder	Colo
Hastings-Raydist A Teledyne Co Hampton	Va
High Vacuum Equipment Corp Hingham	Mass
High Voltage Engineering Corp Burlington	Mass
Hill Inc E Vernon San Francisco	Cal
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside	Cal
Kinney Vacuum Co Boston	Mass
Kontes Glass Co Vineland	N J
Leybold-Heraeus, Inc. Monroeville	Pa
Martin-Decker Corp Santa Ana	Cal
MKS Instruments Inc Burlington	Mass
Mullard Ltd London, WC 1	Eng
Nelson Vacuum Pump Co Berkeley	Cal
Norton Co Vacuum Equip Div Newton	Mass
Nuclide Corp, AGV Div Acton	Mass
Radatron Inc North Tonawanda	N Y
RIL Electronics Inc Southampton	Pa
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Standard Precision Div ECI an NCR sub Wichita	Kan
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Texas Instruments Incorporated Dallas	Tex
Texas Instruments Inc Indl Prods Div Houston	Tex
Thomson-CSF 78 Versailles	France
Ultek Div Perkin-Elmer Palo Alto	Cal
Ulvac Corp Tokyo	Japan
U S Gauge Div Ametek Inc Sellersville	Pa
Vactronic Lab Equipment Inc East Northport	N Y
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Vacuum Instrument Corp Huntington Station	N Y
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y
Volumetrics Inglewood	Cal
Wallace & Tiernan Div Pennwalt Corp Belleville	N J
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh	Pa
Westinghouse Electric Corp, Tube Div Elmira	NY

GAGES, MICROWAVE—DIELECTROMETER

Microwave Instruments Co Corona del Mar	Cal

GAGES, MICROWAVE—MOISTURE

Barth Electronics, Inc Cleveland	Ohio
Electron Machine Corp. Umatilla	Fla
Microwave Instruments Co Corona del Mar	Cal

GAGES, MICROWAVE—NONDESTRUCTIVE TESTING

Barth Electronics, Inc Cleveland	Ohio
Dawe Instruments Ltd London W3	England
Electron Machine Corp. Umatilla	Fla
Magnaflux Corp Chicago	Ill
Microwave Instruments Co Corona del Mar	Cal

GAGES, MICROWAVE—THICKNESS

Barth Electronics, Inc Cleveland	Ohio
Electron Machine Corp. Umatilla	Fla
Janel Inc Stirling	N J
Microwave Instruments Co Corona del Mar	Cal

GAGES—TAPE REEL FLANGE

KENTON ENGINEERING CORP SKOKIE	**ILL**
Kenton Engineering Corp Skokie	Ill

GAIN CONTROLS

See **Attenuators; Potentiometers**

GALLIUM ARSENIDE

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN	**MO**
Aceto Chemical Co, Inc Flushing	NY
Alusuisse Metals Inc Fort Lee	N J
Anchor Metal Co, Inc Div Brooklyn	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bram Metallurgical Chemical Co Philadelphia	Pa
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus	Ohio
Cerac Inc Butler	Wis
Corco Chemical Corp Fairless Hills	Pa
Eagle-Picher Industries Inc, Electronics Div Joplin	Mo
Electronic Space Products Inc Los Angeles	Cal
Geoscience Instruments Corp Mt Vernon	N Y
Industrial Optics Div Yardney Razdow Labs Newark	N J
Infrared Industries Inc Santa Barbara	Cal
Jones Optical Works Inc A D Burlington	Mass
Kawecki Berylco Industries Inc New York	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
La Radiotechnique Compelec Paris 11e	France
Mackay Inc, A D New York	N Y
Monsanto Co St Peters	Mo
Mullard Ltd London, WC 1	Eng
NPC Electronics Canoga Park	Cal
Roosevelt Metal Co Inc Brooklyn	N Y
Seed Electronics Corp Lexington	Mass
Semi-Elements Inc Saxonburg	Pa
Sharp Electronics Corp Carlstadt	N J
Texas Instruments Incorporated Dallas	Tex
United American Metals Div Brooklyn	N Y
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J
Ventron Electronics Corp, Controls/Matls Div Bradford	Pa
Wacker Chemical Corp New York	N Y

GALLIUM PHOSPHIDE

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN	**MO**
Aceto Chemical Co, Inc Flushing	NY
Alusuisse Metals Inc Fort Lee	N J
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
Cerac Inc Butler	Wis
Eagle-Picher Industries Inc, Electronics Div Joplin	Mo
Electronic Space Products Inc Los Angeles	Cal
Infrared Industries Inc Santa Barbara	Cal
Kawecki Berylco Industries Inc New York	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
La Radiotechnique Compelec Paris 11e	France
Mackay Inc, A D New York	N Y
Monsanto Co St Peters	Mo
Polysciences Inc Warrington	Pa
Rocky Mountain Research Inc Denver	Colo
Roosevelt Metal Co Inc Brooklyn	N Y
Semi-Elements Inc Saxonburg	Pa
United American Metals Div Brooklyn	N Y
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J
Wacker Chemical Corp New York	N Y

If it isn't in EBG's
product directory,
it probably hasn't
been invented yet.

Electronic Galvanometers

Fluke solid-state electronic galvanometers include Model 841 A & B, and Models 845 AB & AR. Design features include fast response, immunity to overload damage, battery and/or AC operation. operation in any position, and solid mechanical design that will stand MIL-Spec shock and vibration.

Model 841A offers a current sensitivity of 2×10^{-9} ampere per scale division and power sensitivity of better than 8×10^{-16} watt per division. Input resistance is 180 ohms on three current ranges of ± 30 na, ± 300 na, and ± 3 ma.

Model 841B differs in the following respects:

1) 5×10^{-9} amp/scale division sensitivity
2) 4.5×10^{-16} watt/scale division power sensitivity
3) Input resistance 18 ohms
4) ± 100 nanoamperes, ± 1 microamperes, and ± 10 microamperes current ranges

Price of the Model 841 A and B is $295 less power pack.

Models 845 AB & 845 AR null detector microvoltmeters are designed for extremely high input resistance, sensitivity and isolation. Price is $435 for the Model 845 AR. or AB with rechargeable batteries.

For full information, write Fluke, P.O. Box 7428, Seattle, Wash. 98133.

GALVANOMETERS

FLUKE MFG CO INC, JOHN SEATTLE WASH . . . ADV PG 280
GEOTECH A TELEDYNE CO GARLAND . . . . TEX
HEWLETT-PACKARD PALO ALTO . . . . CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO . . . . ADV PG 8
MECHANICS FOR ELECTRONICS INC CAMBRIDGE . . . MASS
PARKER INSTRUMENT CORP STAMFORD . . . . CONN
Aceto Chemical Co, Inc Flushing . . . . NY
A & M Instruments Inc Great Neck . . . . N Y
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook . N Y
Beckman Instruments Inc Fullerton, ... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . Cal
Biddle Co, James G Plymouth Meeting . . . . Pa
Canadian Research Institute Don Mills . . . . Ont
Central Scientific Co Chicago Ill
Century Electronics & Instruments Inc Tulsa . . . . Okla
Cohu Electronics Inc San Diego . . . . Cal
Dixson Inc Meter Div Grand Junction . . . . Colo
Ealing Corp Cambridge . . . . Mass
Electro Scientific Industries Inc Portland . . . . Ore
Epic Inc New York . . . . N Y
Esterline Angus Div Esterline Corp Indianapolis . . . . Ind
Fluke Mfg Co Inc, John Seattle . . . . Wash
Geo Space Corp Houston . . . . Tex
Geotech A Teledyne Co Garland . . . . Tex
Gordon Enterprises Inc, Alan North Hollywood . . . . Cal
Guildline Instruments Ltd Smiths Falls . . . . Ont
Hallmark Standards Inc Mount Vernon . . . . N Y
Hathaway Instrument Div Denver . . . . Colo
Hewlett-Packard Palo Alto . . . . Cal
Honeywell Test Instruments Div Denver . . . . Colo
Howell Instruments Co Fort Worth . . . . Tex
Leeds & Northrup Co North Wales . . . . Pa
London Co Westlake . . . . Ohio
Magnetics Div Instrument Systems Corp Huntington . . . . . NY
Mastercraft Instrument Co Dubuque . . . . Iowa
Mechanics for Electronics Inc Cambridge . . . . Mass
Midwestern Instruments Inc, Div Telex Corp Tulsa . . . . . . Okla
Nichols Co Ltd, R H Downsview . . . . Ont
Parker Instrument Corp Stamford . . . . Conn
Photron Instrument Co Cleveland . . . . Ohio
RFL Industries Inc, Instrumentation Div Boonton . . . . N J
San-Ei Instrument Co Ltd Shinjuku-Ku Tokyo . . . . . . Japan
Shallcross A Cutler-Hammer Co Selma . . . . N C
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Techni-Rite Electronics Inc Warwick . . . . R I
Tinsley H & Co c/o Southfield Electronics Southfield . . . . Mich
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Weston Lexington Weston Instruments Div Lexington . . . Mass
Winslow Tele-Tronics Inc Eatontown . . . . N J

GARNET CRYSTALS

***See* Crystals—Garnet**

GAS ANALYZERS

***See* Analyzers—Gas**

GAS DETECTORS

***See* Detectors—Gas**

GASES

Air Products & Chemicals, Inc Allentown . . . . Pa
Baker Chemical Co, J T Phillipsburg . . . . N J
Blackburn Inc, P W Dobbs Ferry . . . . N Y
Humble Oil & Refining Co Houston . . . . Tex
Liquid Carbonic Div, Gen Dynamics Corp Chicago Ill
Matheson Gas Products East Rutherford . . . . N J
Phoenix Materials Corp Forbes Road . . . . Pa

GASKETS

Abesto Corp Bloomfield . . . . N J
Abscoa Industries Inglewood . . . . Cal
Advanced Products Co North Haven . . . . Conn
Anchor Alloys Inc Brooklyn . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Armstrong Cork Co Lancaster . . . . Pa
Auburn Mfg Co Middletown . . . . Conn
Bacon Industries, Inc Watertown . . . . Mass
Beemer Engineering Co Fort Washington . . . . Pa
Bendix Corp Rubber Prods Plant Toledo . . . . Ohio
Bentley-Harris Mfg Co Conshohocken . . . . Pa
Chemical Products Corp E Providence . . . . R I
Chemplast Inc Wayne . . . . N J
Clover Industries Div GTI Corp Tonawanda . . . . N Y
Connecticut Hard Rubber Co New Haven . . . . Conn
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Custom Materials Inc Chelmsford . . . . Mass
Da/Pro Rubber Inc Van Nuys . . . . Cal
Dilectrix Corp Farmingdale . . . . N Y
Division Lead Co Summit Ill
Dixon Corp Bristol . . . . R I
Emerson & Cuming Inc Canton . . . . Mass
Emerson Plastics Corp Bronx . . . . New York
Energy Beams Inc Haskell . . . . N J
Ethylene Corp Murray Hill . . . . N J
Fel Pro Inc Div Felt Products Mfg Co Skokie Ill
Fenwick Paris 10 . . . . France
Fluoro-Plastics Inc Philadelphia . . . . Pa
Forest City Foam Products Wellington . . . . Ohio
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
Gasket Mfg Co Inc Carson . . . . Cal
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . . Cal
General Gaskets Inc Middletown . . . . Conn
Goodrich Industrial Prods Co, B F Akron . . . . Ohio
Indium Corp of America Utica . . . . N Y
Industrial Electronic Rubber Co Twinsburg . . . . Ohio
Insulating Fabricators of N E Inc Watertown . . . . Mass
Insulating Shapes Inc Bronx . . . . N Y
Leed Insulator Corp Los Angeles . . . . Cal
Livingston Electronic Div Jettron Prods Inc Hanover . . . . . N J
Mechanical Rubber Products Co, Inc Warwick . . . . NY
Metal Ceram Inc Mount Vernon . . . . N Y
Metex Corp Edison . . . . N J
Microdot Inc. Troy . . . . Mich
Microwave Development Labs Inc Needham Heights . . . . Mass
Midwest Cortland Schiller Park Ill
Minor Rubber Co Inc Bloomfield . . . . N J
Parker Seal Co Culver City . . . . Cal
Pelmor Labs Inc Newtown . . . . Pa
Penn Fibre & Specialty Co Philadelphia . . . . Pa
Pres-On Products Co Addison Ill
Primec Corp Los Angeles . . . . Cal
Raybestos-Manhattan Inc Bridgeport . . . . Conn
Ray Proof Corp Norwalk . . . . Conn
Roosevelt Metal Co Inc Brooklyn . . . . N Y
Seastrom Mfg Co Inc Glendale . . . . Cal
Semi-Alloys Inc Mt Vernon . . . . N Y
Shamban & Co, W S Los Angeles . . . . Cal
Sherwood Industries Flexco Div Bell Gardens . . . . Cal
Spaulding Fibre Co Inc Tonawanda . . . . N Y
Staff Gasket Mfg Corp New York . . . . N Y
Stafford Mfg Co Inc Brooklyn . . . . N Y
Standard Polymer Inc Van Nuys . . . . Cal
Technical Wire Products Inc Cranford . . . . N J
Tec Seal Corp Wilmington . . . . Cal
United Aircraft Products Inc Dayton . . . . Ohio
United American Metals Div Brooklyn . . . . N Y
Vellumoid Div Federal-Mogul Corp Worcester . . . . Mass
Wilmington Fibre Specialty Co New Castle . . . . Del

GAUSSMETERS

BELL, INC F W COLUMBUS OHIO . . . . ADV PG 280
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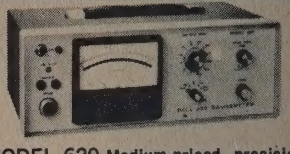

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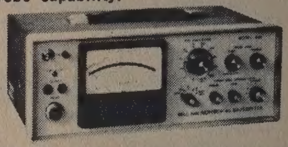

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Bogue Electric Mfg Co Paterson . . . . N J
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Coldspring Instrument Corp Huntington . . . . N Y
Data Disc Inc, Display Div Palo Alto . . . . Cal
Digitech Inc Ridgefield . . . . Conn
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Honeywell Test Instruments Div Denver . . . . Colo
ITT Aerospace Optical Div Aerospace Oper San Fernando . Cal
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Marconi Co Ltd Chelmsford . . . . England
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Mid-West Metal Products Inc Kansas City . . . . Kans
Monitor Systems Inc an Aydin Co Fort Washington . . . . Pa
Philco-Ford Corp Washington . . . . D C
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Rixon Electronics Inc Silver Spring . . . . Md
Solari & C/Udine Udine . . . . Italy
Space Craft Inc Huntsville . . . . Ala
SRC Div Crescent Technology Corp Newport Beach, ... Cal
Stelma Inc Stamford . . . . Conn
Straza Industries Div Ametek Inc El Cajon . . . . Cal
Tasker Industries, Radar Div Van Nuys . . . . Cal
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Topping Electronics Ltd Scarborough . . . . Ont
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Vitro Labs Div Vitro Corp of America W Orange . . . . N J
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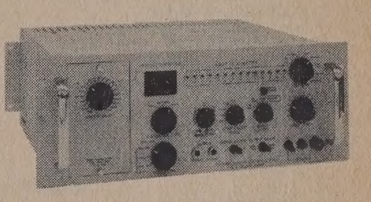
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CELCO Mahwah	N J
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Compudyne Corp Hatboro	Pa
Constructions Radioelectriques Et Electroniques Du Centre 42 Saint-Etienne	France
Cunningham Industries Inc Stamford	Conn
Data Device Corp Hicksville	N Y
Data Royal Corp San Diego	Cal
Decker Corp Bala Cynwyd	Pa
Electric Tachometer Corp Philadelphia	Pa
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Exact Electronics Inc Hillsboro	Ore
Ferranti, Ltd Lancashire	England
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General Computers Inc Los Angeles	Cal
General Dynamics, Electronics Div Rochester	N Y
General Radio Co West Concord	Mass
GPS Instrument Co Inc Framingham	Mass
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Hipotronics Inc Brewster	N Y
Honeywell Inc, Computer Control Div Framingham	Mass
Industrial Control Co Farmingdale	N Y
Kepco Inc Flushing	N Y
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Perkin-Elmer, Electronic Prods Div Wilton	Conn
Philips Electronic Instruments, Test & Measuring Inst Mount Vernon	NY
Preston Scientific, Inc Anaheim	Cal
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Sodilec SA Salies-S A 91 Palaiseau	France
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Systron-Donner Corp Concord	Cal
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Techmetric Co Redwood City	Cal
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Tele-Signal Corp Sub Singer Co Woodbury	N Y
Telstar Electronics Corp Southold	N Y
Transystems Electronic Co Fort Lee	N J
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Wavetek San Diego	Cal
Western Microwave Labs Inc Los Gatos	Cal
Weston-Transicoil, Weston Instruments Inc Worcester	Pa
Zeltex Inc Sub Redcor Corp Concord	Cal

GENERATORS—IMPULSE

See **Generators—Signal, Pulse**

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General Dynamics, Electronics Div Rochester	N Y
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Hartman Systems Co Inc Huntington Station	N Y
Hewlett-Packard Palo Alto	Cal
Macrosonics International Inc Rahway	NJ
Moog Inc, R A Trumansburg	N Y
Philco-Ford Corp Washington	D C
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Scott Inc, H H Maynard	Mass
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Wyle Laboratories El Segundo	Cal

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Electro-Data Inc Garland	Tex
Electronic Resources Inc Tasker Indus Los Angeles	Cal
Engineering Associates Dayton	Ohio
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GPS Instrument Co Inc Framingham	Mass
Harris-Intertype Corp Cleveland	Ohio
Hewlett-Packard Palo Alto	Cal
International Microwave Corp Cos Cob	Conn
Jet Electronics Corp Albuquerque	N M
Kay Electric Co Pine Brook	N J
Litton Industries, Electron Tube Div San Carlos	Cal
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Microwave Associates Inc Burlington	Mass
Microwave Development Labs Inc Needham Heights	Mass
Narda Microwave Corp Plainview	N Y
Philco-Ford Corp Washington	D C
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Rohde & Schwarz Sales Co USA Inc Passaic	N J
S-F-D Labs Inc Union	N J
Signalite Inc Neptune	N J
Solitron/Microwave Long Island City	N Y
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Systron-Donner Corp Concord	Cal
Waveline Inc West Caldwell	N J

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General Radio Co West Concord	Mass
Genisco Technology Corp Components, Genistron Divs Compton	Cal
Grason Stadler Co Inc West Concord	Mass
Harris-Intertype Corp Cleveland	Ohio
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Lehigh Valley Electronics Inc Fogelsville	Pa
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Northeast Electronics Corp Concord	N H
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S-F-D Labs Inc Union	N J
Siemens America Inc New York	N Y
Solitron Devices Inc Tappan	NY
Solitron/Microwave Long Island City	N Y
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Tracor Inc Austin	Tex
Wandel & Goltermann, W & G Instr Inc Hanover	N J

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C M L Inc Plainfield	N J
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General Radio Co West Concord	Ma
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Industron Corp Needham Heights	Ma
Inet Power A Teledyne Co Gardena	
Krohn-Hite Corp Cambridge	Ma
Magnetic Engineering Corp Danbury	Co
Nova Electric Mfg Co Saddle Brook	N
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Philco-Ford Corp Washington	D
Power Control Corp Pittsburgh	
Reliance Electric Co Cleveland	O
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Optimation, Inc Sun Valley	
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P P M Inc Cleveland	
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Reaction Research Labs of America Groton	C
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ermo Electron Engineering Corp Waltham ... Mass
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ENERATORS—RATE

***See* Tachometers**

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ernitron Corp Torrance Div Torrance ... Cal
estern Gear Corp Electro Products Div Pasadena ... Cal
estinghouse Electric Corp, Aerospace Electrical Div Lima ... Ohio
eston Instruments Div Weston Instr Inc Newark ... N J
askawa Electric Mfg Co Ltd Tokyo ... Japan

ENERATORS, ROTARY—D-C POWER

ENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
EORATOR CORP MANASSAS ... VA
llis-Chalmers Mfg Co Milwaukee ... Wis
merican Electronics, Inc Fullerton ... Cal
viation Electric Ltd St Laurent, Montreal ... Que
endix Corp Electric Power Div Eatontown ... NJ
ogue Electric Mfg Co Paterson ... N J
ronson Corp, Sub Kurz & Root Co Appleton ... Wisc
arter Motor Co Chicago ... Ill
entury Electric Co St Louis ... Mo
olumbia Electric Mfg Co Cleveland ... Ohio
onsolidated Electric Corp Seattle ... Wash
enki Kogyo Co Ltd Tokyo ... Japan
ero Research & Devel Corp Huntington ... N Y
etroit Diesel Engine Div Detroit ... Mich
yna Technology, Inc Sioux City ... Iowa
lectric Indicator Co Inc Wilton ... Conn
lectronic Specialty Co, Conn Div Thomaston ... Conn
lectro-Pacific Inc Goleta ... Cal
uji Electric Co Ltd Tokyo ... Japan
eneral Electric Co, ECSO Schenectady ... N Y
eorator Corp Manassas ... Va
lobe Industries Div TRW Inc Dayton ... Ohio
orlick Co Inc, William I Boston ... Mass
land Motor Corp Radford ... Va
ato Engineering Co Mankato ... Minn
earfott Div Singer-General Precision Inc Little Falls ... NJ
urz & Root Co Appleton ... Wis
ear Siegler Inc Santa Monica ... Cal
ear Siegler Inc, Power Equipment Div Cleveland ... Ohio
eece-Neville Co Cleveland ... Ohio
eland Airborne Products Div AMF Vandalia ... Ohio
ouis Allis Co Div Litton Industries Milwaukee ... Wisc
lagnetic Technology Inc Canoga Park ... Cal
lotor Generator Div Hobart Bros Co Troy ... Ohio
nan Div, Studebaker Corp Minneapolis ... Minn
eaction Research Labs of America Groton ... Conn
eliance Electric Co Cleveland ... Ohio
afety Electrical Equipment Corp New Haven ... Conn
iemon Mfg Co Wayne ... Ill
perry Rand Corp Electro Components Plant Durham ... N C

States Electronics Corp, Bludworth Marine Div Linden ... N J
Task Corp Anaheim ... Cal
Techsonics El Prado ... N M
T M C Systems & Power Corp Springfield ... Va
Uriel Corp Ronkonkoma ... NY
Westinghouse Electric Corp, Aerospace Electrical Div Lima ... Ohio
Weston Instruments Div Weston Instr Inc Newark ... N J
Yaskawa Electric Mfg Co Ltd Tokyo ... Japan

GENERATORS, SIGNAL—A-F

C M L INC PLAINFIELD ... N J
DRANETZ ENGINEERING LABS INC PLAINFIELD ... N J
HEATH CO BENTON HARBOR ... MICH
HEWLETT-PACKARD PALO ALTO ... CAL
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ... OHIO
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON ... N J
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
SIEMENS AMERICA INC NEW YORK ... N Y
SYSTRON-DONNER CORP CONCORD ... CAL
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ... N Y
TEXSCAN CORP INDIANAPOLIS ... IND
Advance Electronics Ltd Ilford Essex ... England
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ... U K
Allen Aircraft Radio Inc Elk Grove Village ... Ill
American Time Products, Elctns Div Bulova Watch Co Inc Woodside ... N Y
Armec Corp Huntington Station ... N Y
Avo Ltd Dover Kent ... England
California Instruments Corp San Diego ... Cal
Canoga Industries Los Angeles ... Cal
Carol Electronics Div Weeco Inc Martinsburg ... W Va
C M L Inc Plainfield ... N J
Compagnie Generale de Metrologie Haute Savoie ... France
Cushman Electronics Inc Sunnyvale ... Cal
Data Measurements Corp Palo Alto ... Cal
Data Royal Corp San Diego ... Cal
Dawe Instruments Ltd London W3 ... England
Denson Electronics Corp Rockville ... Conn
Dero Research & Devel Corp Huntington ... N Y
Dowa Trading Co Ltd Kobe ... Japan
Dranetz Engineering Labs Inc Plainfield ... N J
Dynamic Precision Controls Corp Hagerstown ... Ind
E F Assoc Inc Scotch Plains ... N J
EICO Electronic Instrument Co Inc Brooklyn ... NY
Electronic Measurements Corp New York ... N Y
E & L Instruments Inc Derby ... Conn
Gai-Tronics Corp Reading ... Pa
General Dynamics, Electronics Div Rochester ... N Y
General Radio Co West Concord ... Mass
H B Engineering Corp Silver Spring ... Md
Heath Co Benton Harbor ... Mich
Hewlett-Packard Palo Alto ... Cal
Hickok Electrical Instrument Co Cleveland ... Ohio
Hickok Teaching Systems Inc Woburn ... Mass
Holt Instrument Labs Oconto ... Wis
Instrument Labs Corp Chicago ... Ill
ITT Aerospace Optical Div Aerospace Oper San Fernando ... Cal
Kay Electric Co Pine Brook ... N J
Kikusui Electronics Corp Kanagawa City ... Kanagawa Pref Japan
Krohn-Hite Corp Cambridge ... Mass
Lab Electro-Acoustique 92 Rueil-Malmaison ... France
Lafayette Radio Electronics Syosset ... NY
London Co Westlake ... Ohio
Lorch Electronics Corp Englewood ... N J
Marconi Instruments Div, English Electric Corp Englewood ... N J
Matsushita Communication Industrial Co Ltd Yokohama ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
McKee-Pedersen Instruments Danville ... Cal
Measurement Control Devices Inc Philadelphia ... Pa
Measurements A McGraw-Edison Div Boonton ... N J
Meguro Denpa Sokki K K Meguro-ku, Tokyo ... Japan
Melpar Inc, Special Prods Dept Falls Church ... Va
Metric Engineering Div Greenray Indus Inc Mechanicsburg ... Pa
NH Research Inc Santa Ana ... Cal
Nippon Electric Co Ltd Tokyo ... Japan
Northeast Electronics Corp Concord ... N H
Oki Electric Industry Co Ltd Tokyo ... Japan
Optimation, Inc Sun Valley ... Cal
Philips Electronic Instruments, Test & Measuring Inst Mount Vernon ... NY
Princeton Applied Research Corp Princeton ... N J
Racal Electronics Ltd Bracknell Berks ... England
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
Radio Corp of America, Electronic Components Harrison ... N J
Riverbank Labs, Dept of Engrg Geneva ... Ill
Rohde & Schwarz Sales Co USA Inc Passaic ... N J
Siemens America Inc New York ... N Y
Simplex Time Recorder Co Gardner ... Mass
Singer Co Instr Div Ballantine Oper Boonton ... N J
Sodilec SA Salies-S A 91 Palaiseau ... France
Solartron Electronic Group Ltd Farnbrough ... England
Spectral Dynamics Corp of San Diego San Diego ... Cal
Standard Telephones & Cables Ltd London WC 2 ... England
Sunshine Scientific Instruments Inc Philadelphia ... Pa
Systron-Donner Corp Concord ... Cal
Taffet Electronics Inc Woodside ... N Y
Tecnica Elettronica Systems S a s Milan ... Italy
Tele-Signal Corp Sub Singer Co Woodbury ... N Y
Telonic Instruments Div Telonic Indus Inc Beech Grove ... Ind
Telstar Electronics Corp Southold ... N Y
Texscan Corp Indianapolis ... Ind
United Recording Electronics Industries North Hollywood ... Cal
Venner Electronics Ltd New Malden, Surrey ... Eng
Wandel & Goltermann, W & G Instr Inc Hanover ... N J
Waveforms North Hollywood ... Cal
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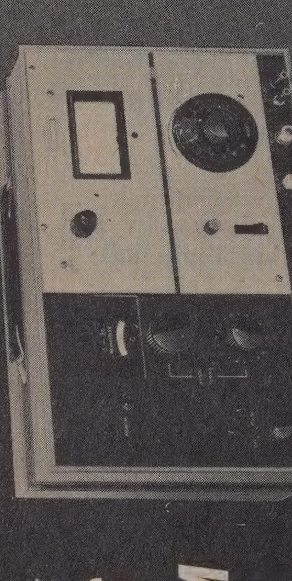
SIGNAL GENERATORS FOR AM & FM TO 1000 MHz



MODELS 180 & 180R AM Signal Generators provide for fast, precise alignment of complex RF radio and TV circuitry. Model 180 covers 2 to 400 MHz; Model 180R:5 to 475 MHz. Direct reading scales and dials, and individually calibrated frequency dials. Manual or automatic controls provide accurate output voltages at all levels. Solid state supply delivers regulated voltage to oscillator. Provision for external pulse modulator. Convenient stacking or rack mounting panels.

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TELEPHONE: (201) 334-2131

McGRAW EDISON

GENERATORS, SIGNAL—A-M, F-M

HEATH CO BENTON HARBOR . . . . MICH
HEWLETT-PACKARD PALO ALTO . . . . CAL
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON N J . . . . ADV PG 284
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SYSTRON-DONNER CORP CONCORD . . . . CAL
TEXSCAN CORP INDIANAPOLIS . . . . IND
Advanced Measurement Instruments, Inc Somerville . . . . Mass
Advance Electronics Ltd Ilford Essex . . . . England
Allen Aircraft Radio Inc Elk Grove Village Ill
Astrodata Inc Anaheim . . . . Cal
Avo Ltd Dover Kent . . . . England
Canoga Industries Los Angeles . . . . Cal
Compagnie Generale de Metrologie Haute Savoie . . . . . France
Cushman Electronics Inc Sunnyvale . . . . Cal
Data Measurements Corp Palo Alto . . . . Cal
Dawe Instruments Ltd London W3 . . . . England
Denson Electronics Corp Rockville . . . . Conn
Dowa Trading Co Ltd Kobe . . . . Japan
EICO Electronic Instrument Co Inc Brooklyn . . . . NY
General Dynamics, Electronics Div Rochester . . . . N Y
General Radio Co West Concord . . . . Mass
Heath Co Benton Harbor . . . . Mich
Hewlett-Packard Palo Alto . . . . Cal
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Hickok Teaching Systems Inc Woburn . . . . Mass
Intercontinental Electronics Corp East Rochester . . . . N Y
London Co Westlake . . . . Ohio
Marconi Instruments Div, English Electric Corp Englewood . . . . N J
Matsushita Communication Industrial Co Ltd Yokohama . . . . Japan
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Measurements A McGraw-Edison Div Boonton . . . . N J
Meguro Denpa Sokki K K Meguro-ku, Tokyo . . . . Japan
New London Instr Co Div Crescent Comm Corp Newton . . Mass
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Racal Electronics Ltd Bracknell Berks . . . . England
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Radio Research Co Rockaway . . . . NJ
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Schlumberger Overseas Messgerate 8000 Munich . W Germany
Singer Co Instrumentation Div Bridgeport . . . . Conn
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Systron-Donner Corp Concord . . . . Cal
Tecnica Elettronica Systems S a s Milan . . . . Italy
Tel-Instrument Electronics Corp Carlstadt . . . . N J
Telonic Instruments Div Telonic Indus Inc Beech Grove . . . . Ind
Texscan Corp Indianapolis . . . . Ind
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
Wiltron Co Palo Alto . . . . Cal

GENERATORS, SIGNAL—COLOR TV, BAR

HEATH CO BENTON HARBOR . . . . MICH
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
TEKTRONIX INC BEAVERTON . . . . ORE
B & K Mfg Co Div Dynascan Corp Chicago Ill
Cohu Electronics Inc San Diego . . . . Cal
Compagnie Generale de Metrologie Haute Savoie . . . . . France
Dalto Electronics Corp Norwood . . . . N J
Dawe Instruments Ltd London W3 . . . . England
Denson Electronics Corp Rockville . . . . Conn
Dowa Trading Co Ltd Kobe . . . . Japan
EICO Electronic Instrument Co Inc Brooklyn . . . . NY
Heath Co Benton Harbor . . . . Mich
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Lectrotech, Inc Chicago Ill
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
Matsushita Communication Industrial Co Ltd Yokohama . . . . Japan
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Nippon Electric Co Ltd Tokyo . . . . Japan
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Radio Corp of America, Electronic Components Harrison . . N J
Riker Video Inc Hauppauge . . . . N Y
RIL Electronics Inc Southampton . . . . Pa
Robertson Instrument Co Azusa . . . . Cal
Schneider Radio-Television Div Ivry . . . . France
Sencore Inc Addison Ill
Shiba Electric Co Ltd Woodside . . . . N Y
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Tecnica Elettronica Systems S a s Milan . . . . Italy
Tektronix Inc Beaverton . . . . Ore
Tele Measurements Inc Clifton . . . . N J
Telemet Co, Video Prods & Airborne Telemetry Amityville . N Y
Tel-Instrument Electronics Corp Carlstadt . . . . N J
Wavetek San Diego . . . . Cal

GENERATORS, SIGNAL—COLOR TV, DOT

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HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
B & K Mfg Co Div Dynascan Corp Chicago Ill
Canoga Industries Los Angeles . . . . Cal
Cohu Electronics Inc San Diego . . . . Cal
Compagnie Generale de Metrologie Haute Savoie . . . . . France
Dalto Electronics Corp Norwood . . . . N J
Dawe Instruments Ltd London W3 . . . . England
Dowa Trading Co Ltd Kobe . . . . Japan
EICO Electronic Instrument Co Inc Brooklyn . . . . NY
Heath Co Benton Harbor . . . . Mich
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Inelco S p A Tavernerio . . . . Italy
Lectrotech, Inc Chicago Ill
Marconi Co Ltd Chelmsford . . . . Englan
Matsushita Communication Industrial Co Ltd Yokohama . . . . Japa
Matsushita Electric Industrial Co Ltd Osaka . . . . Japa
Nippon Electric Co Ltd Tokyo . . . . Japa
Radio Corp of America, Comml Elctn Prods Div Camden . . N
Radio Corp of America, Electronic Components Harrison . . N
Research Industrolectronics Roslyn . . . . P
Riker Video Inc Hauppauge . . . . N
RIL Electronics Inc Southampton . . . . P
Robertson Instrument Co Azusa C
Sencore Inc Addison . . . .
Shiba Electric Co Ltd Woodside . . . . N
Sunshine Scientific Instruments Inc Philadelphia . . . . P
Tecnica Elettronica Systems S a s Milan . . . . Ita
Tele Measurements Inc Clifton . . . . N
Telemet Co, Video Prods & Airborne Telemetry Amityville . N
Tel-Instrument Electronics Corp Carlstadt . . . . N

GENERATORS, SIGNAL—F-M

HEATH CO BENTON HARBOR . . . . MIC
HEWLETT-PACKARD PALO ALTO . . . . CA
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHI
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON . . N
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPA
SYSTRON-DONNER CORP CONCORD . . . . CA
TEXSCAN CORP INDIANAPOLIS . . . . IN
Advanced Measurement Instruments, Inc Somerville . . . . Ma
Allen Aircraft Radio Inc Elk Grove Village . . . .
Ando Electric Co Ltd Ohta-ku, Tokyo . . . . Japa
Astro Communication Lab Div Aiken Industries Gaithersburg . . . . M
Babcock Electronic Corp Costa Mesa C
Calbest Electronics Los Angeles C
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . O
Compagnie Generale de Metrologie Haute Savoie . . . . . Fran
Cushman Electronics Inc Sunnyvale C
Data Measurements Corp Palo Alto C
Data Royal Corp San Diego C
Dawe Instruments Ltd London W3 . . . . Engla
Decitron Electronics Corp Brooklyn . . . . N
Dowa Trading Co Ltd Kobe . . . . Jap
EICO Electronic Instrument Co Inc Brooklyn . . . . N
Exact Electronics Inc Hillsboro . . . . O
General Dynamics, Electronics Div Rochester . . . . N
General Microwave Corp Farmingdale . . . . N
Heath Co Benton Harbor . . . . Mi
Hewlett-Packard Palo Alto . . . .
Hickok Electrical Instrument Co Cleveland . . . . O
Intercontinental Electronics Corp East Rochester . . . . . . N
Karg Labs Inc South Norwalk . . . . Co
Kay Electric Co Pine Brook . . . .
London Co Westlake . . . . O
Lorch Electronics Corp Englewood . . . .
Marconi Instruments Div, English Electric Corp Englewood . . . .
Matsushita Electric Industrial Co Ltd Osaka . . . . Ja
Measurements A McGraw-Edison Div Boonton . . . .
Meguro Denpa Sokki K K Meguro-ku, Tokyo . . . . Ja
Microdot, Inc South Pasadena . . . .
Motorola Communications & Electronics Inc Chicago . . . . .
New London Instrument Co New London C
New London Instr Co Div Crescent Comm Corp Newton . . M
Nippon Electric Co Ltd Tokyo . . . . Ja
Oki Electric Industry Co Ltd Tokyo . . . . Ja
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . .
Piezo Technology Inc Orlando . . . .
Racal Electronics Ltd Bracknell Berks . . . . Engl
Radio Corp of America, Comml Elctn Prods Div Camden . .
Radio Corp of America, Electronic Components Harrison . .
Radio Research Co Rockaway . . . .
R F Communications Inc Rochester . . . .
Rohde & Schwarz Sales Co USA Inc Passaic . . . .
Scott Inc, H H Maynard . . . . M
Singer Co Instrumentation Div Bridgeport C
Singer Co Instru Div Gertsch Oper Los Angeles . . . .
Sunshine Scientific Instruments Inc Philadelphia . . . .
Systron-Donner Corp Concord . . . .
Tecnica Elettronica Systems S a s Milan I
Tel-Instrument Electronics Corp Carlstadt . . . .
Telonic Instruments Div Telonic Indus Inc Beech Grove . . .
Texscan Corp Indianapolis . . . .
Transystems Electronic Co Fort Lee . . . .
Wavetek San Diego . . . .

GENERATORS, SIGNAL—MARKER

FORK STANDARDS INC WEST CHICAGO . . . .
HEATH CO BENTON HARBOR . . . . M
HEWLETT-PACKARD PALO ALTO . . . .
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . O
TEKTRONIX INC BEAVERTON . . . .
ZETA LABORATORIES INC MOUNTAIN VIEW . . . .
Accutronics, Inc Geneva . . . .
Advance Electronics Ltd Ilford Essex . . . . Eng
Allen Aircraft Radio Inc Elk Grove Village . . . .
B F Electronics Solana Beach . . . .
B & K Mfg Co Div Dynascan Corp Chicago . . . .
Blonder-Tongue Labs Inc Newark . . . .
Carol Electronics Div Weeco Inc Martinsburg V
Compagnie Generale de Metrologie Haute Savoie . . . . . Fr
Dawe Instruments Ltd London W3 . . . . Eng
Decitron Electronics Corp Brooklyn . . . .
Dero Research & Devel Corp Huntington . . . .
Dowa Trading Co Ltd Kobe . . . . J
DuMont Oscilloscope Labs Inc West Caldwell . . . .
E-H Research Labs Inc Oakland . . . .
Electro-Data Inc Garland . . . .
Fork Standards Inc West Chicago . . . .
General Radio Co West Concord . . . .
Heath Co Benton Harbor . . . .
Hewlett-Packard Palo Alto . . . .
Hickok Electrical Instrument Co Cleveland . . . .
Kay Electric Co Pine Brook . . . .
Matsushita Electric Industrial Co Ltd Osaka . . . . J

Micronetics Div Teledyne Systems Co San Diego ....Cal
Microwave/Systems Inc East Syracuse ....N Y
Radio Corp of America, Electronic Components Harrison ..N J
Shiba Electric Co Ltd Woodside ....N Y
Spectran Electronics Div Novatronics Inc Pompano Beach .Fla
Squires-Sanders Inc Liberty Corner ....N J
Standard Telephones & Cables Ltd London WC 2 ....England
Sunshine Scientific Instruments Inc Philadelphia ....Pa
Taffet Electronics Inc Woodside ....N Y
Tecnica Elettronica Systems S a s Milan ....Italy
Tektronix Inc Beaverton ....Ore
Tel-Instrument Electronics Corp Carlstadt ....N J
Telonic Engineering Co Div Telonic Indus Inc
  Laguna Beach.................................Cal
Telonic Instruments Div Telonic Indus Inc Beech Grove ....Ind
Weitermann Electronics Milwaukee ....Wis
Zeta Laboratories Inc Mountain View ....Cal

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ANRITSU ELECTRIC CO LTD TOKYO..............JAPAN
HEWLETT-PACKARD PALO ALTO...................CAL
MICROWAVE CAVITY LABS DIV KMS INDUS INC
** LA GRANGE ILL ....ADV PGS 104,105**
NIPPON ELECTRIC CO LTD TOKYO ....JAPAN
SERVO CORP OF AMERICA HICKSVILLE N Y ....ADV PG 285
SYSTRON-DONNER CORP CONCORD ....CAL
TEXSCAN CORP INDIANAPOLIS...................IND
WEINSCHEL ENGINEERING CO INC GAITHERSBURG .....MD
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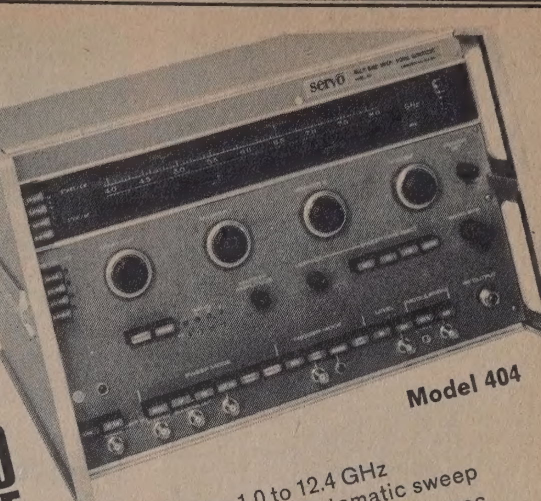
Airborne Instruments Lab, Div Cutler-Hammer Inc
  Deer Park ....N Y
Alfred Electronics Palo Alto ....Cal
Allen Aircraft Radio Inc Elk Grove Village Ill
Anritsu Electric Co Ltd Tokyo ....Japan
Applied Microwave Lab, Inc Andover ....Mass
Applied Research, Inc Port Washington ....N Y
Bomac Div Varian Associates Beverly ....Mass
Canoga Industries Los Angeles ....Cal
Carol Electronics Div Weeco Inc Martinsburg ....W Va
Cober Electronics Inc Stamford ....Conn
Cosmos Industries Inc Brooklyn ....N Y
Decitron Electronics Corp Brooklyn..................N Y
Dero Research & Devel Corp Huntington ....N Y
Dowa Trading Co Ltd Kobe ....Japan
Edwin Industries Corp Silver Spring ....Md
Electro-Data Inc Garland..........................Tex
Engineering Associates Dayton ....Ohio
Epsco Inc Westwood ....Mass
Frequency Engineering Labs Farmingdale ....N J
General Dynamics, Electronics Div Rochester ....N Y
General Microwave Corp Farmingdale ....N Y
General Radio Co West Concord ....Mass
Harris-Intertype Corp Cleveland ....Ohio
Hewlett-Packard Palo Alto ....Cal
Hickok Teaching Systems Inc Woburn ....Mass
Kay Electric Co Pine Brook ....N J
Kruse-Storke Electronics Mountain View ....Cal
Litton Industries, Electron Tube Div San Carlos ....Cal
Marconi Instruments Div, English Electric Corp
  Englewood ....N J
MCS Corp Monrovia ....Cal
Microdot, Inc South Pasadena ....Cal
Micronetics Div Teledyne Systems Co San Diego ....Cal
Micro-Now Instrument Co Inc Chicago Ill
Micro Power Inc Long Island City ....N Y
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights ....Mass
Microwave/Systems Inc East Syracuse ....N Y
Motorola, Govt Electronics Div Scottsdale ....Ariz
Narda Microwave Corp Plainview ....N Y
New London Instr Co Div Crescent Comm Corp Newton ..Mass
Nippon Electric Co Ltd Tokyo ....Japan
Oki Electric Industry Co Ltd Tokyo ....Japan
Philco-Ford Corp Washington.......................D C
PRD Electronics Inc, Sub H-I Corp Westbury ....N Y
Racal Electronics Ltd Bracknell Berks ....England
Resdel Engineering Corp Pasadena ....Cal
Rohde & Schwarz Sales Co USA Inc Passaic ....N J
Sanders Assoc Inc, Microwave Div Nashua ....N H
Schlumberger Overseas Messgerate 8000 Munich .W Germany
Servo Corp of America Hicksville....................N Y
Singer Co Instrumentation Div Bridgeport ....Conn
Smyth Research Associates San Diego.................Cal
Somerset Radiation Lab Inc Arlington ....Va
Standard Telephones & Cables Ltd London WC 2 ....England
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck ....N Y
Systron-Donner Corp Concord.......................Cal
Telonic Instruments Div Telonic Indus Inc Beech Grove ....Ind
Texscan Corp Indianapolis ....Ind
Ventron Instruments Corp Magnion Div Burlington .....Mass
Vitro Labs Div Vitro Corp of America W Orange.........N J
Weinschel Engineering Co Inc Gaithersburg ....Md

GENERATORS, SIGNAL—MICROWAVE, SWEEP

ANRITSU ELECTRIC CO LTD TOKYO..............JAPAN
HEWLETT-PACKARD PALO ALTO...................CAL
NIPPON ELECTRIC CO LTD TOKYO ....JAPAN
SERVO CORP OF AMERICA HICKSVILLE N Y ...ADV PG 285
SYSTRON-DONNER CORP CONCORD ....CAL
TEXSCAN CORP INDIANAPOLIS ....IND
Airborne Instruments Lab, Div Cutler-Hammer Inc
  Deer Park ....N Y
Alfred Electronics Palo Alto ....Cal
Anritsu Electric Co Ltd Tokyo......................Japan
Decitron Electronics Corp Brooklyn..................N Y
Dero Research & Devel Corp Huntington ....N Y
Dowa Trading Co Ltd Kobe ....Japan
E F Assoc Inc Scotch Plains ....N J
E-H Research Labs Inc Oakland ....Cal
Electro-Data Inc Garland..........................Tex
Engineering Associates Dayton ....Ohio
Epsco Inc Westwood ....Mass
General Dynamics, Electronics Div Rochester ....N Y
General Radio Co West Concord ....Mass
Harris-Intertype Corp Cleveland ....Ohio
Hewlett-Packard Palo Alto ....Cal
Jerrold Electronics Corp Philadelphia ....Pa
Kay Electric Co Pine Brook ....N J
Kruse-Storke Electronics Mountain View ....Cal
Microlab/F X R Livingston ....N J
Micronetics Div Teledyne Systems Co San Diego ....Cal
Micro Power Inc Long Island City ....N Y
Microwave/Systems Inc East Syracuse ....N Y
Narda Microwave Corp Plainview ....N Y
Nippon Electric Co Ltd Tokyo ....Japan
Philco-Ford Corp Washington.......................D C
Racal Electronics Ltd Bracknell Berks ....England
Rohde & Schwarz Sales Co USA Inc Passaic ....N J
Servo Corp of America Hicksville....................N Y
Systron-Donner Corp Concord.......................Cal
Telonic Instruments Div Telonic Indus Inc Beech Grove ....Ind
Texscan Corp Indianapolis..........................Ind
Wiltron Co Palo Alto ....Cal

GENERATORS, SIGNAL—PULSE (IMPULSE)

ANRITSU ELECTRIC CO LTD TOKYO JAPAN ...ADV PG 286
COMPUTER PRODUCTS INC FORT LAUDERDALE
** FLA ....ADV PG 487**
DRANETZ ENGINEERING LABS INC PLAINFIELD
** N J ....ADV PG 286**
FORK STANDARDS INC WEST CHICAGO ILL
G-V CONTROLS INC LIVINGSTON ....N J
HEWLETT-PACKARD PALO ALTO.....................CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER
** COLO ....ADV PG 8**
NIPPON ELECTRIC CO LTD TOKYO ....JAPAN
SCIENTIFIC-ATLANTA INC ATLANTA ....GA
SIEMENS AMERICA INC NEW YORK ....N Y
SYSTRON-DONNER CORP CONCORD CAL .....ADV PG 285
TEKTRONIX INC BEAVERTON ....ORE
TOBE DEUTSCHMANN LABS INC CANTON ....MASS
UNIVERSAL VOLTRONICS CORP MOUNT KISCO ....N Y
VEGA PRECISION LABS VIENNA ....VA
Abtronics, Inc Livermore...........................Cal
Adar Associates Inc Cambridge ....Mass
Advanced Technology Corp Chambersburg ....Pa
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ......U K
Amerac, Inc Beverly ....Mass
American Time Products, Elctns Div Bulova Watch Co Inc
  Woodside ....N Y
Ando Electric Co Ltd Ohta-ku, Tokyo ....Japan
Applied Electronics Burlingame ....Cal
Applied Microwave Lab, Inc Andover ....Mass
Argonaut Associates, Inc Beaverton ....Ore
Ark Electronics Corp Willow Grove ....Pa
Automation Development Co Culver City ....Cal



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- Covers from 1.0 to 12.4 GHz in one continuous, automatic sweep
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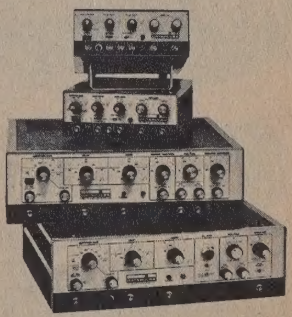

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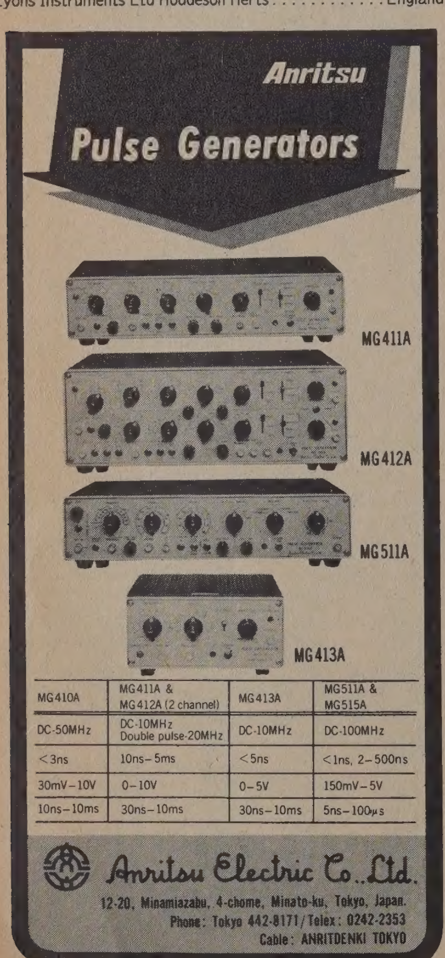

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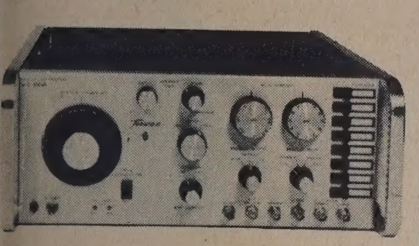

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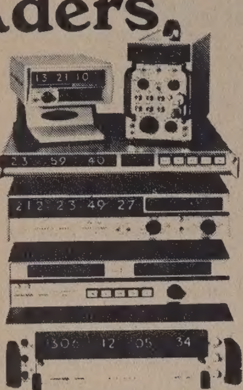

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A V Electronics, Inc Fresno . . . . Cal
Barringer Research Ltd Rexdale 605 . . . . Ont
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica . . Cal
Canadian Research Institute Don Mills . . . . Ont
Chemalloy Electronics Corp Santee . . . . Cal
Chesapeake Instrument Corp Shadyside . . . . Md
Cryogenic Research Co Inc Boulder . . . . Colo
Dresser Systems, Inc Houston . . . . Tex
Dyna Metric Inc Pasadena . . . . Cal
E G & G Int'l Inc Geodyne Div Waltham . . . . Mass
Electro-Mechanics Co Austin . . . . Tex
Electronics Communications Div Atlantic Research Corp Alexandria . . . . Va
Electro-Technical Labs Div Mandrel Indus Inc Houston . . . Tex
Eppley Lab Inc Newport . . . . R I
GCA Technology Div GCA Corp Bedford . . . . Mass
General Oceonology Inc Cambridge . . . . Mass
Geodyne Div EG&G Int'l Waltham . . . . Mass
Geophysical Instrument Co Div Georator Corp Manassas . . . Va
Geo Space Corp Houston . . . . Tex
Geotech A Teledyne Co Garland . . . . Tex
Hastings-Raydist A Teledyne Co Hampton . . . . Va
Ikor, Inc Burlington . . . . Mass
Ithaco Inc Ithaca . . . . N Y
ITT Decca Marine Inc New York . . . . NY
Johnston Labs, Inc Cockeysville . . . . Md
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Kelk Ltd, George Don Mills . . . . Ont
Leach Corp South Pasadena . . . . Cal
Mandrel Industries Inc Houston . . . . Tex
Nuclear Enterprises Ltd Edinburgh . . . . Scotland
Nuclide Corp, AGV Div Acton . . . . Mass
Pioneer Instrument Inc Hanover . . . . Mass
Rockland Labs Inc Blauvelt . . . . N Y
Sharpe Instruments Div Scintrex Inc Tonawanda . . . . N Y
Spectrum Instruments Inc Tuckahoe . . . . N Y
Sprengnether Instrument Co Inc, W F St Louis . . . . Mo
States Electronics Corp, Bludworth Marine Div Linden . . . . N J
Tensitron Inc Harvard . . . . Mass
Texas Instruments Incorporated Dallas . . . . Tex
Texas Instruments Inc Indl Prods Div Houston . . . . Tex
Thermionic Products Electronics Ltd Southampton . . . England
Towner Systems Co Alameda . . . . Cal
Varian Palo Alto . . . . Cal

GERMANIUM

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN . . . . MO
Aceto Chemical Co, Inc Flushing . . . . NY
Active Alloys, Inc Elizabeth . . . . N J
Alpha Metals Inc Jersey City . . . . NJ
Anchor Alloys Inc Brooklyn . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights . . . . NY
Bram Metallurgical Chemical Co Philadelphia . . . . Pa
Cerac Inc Butler . . . . Wis
Corco Chemical Corp Fairless Hills . . . . Pa
Eagle-Picher Industries Inc, Electronics Div Joplin . . . . Mo
General Optics Inc Bloomfield . . . . N J
Geoscience Instruments Corp Mt Vernon . . . . N Y
Industrial Optics Div Yardney Razdow Labs Newark . . . . . . N J
Jones Optical Works Inc A D Burlington . . . . Mass
Kawecki Berylco Industries Inc New York . . . . N Y
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks . . . . England
Laser Optics Inc Danbury . . . . Conn
Mackay Inc, A D New York . . . . N Y
Metal Ceram Inc Mount Vernon . . . . N Y
NPC Electronics Canoga Park . . . . Cal
Polysciences Inc Warrington . . . . Pa
Recticon Corp Conshohocken . . . . Pa
Roosevelt Metal Co Inc Brooklyn . . . . N Y
Sanyo Electric Co Ltd Osaka . . . . Japan
Semi-Alloys Inc Mt Vernon . . . . N Y
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Semi-Elements Inc Saxonburg . . . . Pa
Semimetals Inc Westbury . . . . N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda . . . . . . Pa
United American Metals Div Brooklyn . . . . N Y
United Mineral & Chemical Corp New York . . . . N Y
Var-Lac-Oid Chemical Co Elizabeth . . . . N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa
Wacker Chemical Corp New York . . . . N Y

GERMANIUM CRYSTALS

***See* Crystals—Semiconductor**

GERMANIUM DIODES

***See* Diodes**

GERMANIUM RECTIFIERS

***See* Rectifiers**

GERMANIUM TRANSISTORS

***See* Transistors**

GETTERS

Bram Metallurgical Chemical Co Philadelphia . . . . P
Cryogenic Engineering Co Denver . . . . Co
Griffiths Electronics Inc Linden . . . . N
King Laboratories Inc Syracuse . . . . N
Metal Ceram Inc Mount Vernon . . . . N
Norton Co Vacuum Equip Div Newton . . . . Ma
Nuclear Materials & Equipment Corp Apollo . . . . P
Ronson Metals Corp Newark . . . . N
SAES Getters SpA Milano . . . . Ita
Semi-Alloys Inc Mt Vernon . . . . N
Union Carbide Corp, Electronics Div, Compnts Dept Greenville . . . . S
Ventron Corp. Metal Chemicals Div. Beverly . . . . Ma

GLASS & GLASS PARTS

DABURN ELECTRONICS & CABLE CORP BRONX . . . . . . N
Aremco Products Inc Briarcliff Manor . . . . N
Atlantic Optical Moulding Co Dudley . . . . Ma
Bausch & Lomb Inc Rochester . . . . N
Bentley-Harris Mfg Co Conshohocken . . . .
Black Light Corp of America San Gabriel C
Broomer Research Corp Plainview . . . . N
Carler Products Corp E Syracuse . . . . N
Corning Glass Works Corning . . . . N
Daburn Electronics & Cable Corp Bronx . . . . N
Eastman Kodak Co Rochester . . . . N
Fischer & Porter Co Warminster . . . .
Fish-Schurman Corp New Rochelle . . . . N
Friedrich & Dimmock, Inc Mays Landing . . . . N
Fusite Corp Cincinnati . . . . O
Gaertner Scientific Corp Chicago . . . .
Garner Glass Co Claremont . . . .
General Optics Inc Bloomfield . . . .
Griffiths Electronics Inc Linden . . . .
Grimes Mfg Co Urbana . . . . O
GTI Corp Meadville . . . .
Hanibal Glass, Inc Santa Ana . . . .
Haydu Products Inc Opa Locka . . . .
Hexcel Dublin . . . .
Industrial Optics Div Yardney Razdow Labs Newark . . . . .
Interman Industrial Products Ltd Garden City . . . .
International Laser Systems Inc Orlando . . . .
Jersey Technical Consultants Morristown . . . .
Kahl Scientific Instrument Corp El Cajon . . . .
Kontes Glass Co Vineland . . . .
Lancaster Glass Corp Lancaster . . . . O
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge . . .
Livingston Electronic Div Jettron Prods Inc Hanover . . . . .
Metal Ceram Inc Mount Vernon . . . .
Metaplast Electrochemicals Corp Bronx . . . .
Mindrum Precision Products Cucamonga . . . .
Mitronics Inc Murray Hill . . . .
O & S Research Inc Riverton . . . .
Owens-Illinois Consumer & Tech Products Div Toledo . . . .
Pacific Universal Products Corp Pasadena . . . .
PPG Industries Pittsburgh . . . .
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine . . . . Fra
Razdow Labs Inc Newark . . . .
Semi-Alloys Inc Mt Vernon . . . .
Semiconductor Specialties Corp Fair Lawn . . . .
Sovcor Electronique Le Vesinet 78 . . . . Fra
Space Rays Inc Burlington . . . . M
Syncor Products Co, Inc Malden . . . . M
Systems Research Labs Inc Dayton . . . .
Technical Wire Products Inc Cranford . . . .
Topper Plastics Inc Covina . . . .
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . Eng
Ultra-Violet Products Inc San Gabriel . . . .
Veritron West Inc Chatsworth . . . .
Vitta Corp Wilton . . . .
Wilmad Glass Co Inc Buena . . . .
Zenith Optical Laboratory Dobbs Ferry . . . .

GLASS ANNEALERS

***See* Ovens**

GLASS-BONDED MICA

***See* Mica**

GLASS-INSULATED WIRE

***See* Wire—High-Temperature**

GLASS-METAL SEALS

***See* Seals—Metal-To-Glass**

GLASS REINFORCED LAMINATES

***See* Laminates—Copper-Clad**

GLASS-WORKING MACHINES

***See* Machines—Glass-Working**

GLOVE BOXES

Advanced Purification System Co Inc Great Neck . . . . .
Air Control Inc Norristown . . . .
Baker Co, Inc Biddeford . . . .
Clean Room Products Inc Farmingdale . . . .
Cole-Parmer Instrument Co Chicago . . . .
Edcraft Industries Inc Linden . . . .

ibre Products Div Ikelheimer-Ernst Inc New York . . . . . . N Y
orma Scientific Inc Marietta . . . . Ohio
amilton Mfg Co Div Amer Hospital Supply Corp Two Rivers . . . . Wis
ewaunee Scientific Equipment Adrian . . . . Mich
irk & Blum Mfg Co Cincinnati . . . . Ohio
ulicke & Soffa Industries Inc Fort Washington . . . . Pa
latthews Research Inc Alexandria . . . . Va
II Laboratory Furniture Inc Hicksville . . . . N Y
uclear Equipment Chemical Corp Farmingdale . . . . N Y
ure Aire Corp of America Van Nuys . . . . Cal
amney Industries Corp Farmingdale . . . . N J
ay Products Inc Alhambra . . . . Cal
echni-Tool Inc Philadelphia . . . . Pa
-M Vacuum Products Riverton . . . . N J
acuum/Atmospheres Corp N Hollywood . . . . Cal
acuum Industries Inc Sub GCA Corp Somerville . . . . Mass

LOVES—DRY BOX

besto Corp Bloomfield . . . . N J
dvanced Purification System Co Inc Great Neck . . . . N Y
ir Control Inc Norristown . . . . Pa
lean Room Products Inc Farmingdale . . . . N Y
ole-Parmer Instrument Co Chicago Ill
dcraft Industries Inc Linden . . . . N J
dmont-Wilson Coshocton . . . . Ohio
orma Scientific Inc Marietta . . . . Ohio
eneral Scientific Equipment Co Philadelphia . . . . Pa
oodrich Industrial Prods Co, B F Akron . . . . Ohio
ewaunee Scientific Equipment Adrian . . . . Mich
lann Co, Henry Cornwell Heights . . . . Pa
latthews Research Inc Alexandria . . . . Va
linor Rubber Co Inc Bloomfield . . . . N J
uclear Equipment Chemical Corp Farmingdale . . . . N Y
amney Industries Corp Farmingdale . . . . N J
tandard Glove Co of N J Inc Newark . . . . N J
echni-Tool Inc Philadelphia . . . . Pa
envac, Inc Pembroke . . . . Mass
acuum/Atmospheres Corp N Hollywood . . . . Cal
acuum Industries Inc Sub GCA Corp Somerville . . . . Mass

OLD & GOLD ALLOYS—SHEETS, BARS & RODS

EARBORN WIRE & CABLE CO CHICAGO ILL
ATIONAL LEAD CO NEW YORK . . . . N Y
EY CO, J M BLOOMFIELD . . . . CONN
ECHNIC INC CRANSTON . . . . RI
ALL CO, A T WARWICK . . . . RI
ILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO . . . . N Y
lpha Metals Inc Jersey City . . . . NJ
merican Chemical & Refining Co Waterbury . . . . Conn
merican Metal Climax Inc New York . . . . N Y
merican Silver Co Div Flushing . . . . N Y
nchor Alloys Inc Brooklyn . . . . N Y
nchor Metal Co, Inc Div Brooklyn . . . . N Y
rainin Corp Mt Vernon . . . . NY
ram Metallurgical Chemical Co Philadelphia . . . . Pa
ambridge Plating Co Inc Belmont . . . . Mass
erro Corp New York . . . . NY
ominco American Inc Electronic Matls Div Spokane . . . Wash
onsolidated Reactive Metals Inc Mamaroneck . . . . N Y
earborn Wire & Cable Co Chicago Ill
astern Smelting & Refining Corp Lynn . . . . Mass
lectronic Space Products Inc Los Angeles . . . . Cal
ngelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark . . . . N J
idelity Chemical Products Corp Newark . . . . N J
andy & Harman New York . . . . N Y
nproved Seamless Wire Co Providence . . . . R I
ohnson Matthey & Mallory Ltd Toronto 15 . . . . Ont
och Light Labs Ltd Colnbrook, Bucks . . . . England
each & Garner Co, Industrial Div Attleboro . . . . Mass
ea-Ronal Inc Freeport . . . . N Y
lackay Inc, A D New York . . . . N Y
laterials Research Corp Orangeburg . . . . N Y
latthey Bishop Inc Malvern . . . . Pa
letal Ceram Inc Mount Vernon . . . . N Y
letz Refining Co South Plainfield . . . . N J
ational Lead Co New York . . . . N Y
ey Co, J M Bloomfield . . . . Conn
oosevelt Metal Co Inc Brooklyn . . . . N Y
emi-Alloys Inc Mt Vernon . . . . N Y
emi-Elements Inc Saxonburg . . . . Pa
immons Refining Corp Chicago Ill
tandard Metals Div Edw N Cook Plate Co Inc North Attleboro . . . . Mass
echnic Inc Cranston . . . . RI
echni-Tool Inc Philadelphia . . . . Pa
nited American Metals Div Brooklyn . . . . N Y
nited Mineral & Chemical Corp New York . . . . N Y
nited Refining & Smelting Co Franklin Park Ill
ar-Lac-Oid Chemical Co Elizabeth . . . . N J
entron Electronics Corp, Controls/Matls Div Bradford . . . Pa
itta Corp Wilton . . . . Conn
all Co, A T Warwick . . . . RI
estern Gold & Platinum Co Belmont . . . . Cal
ilkinson Co Westlake Village . . . . Cal
illiams Gold Refining Co Inc Precious Metals Div Buffalo . N Y

OLD-PLATING

***See* Plating Services**

OLD PREFORMS

***See* Preforms**

OLD TUBING

***See* Tubing—Metallic**

GOLD WIRE

***See* Wire—Bare**

GONIOMETERS

THETA INSTRUMENT CORP FAIRFIELD . . . . N J
Baldwin Electronics Inc Little Rock . . . . Ark
Cedar Div Control Data Corp Minneapolis . . . . Minn
Clean Room Products Inc Farmingdale . . . . N Y
Electro-Mec Instrument Corp Watertown . . . . Conn
Electronics & Alloys Inc Englewood . . . . N J
Engis Equipment Co Morton Grove Ill
Gaertner Scientific Corp Chicago Ill
LaPine Scientific Co Chicago Ill
Metox Paris 20 . . . . France
Nilsen Mfg Co Haines City . . . . Fla
Perkin-Elmer Corp, Optical Group Norwalk . . . . Conn
Picker Nuclear White Plains . . . . N Y
Scherr Tumico Inc St James . . . . Minn
Singer Co, Diehl Div Somerville . . . . N J
States Electronics Corp, Bludworth Marine Div Linden . . . . N J
Stocker & Yale Inc Beverly . . . . Mass
Sunbeam Electronics Fort Lauderdale . . . . Fla
Theta Instrument Corp Fairfield . . . . N J
Thomson-CSF 78 Versailles . . . . France
Wilcox Electric Co Kansas City . . . . Mo
Wilks Scientific Corp South Norwalk . . . . Conn
Zeiss Inc, Carl New York . . . . N Y

GOVERNORS—MOTOR

***See* Controls—Motor Speed**

GRAPHIC RECORDERS

***See* Recorders—Graphic**

GRAPHITE

STACKPOLE CARBON CO, ELECTRONIC COMPONENTS DIV ST MARYS . . . . PA
Acheson Colloids Co Port Huron . . . . Mich
Aremco Products Inc Briarcliff Manor . . . . N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place . . . . N Y
Bel-Ray Co, Inc Farmingdale . . . . N J
Bemol Corp Newton . . . . Mass
Carbone Corp Boonton . . . . N J
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park . . . . N J
Electrofilm, Inc North Hollywood . . . . Cal
Grafo Colloids Corp Sharon . . . . Pa
Kawecki Berylco Industries Inc New York . . . . N Y
Mackay Inc, A D New York . . . . N Y
Metal Ceram Inc Mount Vernon . . . . N Y
Met-Bay Inc Bay City . . . . Mich
3M Company St Paul . . . . Minn
Ohio Carbon Co Cleveland . . . . Ohio
Pfizer Minerals, Pigments & Metals Div New York . . . . NY
Poco Graphite, Inc Garland . . . . Tex
Semi-Alloys Inc Mt Vernon . . . . N Y
Stackpole Carbon Co, Electronic Components Div St Marys . . . . Pa
Ultra Carbon Corp Bay City . . . . Mich
Union Carbide Corp, Carbon Products Div New York . . . . . N Y

GREASES—LUBRICATING

***See* Lubricants: Silicones**

GRID-DIP METERS

***See* Meters—Frequency**

GROMMETS

FEDERAL SCREW PRODUCTS INC CHICAGO ILL
Abbott Products, Inc College Point . . . . N Y
Abesto Corp Bloomfield . . . . N J
Abscoa Industries Inglewood . . . . Cal
Allmetal Screw Products Co Inc Garden City . . . . N Y
Amatom Electronic Hardware New Rochelle . . . . N Y
Anaconda American Brass Co Waterbury . . . . Conn
Baer Co, N S Hillside . . . . N J
Barry Controls Div Barry Wright Corp Watertown . . . . . . Mass
Bendix Corp Rubber Prods Plant Toledo . . . . Ohio
Budwig Mfg Co Ramona . . . . Cal
Chase Metals Service Div Chase Brass & Copper Co Cleveland . . . . Ohio
Chemelec Products, Inc Cherry Hill . . . . N J
Cinch-Monadnock City of Industry . . . . Cal
Clover Industries Div GTI Corp Tonawanda . . . . N Y
Crane Packing Co Morton Grove Ill
Eagle Electric Mfg Co Inc Long Island City . . . . N Y
Electrovert Inc Mt Vernon . . . . N Y
Eljay Corp Columbia . . . . Md
Ethylene Corp Murray Hill . . . . N J
Fastex Div Illinois Tool Works Des Plaines Ill
Federal Screw Products Inc Chicago Ill
Fel Pro Inc Div Felt Products Mfg Co Skokie Ill
Fischer Special Mfg Co Cincinnati . . . . Ohio
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
G C Electronics Div, Hydrometals Inc Rockford Ill
Heyman Mfg Co Kenilworth . . . . N J
Ideal-Hellerman Canada Ltd Ajax . . . . Ontario
Insulating Shapes Inc Bronx . . . . N Y
Lord Mfg Co, Div Lord Corp Erie . . . . Pa
Mechanical Rubber Products Co, Inc Warwick . . . . NY
Minor Rubber Co Inc Bloomfield . . . . N J

Moxness Products Inc Racine . . . . Wis
Norrich Plastics Corp Roosevelt . . . . N Y
Parker Metal Goods Co Worcester . . . . Mass
Penn Fibre & Specialty Co Philadelphia . . . . Pa
Plastiglide Mfg Corp Santa Monica . . . . Cal
Product Components Corp Hastings-on-Hudson . . . . N Y
Pylon Co, Inc Attleboro . . . . Mass
Richards Metal Products Inc Wolcott . . . . Conn
Russell Industries Inc Lynbrook . . . . N Y
Sanyo Electric Co Ltd Osaka . . . . Japan
Sealectro Corp Mamaroneck . . . . N Y
Segal Inc, Edward New York . . . . N Y
Severna Div Bunker-Ramo Corp Roseland . . . . N J
Shamban & Co, W S Los Angeles . . . . Cal
Smith Inc, Herman H Brooklyn . . . . N Y
Spaulding Fibre Co Inc Tonawanda . . . . N Y
Standard Polymer Inc Van Nuys . . . . Cal
Stimpson Co Inc, Edwin B Brooklyn . . . . N Y
Tekna Products Co Rochester . . . . N Y
USECO Div, Litton Industries Van Nuys . . . . Cal
USM Corp, Fastener Div Shelton . . . . Conn
Waldom Electronics Inc Chicago Ill
Waterbury Pressed Metal Co Waterbury . . . . Conn
Weckesser Co Inc Chicago Ill
Western Sky Industries Hayward . . . . Cal
Wilmington Fibre Specialty Co New Castle . . . . Del

GROUND-PLANE ANTENNAS

***See* Antennas—Communication**

GROUND RODS

***See* Rods—Ground**

GUIDANCE SYSTEMS—ASTRO

Bausch & Lomb Inc Rochester . . . . N Y
Brown Engineering-A Teledyne Co Huntsville . . . . Ala
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . Pa
Farrand Optical Co Inc Bronx . . . . N Y
Goodyear Aerospace Corp Akron . . . . Ohio
Honeywell Inc, Computer Control Div Framingham . . . . . Mass
Hycon Monrovia . . . . Cal
Industrial Control Co Farmingdale . . . . N Y
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kollsman Instrument Corp Syosset . . . . N Y
Kollsman Motor Corp Dublin . . . . Pa
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Litton Industries, Guidance & Controls Sys Div Woodland Hills . . . . Cal
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Cal
Perkin-Elmer Corp, Optical Group Norwalk . . . . Conn
Raytheon Co, Government Marketing Lexington . . . . Mass
RCA, Defense Electronic Products Moorestown . . . . N J
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
Thomson-CSF 78 Versailles . . . . France
TRW Systems Group Redondo Beach . . . . Cal
Varo Inertial Products Inc Waterbury . . . . Conn
Westinghouse Electric Corp, Aerospace Div Baltimore . . . . Md

GUIDANCE SYSTEMS—INERTIAL

SYSTRON-DONNER CORP CONCORD . . . . CAL
A C Electronics Div GM Milwaukee . . . . Wis
Alcatel Paris 8eme . . . . France
AMBAC Industries Inc Garden City . . . . N Y
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Bausch & Lomb Inc Rochester . . . . N Y
Bell Aerosystems Co Buffalo . . . . N Y
Bendix Corp Navigation & Control Div Teterboro, ... N J
Collins Radio Co Dallas . . . . Tex
Cosmos Industries Inc Brooklyn . . . . N Y
Ferranti Electric Inc Plainview . . . . N Y
Ferranti, Ltd Lancashire . . . . England
General Electric Co Ordnance Systems Pittsfield . . . . Mass
Goodyear Aerospace Corp Akron . . . . Ohio
Hamilton Standard Div UAC Elctns Systems Windsor Locks . . . . Conn
Hartman Systems Co Inc Huntington Station . . . . N Y
Humphrey Inc San Diego . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kollsman Motor Corp Dublin . . . . Pa
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Larson Aero Development Concord . . . . Cal
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Instrument Div Grand Rapids . . . . Mich
Litton Industries, Guidance & Controls Sys Div Woodland Hills . . . . Cal
Litton Systems (Canada) Ltd Rexdale . . . . Ont
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Cal
Raytheon Co, Government Marketing Lexington . . . . Mass
RCA, Defense Electronic Products Moorestown . . . . N J
Reeves Instrument Div, DCA Garden City . . . . N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
States Electronics Corp, Bludworth Marine Div Linden . . . . N J
Systron-Donner Corp Concord . . . . Cal
Texas Instruments Incorporated Dallas . . . . Tex
Thomson-CSF 78 Versailles . . . . France
TRW Systems Group Redondo Beach . . . . Cal
Varo Inertial Products Inc Waterbury . . . . Conn
Westinghouse Electric Corp, Aerospace Div Baltimore . . . . Md

GUIDANCE SYSTEMS—INFRARED

***See* Infrared Equipment**

GUIDANCE SYSTEMS—RADAR

VEGA PRECISION LABS VIENNA . . . . VA
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Bell Aerosystems Co Buffalo . . . . N Y
Bendix Corp Electrodynamics Div North Hollywood . . . . Cal
Brown Engineering-A Teledyne Co Huntsville . . . . Ala
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . Pa
Cosmos Industries Inc Brooklyn . . . . N Y
Data-Design Labs Cucamonga . . . . Cal
Dero Research & Devel Corp Huntington . . . . N Y
Electromagnetic Technology Corp Mountain View . . . . Cal
Ferranti, Ltd Lancashire . . . . England
Goodyear Aerospace Corp Akron . . . . Ohio
ITT Gilfillan Inc Van Nuys . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kollsman Motor Corp Dublin . . . . Pa
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
LFE Electronics Waltham . . . . Mass
LTV Electrosystems Inc, Garland Div Dallas . . . . Tex
Marconi Div, English Electric Corp New York . . . . N Y
Micronetics Div Teledyne Systems Co San Diego . . . . Cal
Moran Instrument Corp Pasadena . . . . Cal
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
NanoFast, Inc Chicago Ill
Plessey Co Ltd Ilford Essex . . . . England
Raytheon Co, Government Marketing Lexington . . . . Mass
RCA, Defense Electronic Products Moorestown . . . . N J
Reeves Instrument Div, DCA Garden City . . . . N Y
Sanders Associates, Inc Nashua . . . . N H
Sedco Systems Inc Farmingdale . . . . N Y
Selenia - Industrie Elettroniche Assoc Rome . . . . Italy
Sierra Research Corp Buffalo . . . . N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
Tasker Industries, Radar Div Van Nuys . . . . Cal
Texas Instruments Incorporated Dallas . . . . Tex
Thomson-CSF 78 Versailles . . . . France
TRW Systems Group Redondo Beach . . . . Cal
Vega Precision Labs Vienna . . . . Va
Westinghouse Electric Corp, Aerospace Div Baltimore . . . . Md

GUIDANCE SYSTEMS—RADIO

Babcock Electronic Corp Costa Mesa . . . . Cal
Barrett Electronics Corp Northbrook Ill
Bell Aerosystems Co Buffalo . . . . N Y
Beukers Labs Inc Hauppauge . . . . NY
Cosmos Industries Inc Brooklyn . . . . N Y
Hastings-Raydist A Teledyne Co Hampton . . . . Va
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lear Siegler Inc Santa Monica . . . . Cal
Litton Industries, Guidance & Controls Sys Div
  Woodland Hills . . . . Cal
Marconi Div, English Electric Corp New York . . . . N Y
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Cal
Philco-Ford Corp Washington . . . . D C
RCA, Defense Electronic Products Moorestown . . . . N J
Sanders Associates, Inc Nashua . . . . N H
Sierra Research Corp Buffalo . . . . N Y
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
TRW Systems Group Redondo Beach . . . . Cal
Wilcox Electric Co Kansas City . . . . Mo

GUIDES—PRINTED CIRCUIT BOARD

CALABRO PLASTICS INC UPPER DARBY PA . . . ADV PG 290
ELCO CORP WILLOW GROVE . . . . PA
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK . . NY
Atlee Corp Winchester . . . . Mass
Auto-Swage Products, Inc Shelton . . . . Conn
Birtcher Corp, Industrial Div Monterey Park . . . . Cal
Buckeye Stamping Co Columbus . . . . Ohio
Calabro Plastics Inc Upper Darby . . . . Pa
Canoga Industries Los Angeles . . . . Cal
Circuit Structures Lab Burbank . . . . Cal
Douglas Electronics Inc San Leandro . . . . Cal
Elco Corp Willow Grove . . . . Pa
IBM, Industrial Products Marketing New York . . . . NY
International Electronic Research Corp Burbank . . . . Cal
Lake Engineering Co Ltd Scarborough . . . . Ont
Metox Paris 20 . . . . France
Premier Metal Products Co Bronx . . . . N Y
Scanbe Mfg Corp El Monte . . . . Cal
Taurus Corp Lambertville . . . . N J
Vector Electronic Co Inc Sylmar . . . . Cal
Vero Electronics Ltd Southampton . . . . England
Zero Mfg Co Burbank . . . . Cal

GUNS—SOLDERING

***See* Tools—Soldering**

GUNN-EFFECT DEVICES

AEI Semiconductors Ltd Lincoln . . . . U K
Electro-Data Inc Garland . . . . Tex
La Radiotechnique Compelec Paris 11e . . . . France
Monsanto Co Microwave Products St Louis . . . . Mo
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Mullard Ltd London, WC 1 . . . . Eng
Plessey Co Ltd Ilford Essex . . . . England
Plessey Electronics Corp Farmingdale . . . . N Y
Terra Corp Albuquerque . . . . N M
Varian Palo Alto . . . . Cal

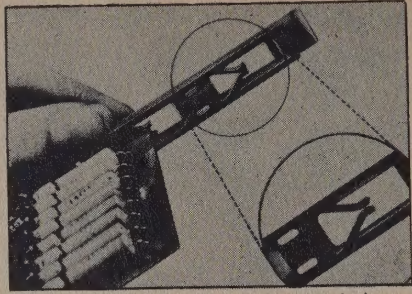
GUY CABLE

***See* Wire—Guy**

UNITRACK®

CIRCUIT CARD GUIDES

U.S. Pat. #3231785 Canadian & For. Pat. Pending



- Snap into position without fasteners or tools.
- Stay in place under stress to 150 G's.
- Fail-safe gripping of cards .050" to .100" thick.
- Efficient cooling—75% open in track area.
- Dampen severe vibrations to 2000 cps.
- One piece molded polycarbonate strong, dimensionally stable, excellent dielectrics and service temperature (250°F).

UNITRACK Card Guides are available in six sizes from stock in standard black, or, on special order in other colors and sizes. Send for Free Catalog.

Use Calabro Versamount™ brackets with UNITRACK P.C. card guides for separate mounting and breadboarding.

New: Calabro Versa-cage® P.C. card rack. Holds 30 P.C. cards (4½" wide and up to 6½" long). Assembles in minutes. Versa-cage complete (without UNITRACK) $15.00.

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8738 WEST CHESTER PIKE
UPPER DARBY, PA. 19082
Phone: (215) 789-3820

GYRATORS—MICROWAVE

Airtron, Div of Litton Industries, Inc Morris Plains . . . . N J
Ampar Div Adams-Russell Waltham . . . . Mass
E & M Labs Westlake Village . . . . Cal
Fujitsu Ltd Tokyo . . . . Japan
Guide Industries Inc Sun Valley . . . . Cal
Melabs Palo Alto . . . . Cal
Rantec Div Emerson Electric Co Calabasas . . . . Cal
Sedco Systems Inc Farmingdale . . . . N Y

GYRO COMPASSES

***See* Compasses—Gyro**

GYROS—DIRECTIONAL

Aircraft Components Inc Benton Harbor . . . . Mich
Aircraft Radio Corp Boonton . . . . N J
Allen Aircraft Radio Inc Elk Grove Village Ill
Allen Inc R C, Instrument Div Grand Rapids . . . . Mich
AMBAC Industries Inc Garden City . . . . N Y
Assembly-Overland Div Rucker Co Los Angeles . . . . Cal
Aviation Instrument Mfg Corp Houston . . . . Tex
Bendix Corp Navigation & Control Div Teterboro, ... N J
Chrysler Corp, Missile Div Detroit . . . . Mich
Clary Corp San Gabriel . . . . Cal
Conrac Corp New York . . . . N Y
Electronic Specialty Co Portland Elctns Div Portland . . . . . Ore
Ferranti Electric Inc Plainview . . . . N Y
Ferranti, Ltd Lancashire . . . . England
General Design Inc Sun Valley . . . . Cal
Gyrotron Corp Waterbury . . . . Conn
Hamilton Standard Div UAC Elctns Systems
  Windsor Locks . . . . Conn
Humphrey Inc San Diego . . . . Cal
Industrial Control Co Farmingdale . . . . N Y
ITT Decca Marine Inc New York . . . . NY
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Larson Aero Development Concord . . . . Cal
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Instrument Div Grand Rapids . . . . Mich
Memcor Div LTV Electrosystems Inc Huntington . . . . Ind
National Water Lift Co Kalamazoo . . . . Mich
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Cal
Smiths Industries North America Ltd Jamaica . . . . N Y
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
Standard Precision Div ECI an NCR sub Wichita . . . . Kan
Thomson-CSF 78 Versailles . . . . France
U S Time Corp Hartsdale . . . . N Y
Varo Inertial Products Inc Waterbury . . . . Conn

GYROS—DISPLACEMENT

SYSTRON-DONNER CORP CONCORD . . . . CAL
Aeroflex Labs, Inc Plainview . . . . N Y
Aircraft Components Inc Benton Harbor . . . . Mich
Allen Inc R C, Instrument Div Grand Rapids . . . . Mich
AMBAC Industries Inc Garden City . . . . N Y
Assembly-Overland Div Rucker Co Los Angeles . . . . Ca
Aviation Instrument Mfg Corp Houston . . . . Tex
Bell Aerosystems Co Buffalo . . . . N Y
Bendix Corp Navigation & Control Div Teterboro, ... N J
Chrysler Corp, Missile Div Detroit . . . . Mich
Electronic Specialty Co Portland Elctns Div Portland . . . . . Ore
Ferranti Electric Inc Plainview . . . . N Y
Ferranti, Ltd Lancashire . . . . Englan
General Design Inc Sun Valley . . . . Ca
Gyrotron Corp Waterbury . . . . Con
Hamilton Standard Div UAC Elctns Systems
  Windsor Locks . . . . Con
Humphrey Inc San Diego . . . . Ca
Kearfott Div Singer-General Precision Inc Little Falls . . . . . N
Larson Aero Development Concord . . . . Ca
Lear Siegler Inc Santa Monica . . . . Ca
Lear Siegler Inc, Instrument Div Grand Rapids . . . . Mic
Memcor Div LTV Electrosystems Inc Huntington . . . . In
National Water Lift Co Kalamazoo . . . . Mic
Smiths Industries North America Ltd Jamaica . . . . N
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . Englan
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ari
Standard Precision Div ECI an NCR sub Wichita . . . . Ka
Systron-Donner Corp Concord . . . . Ca
Thomson-CSF 78 Versailles . . . . Franc
U S Time Corp Hartsdale . . . . N
Varo Inertial Products Inc Waterbury . . . . Con

GYROS—INTEGRATING

SYSTRON-DONNER CORP CONCORD . . . . CA
A C Electronics Div GM Milwaukee . . . . W
AMBAC Industries Inc Garden City . . . . N
Bell Aerosystems Co Buffalo . . . . N
Electronic Specialty Co Portland Elctns Div Portland . . . . . O
Ferranti, Ltd Lancashire . . . . Engla
Gyrotron Corp Waterbury . . . . Co
Hamilton Standard Div UAC Elctns Systems
  Windsor Locks . . . . Co
Humphrey Inc San Diego C
Kearfott Div Singer-General Precision Inc Little Falls . . . . .
Larson Aero Development Concord C
Lear Siegler Inc Santa Monica C
Lear Siegler Inc, Instrument Div Grand Rapids . . . . Mi
Memcor Div LTV Electrosystems Inc Huntington . . . .
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . .
Nortronics Div, Northrop Corp, Prec Prods Dept
  Norwood . . . . Ma
Reeves Instrument Div, DCA Garden City . . . .
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . .
Standard Precision Div ECI an NCR sub Wichita . . . . K
Systron-Donner Corp Concord . . . .
Thomson-CSF 78 Versailles . . . . Fra
TRW Systems Group Redondo Beach . . . .
U S Time Corp Hartsdale . . . .
Varo Inertial Products Inc Waterbury C

GYROS—RATE

SYSTRON-DONNER CORP CONCORD . . . .
Aircraft Radio Corp Boonton . . . .
Allen Aircraft Radio Inc Elk Grove Village . . . .
Allen Inc R C, Instrument Div Grand Rapids . . . . N
AMBAC Industries Inc Garden City . . . .
Assembly-Overland Div Rucker Co Los Angeles . . . .
Bendix Corp Navigation & Control Div Teterboro, ...
Cedar Div Control Data Corp Minneapolis . . . . N
Chrysler Corp, Missile Div Detroit . . . . N
Conrac Corp New York . . . .
Ferranti Electric Inc Plainview . . . .
Ferranti, Ltd Lancashire . . . . Eng
General Design Inc Sun Valley . . . .
Gyrotron Corp Waterbury . . . .
Hamilton Standard Div UAC Elctns Systems
  Windsor Locks . . . .
Humphrey Inc San Diego . . . .
Kearfott Div Singer-General Precision Inc Little Falls . . . .
Larson Aero Development Concord . . . .
Lear Siegler Inc Santa Monica . . . .
Lear Siegler Inc, Instrument Div Grand Rapids . . . .
Memcor Div LTV Electrosystems Inc Huntington . . . .
National Water Lift Co Kalamazoo . . . .
Northrop Corp, Electronics Div Palos Verdes Peninsula . . .
Nortronics Div, Northrop Corp, Prec Prods Dept
  Norwood . . . .
Reeves Instrument Div, DCA Garden City . . . .
Sanders Assoc Inc, Instrument Div Manchester . . . .
Smiths Industries North America Ltd Jamaica . . . .
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . En
Special Devices Labs Inc South Orange . . . .
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . .
Standard Precision Div ECI an NCR sub Wichita . . . . . .
Systron-Donner Corp Concord . . . .
Thomson-CSF 78 Versailles . . . . F
TRW Systems Group Redondo Beach . . . .
U S Time Corp Hartsdale . . . .
Varo Inertial Products Inc Waterbury . . . .

GYROS—SUSPENSION, AIR

Alcatel Paris 8eme . . . . F
AMBAC Industries Inc Garden City . . . .
Assembly-Overland Div Rucker Co Los Angeles . . . .
Bendix Corp Navigation & Control Div Teterboro, ...
Chrysler Corp, Missile Div Detroit . . . .
Conrac Corp New York . . . .
Ferranti, Ltd Lancashire . . . . E

amilton Standard Div UAC Elctns Systems Windsor Locks ..... Conn
earfott Div Singer-General Precision Inc Little Falls ..... NJ
ear Siegler Inc Santa Monica ..... Cal
ear Siegler Inc, Instrument Div Grand Rapids ..... Mich
orthrop Corp, Electronics Div Palos Verdes Peninsula ..... Cal
ortronics Div, Northrop Corp, Prec Prods Dept Norwood ..... Mass
perry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
aro Inertial Products Inc Waterbury ..... Conn

YROS—SUSPENSION, GAS

catel Paris 8eme ..... France
MBAC Industries Inc Garden City ..... N Y
ssembly-Overland Div Rucker Co Los Angeles ..... Cal
endix Corp Navigation & Control Div Teterboro, ... N J
hrysler Corp, Missile Div Detroit ..... Mich
onrac Corp New York ..... N Y
amilton Standard Div UAC Elctns Systems Windsor Locks ..... Conn
earfott Div Singer-General Precision Inc Little Falls ..... NJ
ear Siegler Inc, Instrument Div Grand Rapids ..... Mich
tton Systems (Canada) Ltd Rexdale ..... Ont
orthrop Corp, Electronics Div Palos Verdes Peninsula ..... Cal
ortronics Div, Northrop Corp, Prec Prods Dept Norwood ..... Mass
perry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
aro Inertial Products Inc Waterbury ..... Conn

YRO TESTERS

See **Testers—Gyro**

ALL EFFECT DEVICES—GENERATORS

ELL, INC F W COLUMBUS ..... OHIO
IEMENS AMERICA INC NEW YORK ..... N Y
merican Aerospace Controls Inc Farmingdale ..... N Y
& M Instruments Inc Great Neck ..... N Y
ell, Inc F W Columbus ..... Ohio
almar Electronics Inc Columbus ..... Ohio
dustrial Components Inc Div Welsh Corp Beaverton ..... Ore
aPine Scientific Co Chicago Ill
agnetics Div Instrument Systems Corp Huntington ..... NY
uclide Corp, AGV Div Acton ..... Mass
hio Semitronics Inc Columbus ..... Ohio
rigin Electric Co Ltd Tokyo ..... Japan
cientific Columbus Inc Columbus ..... Ohio
iemens America Inc New York ..... N Y
miths Industries North America Ltd Jamaica ..... N Y
akeda Riken Industry Co Ltd Tokyo ..... Japan
homson-CSF 78 Versailles ..... France

ALL EFFECT DEVICES—MAGNETORESISTORS

IEMENS AMERICA INC NEW YORK ..... N Y
merican Aerospace Controls Inc Farmingdale ..... N Y
tomic Labs, Div Cenco Instr Corp Chicago Ill
agnetics Div Instrument Systems Corp Huntington ..... NY
iemens America Inc New York ..... N Y

ALL EFFECT DEVICES—MULTIPLIERS

ELL, INC F W COLUMBUS ..... OHIO
IEMENS AMERICA INC NEW YORK ..... N Y
merican Aerospace Controls Inc Farmingdale ..... N Y
ell, Inc F W Columbus ..... Ohio
almar Electronics Inc Columbus ..... Ohio
agnetics Div Instrument Systems Corp Huntington ..... NY
hio Semitronics Inc Columbus ..... Ohio
cientific Columbus Inc Columbus ..... Ohio
iemens America Inc New York ..... N Y
homson-CSF 78 Versailles ..... France
ac Line Div Simmonds Precision Prods Dayton ..... Ohio

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ELL, INC F W COLUMBUS ..... OHIO
IEMENS AMERICA INC NEW YORK ..... N Y
EKTRONIX INC BEAVERTON ..... ORE
lpha Scientific Labs Inc Oakland ..... Cal
merican Aerospace Controls Inc Farmingdale ..... N Y
tomic Labs, Div Cenco Instr Corp Chicago Ill
ell, Inc F W Columbus ..... Ohio
entral Scientific Co Chicago Ill
lectro Impulse Lab Inc Red Bank ..... N J
lectron-Ohio Inc Cleveland ..... Ohio
mpire Scientific Corp Garden City ..... N Y
hio Semitronics Inc Columbus ..... Ohio
FL Industries Inc, Instrumentation Div Boonton ..... N J
cientific Columbus Inc Columbus ..... Ohio
iemens America Inc New York ..... N Y
ektronix Inc Beaverton ..... Ore
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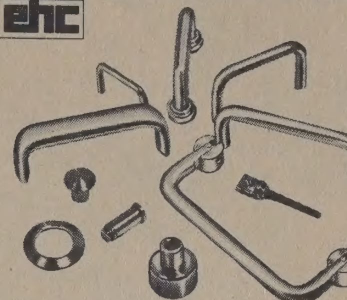
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CHASSIS-TRAK INC INDIANAPOLIS ..... IND
CONCORD ELECTRONICS CORP NEW YORK ..... N Y
DIMCO-GRAY CO DAYTON ..... OHIO
ELECTRONIC HARDWARE CORP JAMAICA NY . ADV PG 291
SECS, INC LONG ISLAND CITY ..... N Y
Abacus Electronics Corp Dobbs Ferry ..... N Y
Allmetal Screw Products Co Inc Garden City ..... N Y
Amatom Electronic Hardware New Rochelle ..... N Y
Atomite Electronics Corp Roosevelt ..... N Y
Barnes Engineering Co Santa Ana ..... Cal
Bendix Corp Environmental Science Div Baltimore ..... Md
Blinn Co Inc, Delbert Pomona ..... Cal
Cambridge Thermionic Corp Cambridge ..... Mass
Camloc Div Rex Chainbelt Inc Paramus ..... N J
Carr Fastener Co Div United-Carr Inc Cambridge ..... Mass
CGS Units Inc Rochester ..... N Y
Chassis-Trak Inc Indianapolis ..... Ind
Churchill Corp Melrose ..... Mass
Concord Electronics Corp New York ..... N Y
Davies Molding Co, Harry Chicago Ill
D-Cemco Inc Burbank ..... Cal
Dimco-Gray Co Dayton ..... Ohio
Eddy Mfg Co Inc Santa Ana ..... Cal
Electronic Hardware Corp Jamaica ..... NY
Electrorack Products Co Anaheim ..... Cal
Eljay Corp Columbia ..... Md
Forney Industries Inc Fort Collins ..... Colo
Franklin Fibre-Lamitex Corp Wilmington ..... Del
Goe Engineering Co City-of-Industry ..... Cal
Hartwell Corp Los Angeles ..... Cal
Hunter Industries Santa Fe Springs ..... Cal
Lake Engineering Co Ltd Scarborough ..... Ont
Micro Parts Inc Los Angeles ..... Cal
Nielsen Hardware Corp Hartford ..... Conn
Norrich Plastics Corp Roosevelt ..... N Y
O'Hara Metal Products Co San Francisco ..... Cal
Paul & Stein Bros Inc, F H New York ..... N Y
Positronic Industries Inc Springfield ..... Mo
Precision Metal Products Co of Malden Inc Stoneham ..... Mass
Premier Metal Products Co Bronx ..... N Y
Product Components Corp Hastings-on-Hudson ..... N Y
Secs, Inc Long Island City ..... N Y
Sessions & Son, J H Bristol ..... Conn
S K G Associates Inc Boston ..... Mass
Smith Inc, Herman H Brooklyn ..... N Y
Southco Inc Lester ..... Pa
Stafford Mfg Co Inc Brooklyn ..... N Y
Stantron Div Wyco Metal Products North Hollywood ..... Cal
TA Mfg Corp Los Angeles ..... Cal
Tekna Products Co Rochester ..... N Y
Upson Tools Inc Rochester ..... N Y
USECO Div, Litton Industries Van Nuys ..... Cal
Vemaline Products Co, Inc Wycoff ..... N J
Winslow Tele-Tronics Inc Eatontown ..... N J
Wyco Metal Products North Hollywood ..... Cal
Zero Mfg Co Burbank ..... Cal

HARDWARE—ELECTRONIC

See Also **Specific Item Desired**

ACCURATE ELECTRONICS CORP ELYRIA ..... OHIO
AUGAT, INC ATTLEBORO ..... MASS
BRAUN TOOL & INSTRUMENT CO INC, H HAWTHORNE .. N J
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
CONCORD ELECTRONICS CORP NEW YORK ..... N Y
DABURN ELECTRONICS & CABLE CORP BRONX ..... N Y
ELECTRONIC HARDWARE CORP JAMAICA ..... NY
FEDERAL SCREW PRODUCTS INC CHICAGO ILL . ADV PG 291
GRAYHILL INC LA GRANGE ILL
ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP LOS ANGELES ..... CAL
KILOVOLT CORP HACKENSACK N J ..... ADV PG 443
KINETRON CORP ASBURY PARK ..... NJ
KORRY MFG CO SEATTLE ..... WASH
TIMBER-TOP INC FREEPORT ..... N Y
ZIERICK MFG CORP MOUNT KISCO ..... N Y
Abacus Electronics Corp Dobbs Ferry ..... N Y
Abtronics, Inc Livermore ..... Cal
Accurate Electronics Corp Elyria ..... Ohio
Aerovox Corp Distr Sales New Bedford ..... Mass
Aikow Shoji Kaisha Ltd Osaka ..... Japan
Allmetal Screw Products Co Inc Garden City ..... N Y
All Star Products Inc Defiance ..... Ohio
Amatom Electronic Hardware New Rochelle ..... N Y
Analog Technology Corp Pasadena ..... Cal
Apahouser Corp of N E Boston ..... Mass
Atomite Electronics Corp Roosevelt ..... N Y
Augat, Inc Attleboro ..... Mass
Auto-Swage Products, Inc Shelton ..... Conn
Barnes Engineering Co Santa Ana ..... Cal
Barry Controls Div Barry Wright Corp Watertown ..... Mass
Birnbach Co Inc Freeport ..... N Y
Birtcher Corp, Industrial Div Monterey Park ..... Cal
Blinn Co Inc, Delbert Pomona ..... Cal
Braun Tool & Instrument Co Inc, H Hawthorne ..... N J
Bronson Corp, Sub Kurz & Root Co Appleton ..... Wisc
Bruce Industries Inc Gardena ..... Cal
Buckeye Stamping Co Columbus ..... Ohio
Cambridge Thermionic Corp Cambridge ..... Mass
Camloc Div Rex Chainbelt Inc Paramus ..... N J
Canoga Industries Los Angeles ..... Cal
Churchill Corp Melrose ..... Mass
Circon Component Corp Goleta ..... Cal
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon ..... Ohio
C & N Electrical Ltd Gosport ..... Hampshire Eng
Colbert Die Cast Co Inc South Gate ..... Cal
Concord Electronics Corp New York ..... N Y
Daburn Electronics & Cable Corp Bronx ..... N Y
D-Cemco Inc Burbank ..... Cal
Dialight Corp Brooklyn ..... N Y
Electronic Applications Co Pine Brook ..... N J
Electronic Enclosures Div Wyle Labs Pennsauken ..... N J
Electronic Hardware Corp Jamaica ..... NY
Electronics Communications Div Atlantic Research Corp Alexandria ..... Va

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Screws - Nuts - Bolts - Washers - Lock Washers - Spade Bolts - Weld Screws - Sems Screws - Thread Cutting Screws - Socket Screws - Lock Nuts - Stop Nuts - Swage Nuts - Weld Nuts - Miniature Fasteners - Rivets - Eyelets - Non-Corrosive Fasteners - AN-MS-NAS Fasteners - Nylok Fasteners - Nylon Fasteners - Insulating Washers - Spacers - Standoffs - Grommets - Bumpers - Terminals - Spring Pins - Components
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Premium Quality Electronic and Instrument Miniature Precision Hardware

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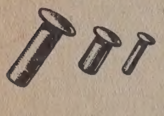
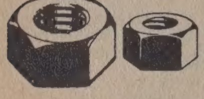
Every eyelet a precision product with absolute uniformity from part to part.
Lengths from 1/16" to 7/16" in 1/32" increments.
New MICROLETS now available in lengths from 1/64" to 3/16" in 1/32" increments.

RIVETS & TERMINAL LUGS



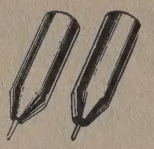
For instrument, electronic, and printed circuit applications involving space requirements smaller than normal subminiature hardware permits. Sizes from 1/16" x 1/32" and up in 1/32" increments. Shot burnished and 24 carat gold plated.

NUTS



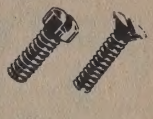
Instrument nuts in sizes from #000 to #4. Precision manufactured of controlled formula nonmagnetic brass cadmium plated.

EYELET SETTING TOOLS



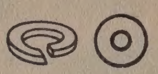
Superior quality tools designed to provide flexible inexpensive tooling for precision setting of Circon eyelets in laboratory, model shop, instrument room and limited production applications. May be used in drill press, arbor press, kick press, punch press, air press, or they may be used as simple hand or vise-held tools.

SCREWS



Precision Instrument Screws of cadmium plated brass or stainless steel. Instrument head (oval modified fillister) or flat head. (82°). Size from #000 to #4 — Lengths from 1/8" and up in 1/16" increments. Taps available for all screw sizes.

WASHERS

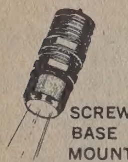


Split Lock and Flat instrument washers in sizes #000 to #4. Precision manufactured to be smooth, clean and free from burrs. Insulating washers formed of an improved grade of XXXP modified phenolic laminate. Suitable for use in vigorous environment, at all frequencies. Sizes from #00 to #4.

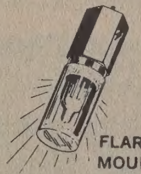
MINIATURE & SUB-MINIATURE INDICATOR LAMPS

For Printed Circuit and Regular Applications

POLA LENS
VARIABLE INTENSITY INDICATORS
Used with Circon sub-miniature lampholders, the POLA-LENS makes it possible to vary the incident light from full brightness to near extinction to meet ambient requirements. Gradual change in lighting control is accomplished by simple hand rotation of the lens.



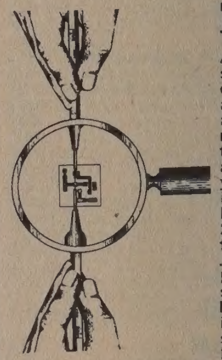
SCREW BASE MOUNTING



FLARE-MOUNT

- **SMALLER SIZE** — Only 3/8" diameter. Minimum projection from front and rear of panel.
- **WIRELESS INSTALLATION** in printed circuit design and simplified wiring in conventional installations.
- **WIDE RANGE OF LIGHT INTENSITIES** for both low-level and high-level applications.
- **STANDARD COLORS** — Lenses available from stock include red, green, yellow, blue, white, transluscent and clear.
- **ALL VOLTAGES AVAILABLE** — 1.3, 2.7, 6, 14, 28 volts and neon. Single or double-contact models.
- **MESSAGE INDICATIONS** — including numerals, warnings, letters and labels.
- **REPLACEABLE LAMPS** of standard construction having long life and proven performance.

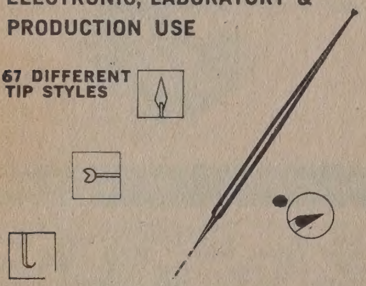
SUPPLIED WITH EITHER INCANDESCENT OR NEON BULBS



microProbe for ELECTRICAL TESTING

A hand probe designed for testing contacts in small and inaccessible areas. Ideal for microscopic electrical testing. Supplied with a phone tip to fit your favorite meter or instrument and a banana plug adapter. 20 different tip configurations include a .005" diameter micropoint, for fine work, sharp points, forks, loops and hooks, each in either straight shank, 45° or 90° bend.

microTools FOR INSTRUMENT, ELECTRONIC, LABORATORY & PRODUCTION USE



CUSTOM TIP — Selection from 67 different styles. Each tip designed and engineered to do a specific microelectronic or instrument job in the best way.
FINEST MATERIALS — Selected tool steels. Permanent metal handles. Entire tip area behind working element is 24 carat gold plated and shot-burnished to insure corrosion resistance and a contaminant free tool.
PRECISION MANUFACTURE — Cutting edges, points and working surfaces precision forged, machined, ground or honed to microscopic perfection.
SMALL SIZE — Active working elements from 0.001 to 0.1 in size. Hinged lid boxes and individual tip protection provides visual selection with easy use and storage.
Interchangeable tips include: Needle Point, Knife, Spade, Chisel, Graver, 45°, 90° corner and bifurcated Manipulators, Hooks, Loop, Burnisher, Scale, Brush, Spatula, Probe and Taps.

GOLDEN SOLDER BALLS

Precise Spheres of Eutectic Solder for Specialized Soldering Needs

Designed to be used in the Pulse-Dot System, the correct amount of solder can be chosen from twelve graded sizes of balls from .005" to .060" in diam. 24K gold plated. Gold color disappears when melting temperature is reached. Balls contain no fluxing agent permitting user to choose most suitable flux. Many other uses in the engineering and instrument field.

Precision Quality Products for Industry

FACTORY DIRECT SERVICE BY AIR

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SANTA BARBARA AIRPORT • GOLETA, CALIFORNIA
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STOCKING DISTRIBUTORS
IN PRINCIPAL CITIES

PULSE • DOT SYSTEM

A new way to microsolder with the smallest tool on the market

The Pulse Controller regulates temperature from 200 to 1800°F by setting the dial. The Solder Loop is a microminiature heating element which does not require tinning or dressing. Pencil size handle balanced for delicate manipulation under the microscope. Available in three sizes: One watt for thin film microcircuits, Two watt for micro diodes and Three watt for small transistor leads.

SPECIFICATIONS FOR PULSE • DOT CONTROLLER
Anodic Finish — Black & Gray

Size	6" x 6" x 5"
Weight	6 Pounds
Input	120 VAC
Output	0 - 6.0 VAC
Power	0 - 18 Watts Max.

SPECIFICATIONS FOR PULSE • DOT LOOP

Size	Loop Radius	Working Wattage
Micro Solder Loop	.025 in.	1
Micro-Min Solder Loop	.040 in.	2
Miniature Solder Loop	.050 in.	3

mporium Specialties Co Inc Chagrin Falls	Ohio
xtrudonics Inc New Brunswick	N J
ansteel Inc North Chicago	Ill
eay Co, Neal Goleta	Cal
ederal Screw Products Inc Chicago	Ill
erranti, Ltd Lancashire	England
CA Technology Div GCA Corp Bedford	Mass
C Electronics Div, Hydrometals Inc Rockford	Ill
emp Terminals Inc Yonkers	N Y
oe Engineering Co City-of-Industry	Cal
rayhill Inc La Grange	Ill
reat Eastern Metal Products Co Yonkers	N Y
ries Reproducer Co Div Coats & Clark Inc New Rochelle	N Y
artwell Corp Los Angeles	Cal
eli-Coil Corp Insert Products Div Danbury	Conn
i-Lo Mfg Corp Chicago	Ill
or, Inc Burlington	Mass
nternational Electronic Research Corp Burbank	Cal
nternational Rectifier Semiconductor Div El Segundo	Cal
TT Cannon Electric Div Intl Tel & Tel Corp Los Angeles	Cal
TT Decca Marine Inc New York	NY
TT Europe Inc Components Gp Brussels 1	Belgium
anel Inc Stirling	N J
ettron Products Inc Hanover	N J
onathan Mfg Co Fullerton	Cal
ones Electronics, Hiram Burbank	Cal
earfott Div Singer-General Precision Inc Little Falls	NJ
elox Industries East Boston	Mass
eystone Electronics Corp New York	N Y
ilovolt Corp Hackensack	N J
inetron Corp Asbury Park	NJ
orry Mfg Co Seattle	Wash
ake Engineering Co Ltd Scarborough	Ont
ear Siegler Inc, Electronic Instrumentation Div Anaheim	Cal
eecraft Mfg Co Inc Long Island City	N Y
itton Industries Inter-Pak Elctns Div Beverly Hills	Cal
oranger Mfg Corp Warren	Pa
ann Co, Henry Cornwell Heights	Pa
ethode Electronics Inc Chicago	Ill
orris Co, J I Southbridge	Mass
ulti-Flex Seals Inc Bronx	N Y
ational Radio Co Inc Melrose	Mass
ational Tel-Tronics Corp Yonkers	N Y
orrich Plastics Corp Roosevelt	N Y
orthrop Corp, Electronics Div Palos Verdes Peninsula	Cal
'Hara Metal Products Co San Francisco	Cal
anduit Corp Tinley Park	Ill
arker Metal Goods Co Worcester	Mass
enn Engineering & Mfg Corp Doylestown	Pa
hilmore Mfg Co Inc Richmond Hill	N Y
inFin Inc Waltham	Mass
omona Electronics Co Inc Pomona	Cal
ositive Connector Co Derby	Conn
ositronic Industries Inc Springfield	Mo
recision Metal Products Co of Malden Inc Stoneham	Mass
remier Metal Products Co Bronx	N Y
roduct Components Corp Hastings-on-Hudson	N Y
aytheon Co, Components Div, Ind Compnts Oper Quincy	Mass
aytheon Co, Government Marketing Lexington	Mass
azdow Labs Inc Newark	N J
obison Electronics Inc Gardena	Cal
obot Industries Inc Dearborn	Mich
owe Co, L L Boston	Mass
& A Electronics Inc Toledo	Ohio
anyo Electric Co Ltd Osaka	Japan
canbe Mfg Corp El Monte	Cal
eastrom Mfg Co Inc Glendale	Cal
higoto Industries Ltd New York	N Y
hur-Lok Corp Santa Ana	Cal
ierra Electric Div Sola Basic Ind Gardena	Cal
ierra Research Corp Buffalo	N Y
K G Associates Inc Boston	Mass
mith Inc, Herman H Brooklyn	N Y
outhco Inc Lester	Pa
phere Co Inc Little Falls	N J
taffall, Inc Providence	R I
tafford Mfg Co Inc Brooklyn	N Y
tandard Precision Inc Accuride Div Santa Fe Springs	Cal
tanley Industrial Hardware Div Stanley Works New Britain	Conn
tantron Div Wyco Metal Products North Hollywood	Cal
A Mfg Corp Los Angeles	Cal
hermalloy Co Dallas	Tex
imber-Top Inc Freeport	N Y
ricraft Products Corp Chicago	Ill
rott Electronics Inc Rochester	N Y
SECO Div, Litton Industries Van Nuys	Cal
ector Electronic Co Inc Sylmar	Cal
emaline Products Co, Inc Wycoff	N J
ero Electronics Ltd Southampton	England
akefield Engineering Inc Wakefield	Mass
aldom Electronics Inc Chicago	Ill
estern Coil & Electrical Co Racine	Wisc
yco Metal Products North Hollywood	Cal
oungwood Electronic Metals Inc Youngwood	Pa
ero Mfg Co Burbank	Cal
ierick Mfg Corp Mount Kisco	N Y

ARMONIC ANALYZERS

***See* Analyzers—Harmonic**

ARMONIC SIGNAL GENERATORS

***See* Generators—Signal**

ARNESSES—WIRE

***See Also* Cable Assemblies**

CCURATE ELECTRONICS CORP ELYRIA	**OHIO**
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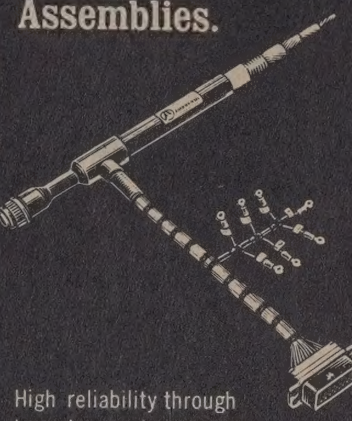
MPHENOL ENDICOTT NY	**ADV PG 293**
MPHENOL CHICAGO	**ILL**
TLAS WIRE & CABLE CO. INC. YONKERS	**NY**



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EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT	**IOWA**
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Abilities Inc Albertson	N Y
Accurate Electronics Corp Elyria	Ohio
AC Electronics Co Los Angeles	Cal
Action Systems Co Div Conn Consolidated Inds Inc Meriden	Conn
Advance Instrument Corp Belmar	N J
Aerospace Systems A Teledyne Co Fairmont	Minn
Aetna Electronics Corp North Branch	N J
Aircraft & Electronic Specialties, Inc Plainfield	Ind
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Allegri-Tech Inc Nutley	N J
Almor Development Co Inc Long Beach	Cal
American Cable Electronic Supply Inc Sacramento	Cal
American Circuit-Tronics Corp Royal Oak	Mich
American Electric Cable Co Holyoke	Mass
Amphenol Broadview	Ill
Amphenol Endicott	NY
Amphenol Chicago	Ill
Amtron Inc Sub Republic Corp Midlothian	Ill
Anchor Specialty Mfg Co Inc Teterboro	N J
Astro-Space Labs Inc Huntsville	Ala
Atlas Wire & Cable Co. Inc. Yonkers	NY
Atomite Electronics Corp Roosevelt	N Y
Ault, Inc Minneapolis	Minn
Aviation Electric Ltd St Laurent, Montreal	Que
Avionics, Inc South Bend	Ind
Avionics Ltd Niagara-on-the-Lake	Ont
B & B Electronics Corp Gardena	Cal
BEC Inc Brooklyn	NY
BeMan Mfg, Inc New Cumberland	Pa
Bendix Corp Electrical Components Div Sidney	N Y
Beowulf Connector & Cable Corp Huntsville	Ala
Bergen Wire Rope Co Lodi	N J
Binary Electronics of Cal Div Avionic Structures Inc Anaheim	Cal
Bronson Corp, Sub Kurz & Root Co Appleton	Wisc
Brown Engineering-A Teledyne Co Huntsville	Ala
Burtek Inc Tulsa	Okla
Cable Electric Products Inc Providence	R I
Cable Products Corp Fairfield	N J
Caltron Industries Berkeley	Cal
Carol Electronics Div Weeco Inc Martinsburg	W Va
Castall Research Lab Inc Brockton	Mass
Christiana Industries Corp Chicago,	Ill
Cicoil Corp Chatsworth	Cal
Clare-Electroseal Corp Des Plaines	Ill
Cole-Hersee Co S Boston	Mass
Columbia Wire Products Co Chicago	Ill
Condor Industrial Corp Wheaton	Ill
Connecticut Coil Corp Bridgeport	Conn
Consolidated Controls Corp El Segundo	Cal
Co-Operative Industries Inc Chester	N J
Cordex, Inc Mount Eaton	Ohio
Daburn Electronics & Cable Corp Bronx	N Y
Dalto Electronics Corp Norwood	N J
D-Cemco Inc Burbank	Cal
Dearborn Wire & Cable Co Chicago	Ill
DeSoto Electrical Products DeSoto	Mo
Dietz Design Inc Belton	Mo
Digital Sensors Inc Los Angeles	Cal
Dill Products Inc Norristown	Pa
DuCom Inc Salem	Mass
Eagle-Picher Industries Inc, Electronics Div Joplin	Mo
Eagle Signal A Gulf & Western Co Davenport	Iowa
Eastern Specialty Co Philadelphia	Pa
Elasco-Eastern Inc Bloomfield	Conn
Electronic Accessories Div of BIW El Segundo	Cal
Electronics Inc of Pa Willow Grove	Pa
Electronized Chemicals Corp Burlington	Mass
Electro Oceanics Inc Compton	Cal
Electro-Sonics, Inc Spofford	N H
Electrospace Corp Westbury	NY
Electrovert Inc Mt Vernon	N Y
Elgin Electronics Inc Erie	Pa
Empire Electronics Co Inc Paterson	N J
Estes Engineering Co Gardena	Cal
Executive Electronics Inc. Denver	Colo
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Fairhill Products Corp Philadelphia	Pa
Fidelity Amplifier Co Chicago	Ill
First Electronics Corp Boston	Mass
Flexible Products Inc Lakeville	Minn
Florida General Electronics Inc Ormond Beach	Fla
Florida Transformer Co, Transitron Sub De Leon Springs	Fla
Flow Electronic Cable Corp Cambridge	Mass
Forway Industries Inc Woodbury	N J
Frost Engineering Development Corp Englewood	Colo
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Coil Products Corp Brooklyn	N Y
General Instrument Corp Automatic Mfg Div Newark	N J
General Laboratory Assoc Inc Norwich	N Y
Glenair Inc Glendale	Cal
Godfrey Mfg Co Chicago	Ill
Golden Technology Inc Santa Rosa	Cal
Gordon Co Claud S Richmond	Ill
Gunnar Labs Inc Bradenton	Fla
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
Houlihan Co, T J Chicago	Ill
Icore Electro-Plastics Sunnyvale	Cal
Ikor, Inc Burlington	Mass
Industra Products Inc Fort Wayne	Ind
International Energy Conversion Div Nuclear Sys Inc Garland	Tex
International Laser Systems Inc Orlando	Fla
IRC Div TRW Inc Los Angeles	Cal
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles	Cal
Jetronics Co Div J L Hall Co Inc Redwood City	Cal
Jettron Products Inc Hanover	N J
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Keiser's Industries Inc Mt Holly Springs	Pa
Lane Industries,Electronics Div North Hollywood	Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim	Cal
Leecraft Mfg Co Inc Long Island City	N Y
Link Div Singer Co Binghamton	N Y
Manger Electric Co Inc Stamford	Conn
Mann Co, Henry Cornwell Heights	Pa
Marlin Mfg Corp Cleveland	Ohio
McCullough Aero Corp Hawthorne	Cal
Mercury Electronics Corp York	Pa
Meson Electronics Co, Inc Rochester	N Y
Methode Electronics Inc Chicago	Ill
Microdot, Inc South Pasadena	Cal
Microdot Inc. Troy	Mich
Micro-Magna Electronics Corp Cleveland	Ohio
Micro Metrics Inc Paterson	N J
3M Company St Paul	Minn
Molecular Research Inc Palm Beach Gardens	Fla
Molecu-Wire Corp Farmingdale	N J
M-T Electronics Co San Leandro	Cal
Mutron Corp Brockton	Mass
National Wire & Cable Corp Los Angeles	Cal
Nelson Electronic Labs Inc Plano	Tex
Nichols Co Ltd, R H Downsview	Ont
Noel-Smyser Engineering Co Indianapolis	Ind
Northwoods Electronics Corp West Chicago	Ill
Omega Industries Inc Newport Beach	Cal
Omega Laboratories Inc Rowley	Mass
Omega Leads Inc Culver City	Cal
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Paraplegics Mfg Co Inc Bensenville	Ill
Pentronics Corp Dorchester	Mass
Permonite Mfg Co Chicago	Ill
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17	Ont
Philway Products Inc Ashland	Ohio
Physical Sciences Corp Arcadia	Cal
Plaxial Div United-Carr Inc Newton Highlands	Mass
Plessey Co Ltd Ilford Essex	England
Positive Connector Co Derby	Conn
Private Tele Communications Inc Chicago	Ill
Pyco Inc Penndel	Pa
Randam Electronics Inc Cincinnati	Ohio
Raven Industries Inc Sioux Falls	SD
Raychem Corp Menlo Park	Cal
Rectico Inc Cedar Grove	N J
REF Dynamics Div UOP Mineola	N Y
Reflectone. Inc, Englewood Cliffs	N J
Rem-Tronics Inc Silver Creek	N Y
Renco Electronics Inc Hicksville	N Y
Ren Electronics Corp South Hadley Falls	Mass
Revere Electronic Div Wallingford	Conn
Robins Electronics La Mesa	Cal
Ross Co, Milton Southampton	Pa
Ross Matthews Corp Fall River	Mass
Runzel Cord & Wire Co Chicago	Ill
Sag Harbor Industries,Inc Sag Harbor	N Y
Saturn Electronics Corp Garland	Tex
Saxton Products Inc Congers	N Y

Schjeldahl Co, G T Northfield ....Minn
Servotronics Inc Buffalo ....N Y
Seven Associates Inc Sunnyvale ....Cal
Shigoto Industries Ltd New York ....N Y
Siltronics Inc Oakmont ....Pa
Sittler Corp Chicago Ill
Smith Inc, Herman H Brooklyn ....N Y
Space Craft Inc Huntsville ....Ala
Spectra-Strip Corp Garden Grove ....Cal
Spedcor Electronics Inc Glendale ....N Y
Strandberg Engineering Labs Inc Greensboro ....N C
Stratocon Corp Newark ....N J
Sunshine Scientific Instruments Inc Philadelphia ....Pa
Swiss Industries Costa Mesa ....Cal
Sylvania Electric Prods Inc, Parts Div Warren ....Pa
Taffet Electronics Inc Woodside ....N Y
Technical Components Co Inc Chicago Ridge Ill
Teletronics Labs Inc El Segundo ....Cal
Thermal Wire & Electronics Corp South Hero ....Vt
Tilton Electronics Corp Winnisquam ....N H
T M C Systems & Power Corp Springfield ....Va
Topping Electronics Ltd Scarborough ....Ont
Transcom Electronics Inc La Mesa ....Cal
Triangle Electronic Mfg Co Inc Poughkeepsie ....N Y
Tri-Dex Co Visalia ....Cal
Trott Electronics Inc Rochester ....N Y
Univox Corp Norwalk ....Conn
Vacco Electronics Div, Vacco Industries South El Monte ....Cal
Viking Instruments Inc East Haddam ....Conn
Vitra Instrument & Electronics Corp Syosset ....N Y
Waber Electronics Inc Philadelphia ....Pa
Wavetronics Industries Inc West Pittston ....Pa
Welco Electric Corp South Bend ....Ind
Western Int'l Inc., Connector Div. Yonkers ....NY
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe ....Pa
Workman Electronic Products Inc Sarasota ....Fla
Zippertubing Co Los Angeles ....Cal

HARNESS LACING

See **Cords—Lacing**

HEADERS—HERMETICALLY SEALED (RELAY & TRANSFORMER)

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE ....FLA
AMERICAN LAVA CORP CHATTANOOGA ....TENN
ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS & PHARM IND CORP MURRAY HILL ....N J
TORWICO ELECTRONICS, INC LAKEWOOD ....N J
Airpax Electronics Inc, Cambridge Div Cambridge ....Md
Airpax Electronics Inc Seminole Div Fort Lauderdale ....Fla
Alberox Corp New Bedford ....Mass
American Lava Corp Chattanooga ....Tenn
Astro Seal Inc S El Monte ....Cal
Basic Ceramics Inc Sub Basic Inc Hawthorne ....NJ
Beowulf Connector & Cable Corp Huntsville ....Ala
Castall Research Lab Inc Brockton ....Mass
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center ....N Y
Ceramics International Corp Mahwah ....NJ
Crystal Components Gr Saegertown Div GTI Corp Saegertown ....Pa
Detoronics Corp S El Monte ....Cal
Device Seals Inc Sun Valley ....Cal
Eimac Div, Varian Associates San Carlos ....Cal
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill ....N J
Electronic Seals Co Inc Van Nuys ....Cal
Electrovac Vienna ....Austria
Fusite Corp Cincinnati ....Ohio
Gemp Terminals Inc Yonkers ....N Y
Glasseal Products Co Inc Linden ....N J
Great Eastern Metal Products Co Yonkers ....N Y
Greenfield Components Corp Greenfield ....Mass
Gulton Industries Inc Controls & Instru Grp Costa Mesa ....Cal
Hermaseal Co Inc Elkhart ....Ind
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead ....Cal
Hermetite Corp Avon ....Mass
Impectron Inc New York ....N Y
Lake Engineering Co Ltd Scarborough ....Ont
Latronics Corp Latrobe ....Pa
Livingston Electronic Div Jettron Prods Inc Hanover ....N J
Metalized Ceramics Corp Providence ....R I
Mitronics Inc Murray Hill ....N J
Networks Electronic Corp Chatsworth ....Cal
Northeast Electronics Corp Milford ....Conn
Norton Co Chemical Process Prods Div Orrville ....Ohio
Physical Sciences Corp Arcadia ....Cal
Royal Worcester Industrial Ceramics Inc Charlotte ....N C
Schjeldahl Co, G T Northfield ....Minn
Sealtron Corp Cincinnati ....Ohio
Silicone Seals Inc Chicago Ill
Sphere Co Inc Little Falls ....N J
Staffall, Inc Providence ....R I
Statham Instruments Inc Oxnard ....Cal
Stettner-Trush Inc Cazenovia ....N Y
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim ....Cal
Texas Instruments Incorporated Dallas ....Tex
Thermal Controls Inc Belleville ....N J
Torwico Electronics, Inc Lakewood ....N J
United-Carr Inc Boston ....Mass
Veritron West Inc Chatsworth ....Cal
Warren Components Corp Warren ....Pa

HEADERS—TRANSISTOR, DIODE & INTEGRATED CIRCUIT

BARNES CORP LANSDOWNE ....PA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV PG 7
PRIMO CO LTD TOKYO ....JAPAN
Acme Chemicals & Insulation New Haven ....Conn
Barnes Corp Lansdowne ....Pa
Basic Ceramics Inc Sub Basic Inc Hawthorne ....NJ
Castall Research Lab Inc Brockton ....Mass
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center ....N Y
Ceramics International Corp Mahwah ....NJ
Crystal Components Gr Saegertown Div GTI Corp Saegertown ....Pa
Do-Rite Mfg Co East Paterson ....N J
Eimac Div, Varian Associates San Carlos ....Cal
Electrovac Vienna ....Austria
EPD Industries Inc Long Beach ....Cal
Frenchtown/CFI Inc Frenchtown ....N J
General Electric Co, ECSO Schenectady ....N Y
Glasseal Products Co Inc Linden ....N J
Greenfield Components Corp Greenfield ....Mass
GTI Corp Meadville ....Pa
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Hermetite Corp Avon ....Mass
Impectron Inc New York ....N Y
Latronics Corp Latrobe ....Pa
Metalized Ceramics Corp Providence ....R I
Mitronics Inc Murray Hill ....N J
Mullard Ltd London, WC 1 ....Eng
NGK Spark Plug Co Ltd Mizuho-ku Nagoya ....Japan
Primo Co Ltd Tokyo ....Japan
Raytheon Co, Components Div, Ind Compnts Oper Quincy ....Mass
Robinson-Nugent Inc New Albany ....Ind
Ross Co, Milton Southampton ....Pa
Royal Worcester Industrial Ceramics Inc Charlotte ....N C
Sylvania Electric Prods Inc, Parts Div Warren ....Pa
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim ....Cal
Texas Instruments Incorporated Dallas ....Tex
United-Carr Inc Boston ....Mass
U S Dielectric Inc Worcester ....Mass
USECO Div, Litton Industries Van Nuys ....Cal
Veritron West Inc Chatsworth ....Cal
Warren Components Corp Warren ....Pa

Works in Seconds.

The '70 Electronics Buyers' Guide lets you find people, places, and things in seconds. In the Directory of Manufacturers and Sales Offices, for example, more than 6,000 manufacturers are listed, including addresses, telephone numbers, sales offices, the people to call for information, the total number of engineers and employees and sales volumes. So use your EBG. It works in seconds.

Electronics Buyers' Guide

HEADPHONES

See **Earphones**

HEADS—INDEXING, ROTARY

SUPERIOR ELECTRIC CO THE BRISTOL ....CONN
THETA INSTRUMENT CORP FAIRFIELD ....N J
Custom Scientific Instruments Inc Whippany ....N J
Falcon Machine & Tool Co Inc North Wilmington ....Mass
Kahle Engineering Co Union City ....N J
Opto-Metric Tools Inc New York ....N Y
Scherr Tumico Inc St James ....Minn
Superior Electric Co The Bristol ....Conn
Theta Instrument Corp Fairfield ....N J

HEADS—RECORDING, MAGNETIC

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND OHIO ....ADV PGS 300,301
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO ....ADV PG 8
INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY ....N J
KENTON ENGINEERING CORP SKOKIE ILL
LITTON COMPUTER PRODUCTS DIV COLORADO SPRINGS ....COLO
MICHIGAN MAGNETICS VERMONTVILLE MICH ....ADV PG 302
MITSUMI ELECTRIC CO LTD TOKYO ....JAPAN
NORTON ASSOCIATES INC COPIAGUE N Y ....ADV PGS 296-299
NORTRONICS CO INC MINNEAPOLIS MINN ....ADV PG 295
SAKI MAGNETICS INC AN MCA INC CO SANTA MONICA CAL ....ADV PG 294
SIEMENS AMERICA INC NEW YORK ....N Y
Ampex Corp Redwood City ....Cal
Applied Magnetics Corp Drum & Disc Head Div Goleta ....Cal
Applied Magnetics Corp, Magnetic Tape Head Div Goleta ....Cal
Arvin Magnetics Columbus ....Ind
Bell & Howell Co, Elctn Instr Grp Pasadena ....Cal
Clevite Corp, Brush Instruments Div Cleveland ....Ohio
Data Disc Inc Computer Products Div Palo Alto ....Cal
Data Disc Inc, Display Div Palo Alto ....Cal
Dresser Systems, Inc Houston ....Tex
Ercona Corp Bellmore ....NY
Ferroxcube Corp Saugerties ....N Y
General Electric Co Info Sys Equip Div Phoenix ....Ariz
General Kinetics Inc Reston ....Va
Geo Space Corp Houston ....Tex
Gregory Magnetic Industries Inc Pompano Beach ....Fla
Honeywell Test Instruments Div Denver ....Colo
Honig Laboratories Inc Westbury ....N Y
Indiana General Corp Electronics Div/Ferrites Keasbey ....N J
International Data Products Inc Luquillo ....Puerto Rico
International Electro-Magnetics Inc Palatine Il
ITT Europe Inc Components Gp Brussels 1 ....Belgium
Kenton Engineering Corp Skokie Il
Lipps Inc Santa Monica ....Ca
Litton Computer Products Div Colorado Springs ....Colo
Magnasync/Moviola Corp North Hollywood ....Ca
Magne-Head Div, Gen Instrument Corp Hawthorne ....Ca
Magnusonic Devices Inc. Hicksville ....N Y
Matsushita Communication Industrial Co Ltd Yokohama ....Japan
Michigan Magnetics Vermontville ....Mich
Midwestern Instruments Inc, Div Telex Corp Tulsa ....Okla
Mitsumi Electric Co Ltd Tokyo ....Japan
Norton Associates Inc Copiague ....N Y
Nortronics Co Inc Minneapolis ....Minn
Oki Electric Industry Co Ltd Tokyo ....Japan
Philmore Mfg Co Inc Richmond Hill ....N Y
Potter Instrument Co, Inc Plainview ....N Y
Racal Electronics Ltd Bracknell Berks ....England
Radio Corp of America, Comml Elctn Prods Div Camden ....N
RCA, Defense Electronic Products Moorestown ....N

HEADS

DIGITAL | ANALOG
AUDIO | VIDEO
TAPE | DISC
DRUM | FILM

Manufactured in our Clean Room
to your exact specifications
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under the personal direction of
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- Heads for Every Audio and Instrumentation Application.

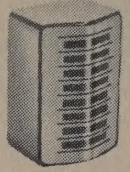
- Deposited quartz gaps
- Low loss laminated cores
- All metal hyperbolic face
- Standardized sizes, mounts & terminations

DETAILED SPECIFICATIONS AVAILABLE UPON REQUEST

STUDIO SERIES

- For ½ inch, 1 inch, and 2 inch tape
- Ideal for audio mastering
- Standard SMPTE formats

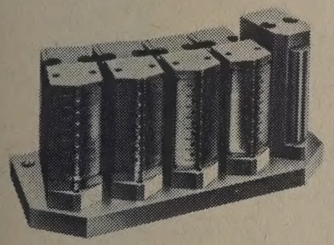
STR-10B


STR-8B

STR-4B

INSTRUMENTATION HEADS

- Custom built to your specifications
- IBM and IRIG track configurations
- Read, write, and erase heads
- Available with
  - adjustable mount
  - fixed precision ground base
  - complete assemblies

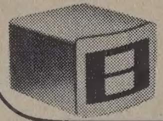


MINI-DIGITAL HEADS

- Read/Write
- For desk-top calculators, input/output systems, and peripheral equipment
- High precision, moderate cost
- .250" and .150" formats

P-BQQ
4-Track

PR-BIF
Full Track


W2R
2-Track
Cassette

PROFESSIONAL SERIES

PR-B2H
2-Tr.
(No Mount)

- For ¼" tape
- Full-track and 2-track formats
- Excellent response 20 Hz to 20 KHz

CASSETTE SERIES

W2JR

W4J

W2R

- Mono and Stereo
- Bi-Directional— No Cartridge Flipover Required!
- Duplicating, Mini-Digital, and Language Lab Formats

RECORD & PLAYBACK HEADS

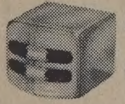
- Wide range of stock impedances for most circuit requirements.
- Record/playback heads have 0.1-mil gap and following inductance and electrical code: 20 MH (8K) 100 MH (4K), 200 MH (6K), 400 (7K), 800 MH (2K). Premium Record-Only heads have 0.5-mil gaps: 2 MH (14R), 10 MHY (8R) 50 MH (4R).

8-Track and 4-Track Heads

NEW!
8-Tr. Stereo
Z-Combo
ZJ2L
(No Mount)

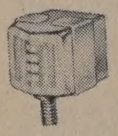
8-Tr. Stereo
B2L-N
(No Mount)

4-Tr. Stereo Combo
A2Q-BL
(Base Mount)


4-Tr. Stereo
WP-B2Q
(No Mount)

3 and 4 Channel In-Line Heads

3-TRACK
3-CHANNEL
P-B3Q-R
(Rear Mount)


4-TRACK
4-CHANNEL
BQQ-B
(Base Mount)

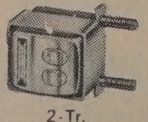
8-TRACK
4-CHANNEL
P-BQL-N
(No Mount)

2-Track and Full Track Heads

2-Tr. Stereo
B2H-B
(Base Mount)

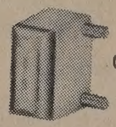
2-Tr.Mono
AIHC-R
(Rear Mount)

2-Tr. Mono
G1H-R
(Rear Mount)


2-Tr.
Stereo Combo
A2H-SL
(Side Mount)

ERASE HEADS

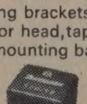
- Efficient double-gap metal-face construction. Mono or stereo, 2-track or 4-track, 3 basic case sizes.
- Stock impedances from 3 volts to 180 volts rms. at oscillator frequencies 50 KHz and 100 KHz. At 60 KHz typical operating rms. voltages for specific impedance #'s are: 6V. (#2), 40 V. (#4), and 120 V. (#1).


L Size
SEQ
(Side Mount—S23)

B Style
BIEF
(No Mount—N)

S Size
MEH
(Rear Mount—R-12S)

ACCESSORIES—Bias Oscillator transformers suitable for transistor or vacuum tube circuitry. Connector plugs, plug and cable assemblies, cartridge mounting brackets, single head nest, contractor head, tape guide post, and universal mounting backets.


- T 70 Series for use with Printed Circuit Boards

- T 60 Series for chassis mounting

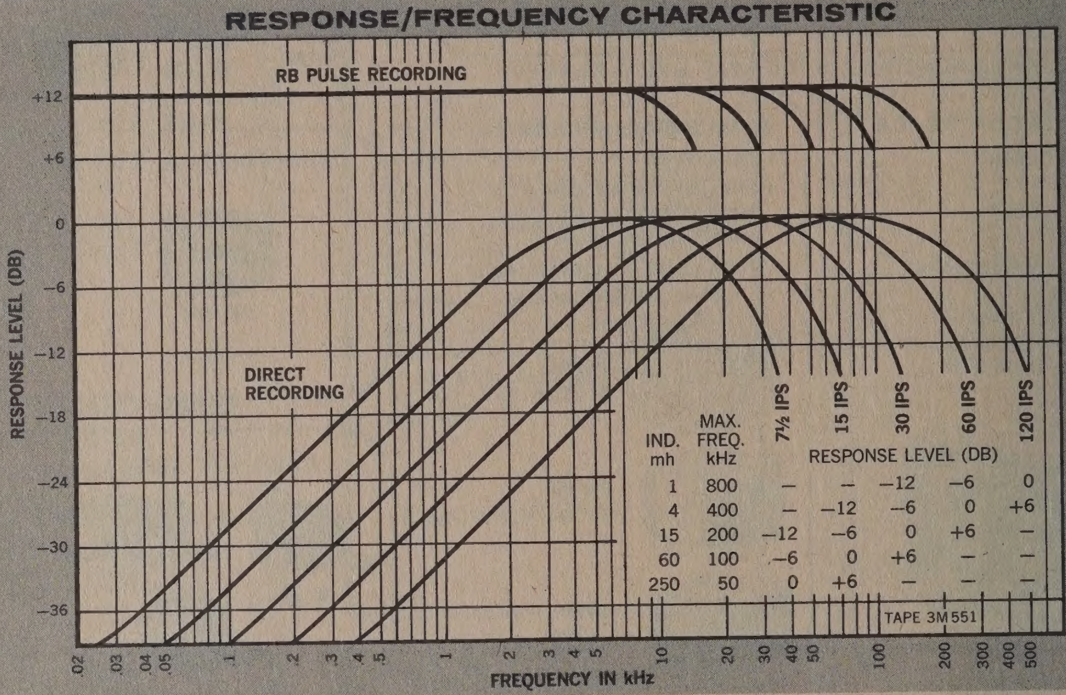
NORTRONICS COMPANY, INC. • 8101 TENTH AVENUE, NORTH • MINNEAPOLIS, MINNESOTA 55427 • PHONE: (612) 545/0401

NORTON® MAGNETIC HEADS

MULTITRACK

SERIES 2000/7500 ERASE RECORD PLAY

RESPONSE/FREQUENCY CHARACTERISTIC



IND. mh	MAX. FREQ. kHz	7½ IPS	15 IPS	30 IPS	60 IPS	120 IPS
		RESPONSE LEVEL (DB)				
1	800	—	—	−12	−6	0
4	400	—	−12	−6	0	+6
15	200	−12	−6	0	+6	—
60	100	−6	0	+6	—	—
250	50	0	+6	—	—	—

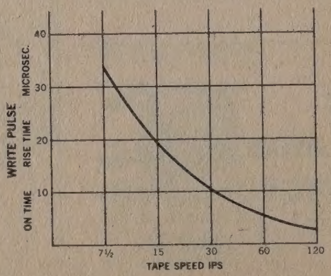
The Response/Frequency characteristics above, illustrate the exceptional performance of the Series 2000 thru 7500 Norton Magnetic Heads in direct and digital recording. The upper curves relate to the readback pulse amplitude for RB (return to bias) writing with the digital models and the lower curves relate to the unequalized playback amplitude of the analog models for constant current direct recording, both as a function of frequency (or rep rate). The five standard impedances available, together with the five tape speeds illustrated, total 25 different curves in each group, too many to clearly represent on a single chart. Pairs of inductance and tape speed are selected, which result in a set of curves peaking at the same level and having upper frequency limits proportional to tape speed. Therefore, the 1 mh inductance record/play response is at 120 ips; the 4 mh at 60 ips, and so on to the 250 mh response at 7½ ips. The other inductances are related to each as set forth in the included table. Each curve is at the same mv level as the others and so enables a quick comparison of level, frequency response, and required tape speed to achieve a desired performance goal. To read the curves, first refer to any Series found on the following pages, and note the Typical Operation data and the 0 DB playback reference level in mv rms for direct recording or +12 DB reference level in mv p-p for RB pulse recording. Then referring to the curves, calculate the response obtainable at the inductance and tape speed contemplated.

DIGITAL RECORDING

Selecting the 5500 Series from the following pages for analysis, the 60 mh track for RB pulse recording has a +12 DB reference level of 10 mv p-p at 15 ips. The readback pulse at 15 ips is 10 mv p-p and constant up to a 15 kHz rep rate, equivalent to a 1000 ppi recording density, with a 20 μsec, 3 ma p-p write pulse (rise time 20 μsec). At a faster rep rate of 30 kHz (2000 ppi) at 15 ips and a 10 μsec, 3 ma p-p pulse (rise time 10 μsec) the readback pulse is 5 mv p-p (10 mv less 6 DB) with all pulses present, and 10 mv p-p for an isolated pulse.

Writing and reading at 7½ ips the readback pulse amplitude of the 60 mh track is 5 mv p-p (10 mv less 6 DB) and flat to 7.5 kHz, with a 30 μsec 3 ma p-p pulse (rise time 30 μsec).

Full output is obtained up to a recording density of 1000 ppi with equal pulse on time and rise time at the values shown in the graph below. Operation up to 2000 ppi at reduced read amplitude requires halving these times. Increasing the times will reduce the recording density and readback level, and is not recommended. A better solution is to choose a lower inductance to preserve the recording density capability.

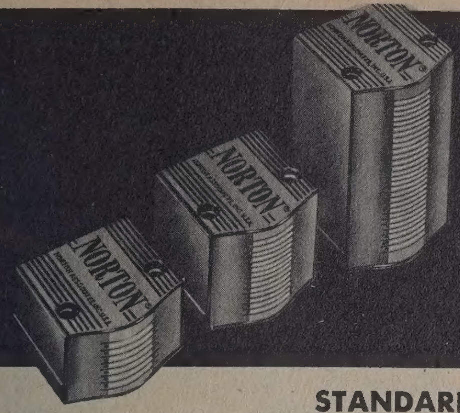


DIRECT RECORDING

Selecting the 2000 Series from the following pages for analysis, the 15 mh track for direct (bias) recording has a stated playback 0 DB reference level of 1.8 mv rms which at 30 ips is at 30 kHz. At 1 kHz the playback level drops to 0.15 mv rms (21 db below 1.8 mv). Operated at 7½ ips its 1 kHz and 30 kHz levels are both 0.15 mv rms (1.8 mv less 12 db less 9 DB). Increasing the inductance to 250 mh would increase the 1 and 30 kHz play level to 0.6 mv rms (1.8 mv less 9 DB) at 7½ ips. It can be seen that the short wavelength response to over 4000 cpi together with a maximum contour effect deviation of ±2 DB from the 6 DB/octave slope permits a useful bandwidth of over 10 octaves at any tape speed, and with the range of inductances available, permits the highest play level consistent with the frequency range of the system.

NORTON® SERIES SELECTOR

NUMBER OF TRACKS	TAPE WIDTH		
	¼ INCH	½ INCH	1 INCH
2	2000		
3	3500		
4	4500 5000	2000	
5	5500	3500	
6	6500		
7	7500	4500	
8		5000	2000
9		5200	
10		5500	3500
12		6500	
14		7500	4500
16			5000
18			5200
20			5500
24			6500
28			7500



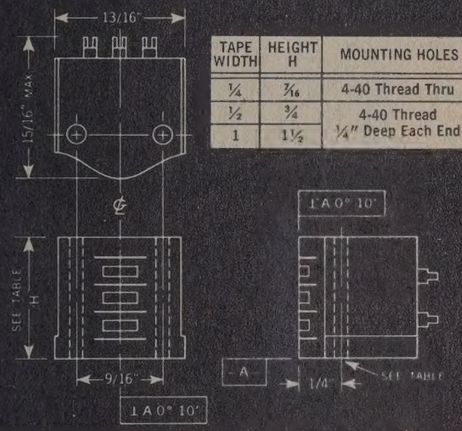
NORTON®
MAGNETIC HEADS
MULTITRACK
ERASE RECORD PLAY

STANDARD FEATURES SERIES 2000/7500

Standard features include extremely low crosstalk ratings and +75°C temperature operation without derating, plus a mechanical accuracy permitting hard mount or adjustable mount installation. Rugged solid metal construction, shock and vibration resistant, provides a hard, stable, low friction, long wear surface for the tape. The cores, shields and all metallic members are mechanically and electrically bonded together for effective electrostatic shielding and grounding of static charges. Precision finishing of the recording face to micro-inch tolerance insures intimate contact of the tape with every channel for uniformly excellent response independent of track location.

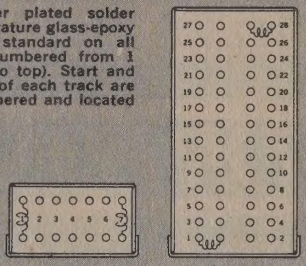
OUTLINE & MOUNTING DIMENSIONS

TAPE WIDTH	HEIGHT H	MOUNTING HOLES
¼	7/16	4-40 Thread Thru
½	¾	4-40 Thread ¼″ Deep Each End
1	1½	



TERMINAL BOARD CONNECTION DIAGRAM

TERMINATION: Silver plated solder lugs on a high temperature glass-epoxy terminal board are standard on all series. Tracks are numbered from 1 through 28 (bottom to top). Start and finish terminal pairs of each track are correspondingly numbered and located as illustrated.



2 TO 7 TRACKS

8 TO 28 TRACKS

SELECTIVE ERASE HEADS

Multitrack selective erase heads to match the formats of the NORTON Series 2000/7500 units are available. All heads offer erase track widths at least 10 mils wider than the record tracks to insure full erasure. Outline and mounting dimensions are the same, and a standard 1 mh inductance is stock with other impedances available on request.

Erase heads for the Series 2000 and 3500 heads are a single unit with the same number of tracks and track spacing as the record head. Erase heads for the Series 4500 thru 7500 units consists of a pair of heads, each with double track spacing. Odd number tracks are on one unit, and even number tracks on the other.

Catalog numbers for the erase heads have the same Series number as the record head except for the suffix which changes to 1E as in the following example: Catalog #3510-1E is a 1mh erase head for use with the 10 track 1″ tape head in the Series 3500.

ORDERING INFORMATION

To specify the complete catalog number for ordering purposes designate the Series number of the head you require, the inductance in mh and the function ie. Record (AR) only, Record/Play (ARP), or Play (AP) only for audio and analog applications: or Record (DR) only, Record/Play (DRP), or Play (DP) only for digital applications, as in the following example: Catalog #4507—15 DP which is the Series 4500, 7 tracks, 15mh Digital Play Head for ½″ tape.

NORTON ASSOCIATES, INC.

10 Di Tomas Court, Copiague, New York • (516) 598-1600

SERIES 2000

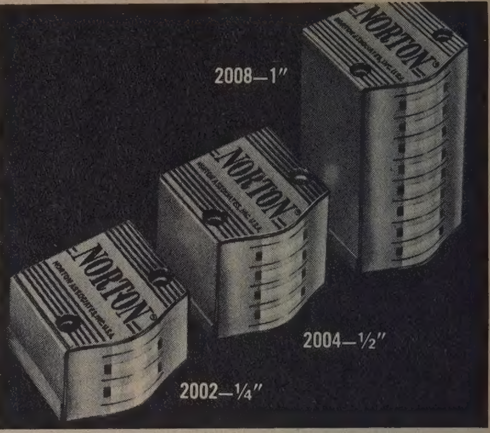
CROSSTALK — 60 DB

TRACK WIDTH — 2002 — .080
2004, 2008 — .070

TRACK SPACING — 2002 — .160 ctoc
2004, 2008 — .130 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	60	10	1.5	1.8	40	18
4	40	5	.8		20	
15	20	2.5	.4		10	
60	10	1.3	.2		5	
250	5	.7	.1		2.5	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
2	¼"	2002	1, 4, 15, 60 or 250	A or D	R, R/P or P
4	½"	2004			
8	1"	2008			



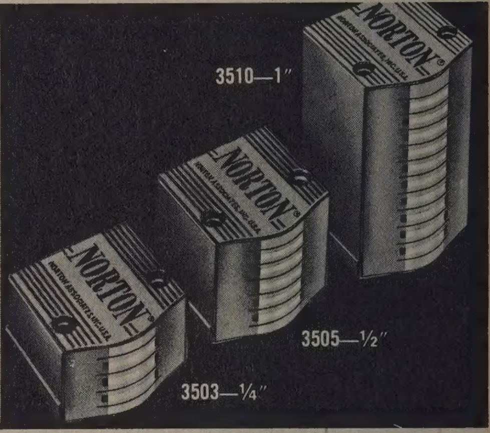
SERIES 3500

CROSSTALK — 60 DB

TRACK WIDTH — .040 TRACK SPACING — .100 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	50	8	1	1.2	32	12
4	40	4	.5		16	
15	20	2	.25		8	
60	10	1	.12		4	
250	5	.5	.06		2	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
3	¼"	3503	1, 4, 15, 60 or 250	A or D	R, R/P or P
5	½"	3505			
10	1"	3510			



NORTON® MAGNETIC HEADS

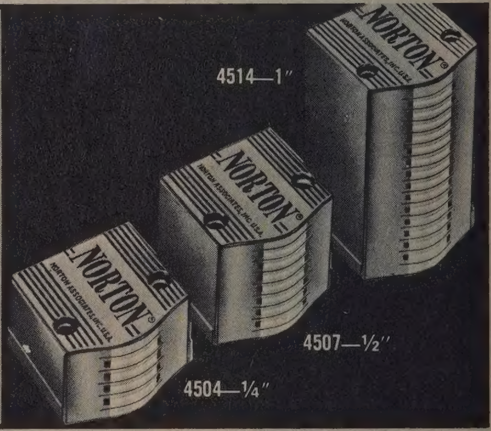
SERIES 4500

CROSSTALK — 50 DB

TRACK WIDTH — .032 TRACK SPACING — .070 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	40	6	.8	1.0	24	10
4	20	3	.4		12	
15	10	1.5	.2		6	
60	5	.8	.1		3	
250	5	.4	.05		1.5	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
4	¼"	4504	1, 4, 15, 60 or 250	A or D	R, R/P or P
7	½"	4507			
14	1"	4514			



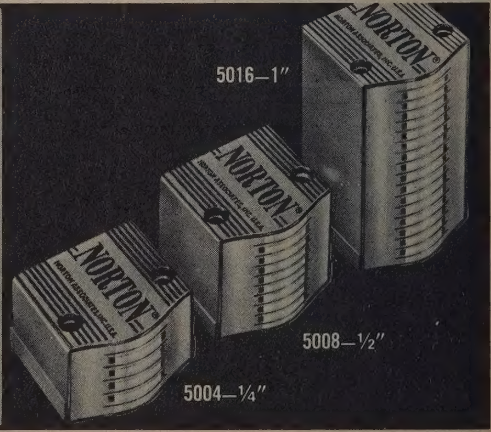
SERIES 5000

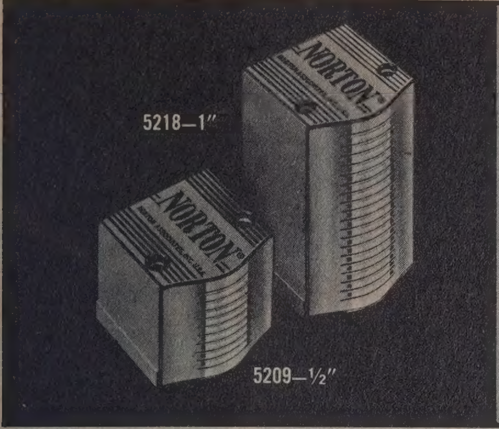
CROSSTALK—50 DB

TRACK WIDTH — .024 TRACK SPACING — 5004 — .0635 ctoc
5008, 5016 — .064 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	40	6	.8	1.0	24	10
4	20	3	.4		12	
15	10	1.5	.2		6	
60	5	.8	.1		3	
250	5	.4	.05		1.5	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
4	¼"	5004	1, 4, 15, 60 or 250	A or D	R, R/P or P
8	½"	5008			
16	1"	5016			





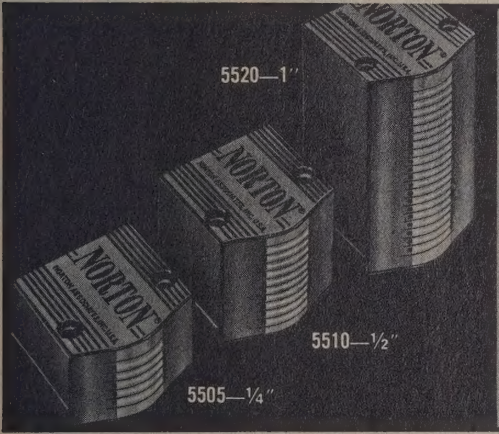
SERIES 5200

CROSSTALK—40 DB

TRACK WIDTH—.024 TRACK SPACING—.055 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	40	6	.8	1.0	24	10
4	20	3	.4		12	
15	10	1.5	.2		6	
60	5	.8	.1		3	
250	5	.4	.05		1.5	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
9	½"	5209	1, 4, 15, 60 or 250	A or D	R, R/P or P
18	1"	5218			



SERIES 5500

CROSSTALK—40 DB

TRACK WIDTH—.024 TRACK SPACING—.050 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	40	6	.8	1.0	24	10
4	20	3	.4		12	
15	10	1.5	.2		6	
60	5	.8	.1		3	
250	5	.4	.05		1.5	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
5	¼"	5505	1, 4, 15, 60 or 250	A or D	R, R/P or P
10	½"	5510			
20	1"	5520			

MULTITRACK
ERASE RECORD PLAY

NORTON ASSOCIATES, INC.

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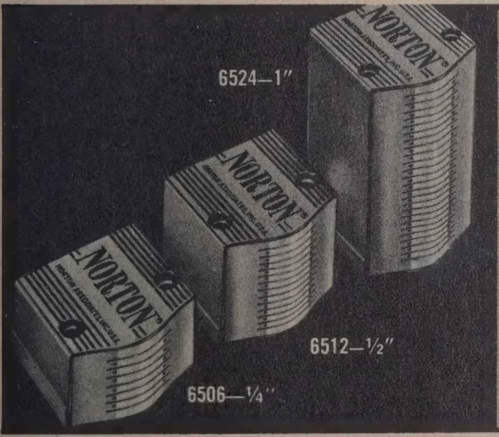


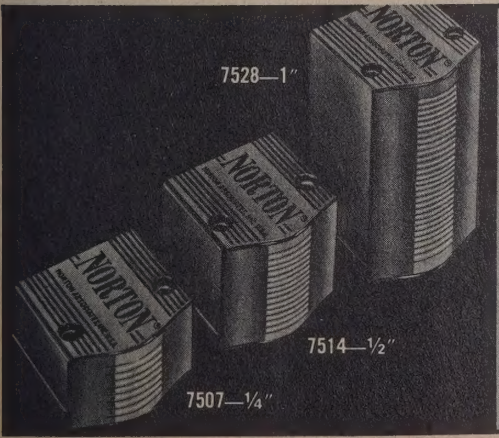
SERIES 6500

CROSSTALK—40 DB

TRACK WIDTH—.018 TRACK SPACING—6506—.045 ctoc
6512, 6524—.042 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	40	5	.6	0.9	20	9
4	30	2.5	.3		10	
15	10	1.3	.15		5	
60	5	.7	.08		2.5	
250	5	.4	.04		1.3	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
6	¼"	6506	1, 4, 15, 60 or 250	A or D	R, R/P or P
12	½"	6512			
24	1"	6524			



SERIES 7500

CROSSTALK—40 DB

TRACK WIDTH—.012 TRACK SPACING—7507 —.038 ctoc
7514, 7528 —.036 ctoc

INDUCTANCE	MAXIMUM RATING AT 75°C	TYPICAL OPERATION				
		BIAS RECORDING			RB PULSE RECORDING	
mh	ma rms	Bias Current ma rms	Record Current ma rms	Playback 0 DB mv rms	Write Pulse ma p-p	Read Pulse +12DB mv p-p
1	30	4	.6	0.7	16	7
4	15	2	.3		8	
15	10	1	.15		4	
60	5	.5	.08		2	
250	5	.3	.04		1	

NUMBER OF TRACKS	TAPE WIDTH	CATALOG NUMBER			
		SERIES	INDUCTANCE	ANALOG OR DIGITAL	FUNCTION
7	¼"	7507	1, 4, 15, 60 or 250	A or D	R, R/P or P
14	½"	7514			
28	1"	7528			

From the people who pioneered magnetic recording

Brush magnetic rubber.

non-wearing medium for magnetic recording

Molded bands of tough, highly stable rubber . . . densely impregnated with magnetic oxide . . . smooth-surfaced for minimum head wear . . . an ideal memory system for machine or process-control sequences, data processing, fault recording, repetitive message reporting (over 3,000,000 repeats without failure).

Recorded data is virtually permanent until erased . . . normal operating life well above 10,000 hours at 30 ips.
• Prolonged life • Minimum Head Wear • High Signal/noise ratio • High Fidelity • High Reliability • Low Operating Cost.

In either Hypalon® or extra-tough Adiprene® . . . bands ½″ to 6″ width, 2″ to 18″ diameters.

Whatever your problem involving magnetic media, give us your specifications. Clevite Corporation, Brush Instruments Division,
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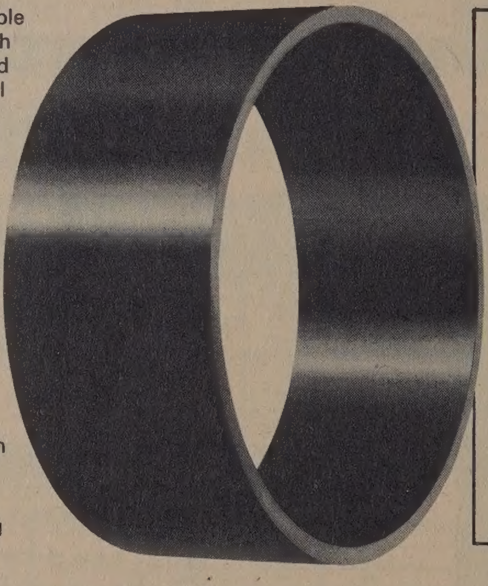
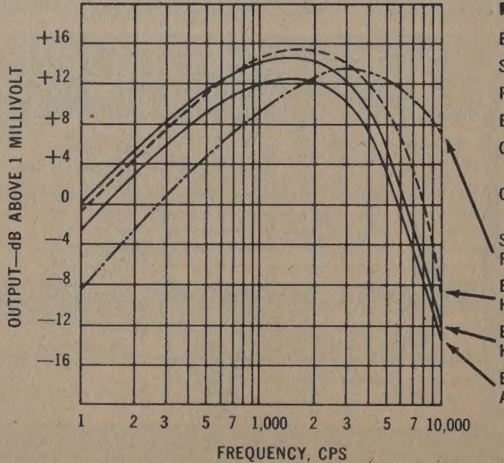


TABLE I
MATERIAL SPECIFICATION OF MAGNETIC BANDS

Magnetic Properties	**Hypalon**	**Adiprene**	**Hypalon**
Compound	98306	03866	98308
Coercive force *Hc-Oersteds . . .	350	355	385
Remanence *Br - Gauss	720	510	690
Maximum Induction—Gauss . . .	1130	800	1050
Physical Properties			
Tensile Strength, PSI Min. . . . ASTM-D-412-51T-Die C	1500	1800	1500
Elongation Before Breakage, Min. ASTM-D-412-Die C	100%	200%	100%
Normal Elongation Recommended for Mounting	6%	6%	6%
Hardness, Shore "A" Durometer .	85 ±5	80 ±5	85 ±5
Relaxation—Max. (Inches) . . . ASTM-D-412-512-Die C.	.125″	.175″	.125″

*Magnetic properties are average values obtained from hysterisis loops and assumed magnetic cross sectional area. The loops were obtained using a 60 CPS magnetizing field of 4000 oersteds, peak to peak. Physical properties were determined from a random sampling of bands.



MAGNETIC BAND FREQUENCY RESPONSE

Brush BK-1090 Record—Reproduce Head.

Speed: 7½ in./Sec.

Record Current: 0.2 Milliamps/Winding (0.4 Milliamps Total)

Bias Current: 1.5 Milliamps/Winding (3.0 Milliamps Total) @ 50 KCPS

Optimum Record Current is taken as that current which produces an output 12 dB down from saturation.

Optimum Bias Current is that current which produces 2% or less third harmonic distortion at 750 CPS record signal.

CLEVITE BRUSH

From the people who pioneered magnetic recording

Brush magnetic heads.

designed and fabricated to your specifications

Brush designs and fabricates magnetic heads to *your* particular requirements . . . from low cost single-track audio models to highly sophisticated multi-track heads and multiple-head assemblies.

- Digital heads in IBM compatible formats, or format of your choice — with packing densities to 6000 fci.
- Wideband instrumentation heads — from IRIG formats to 42 tracks/inch — out to 2MHz.

Full range of electrical characteristics — to your specifications. ■ A quarter-century of experience (Brush developed the first successful magnetic recorder back in 1942) has produced proprietary core and structural designs with pronounced advantages in higher efficiency, reduced crosstalk and crossfeed, extended life, higher resolution. ■ Whatever your problem involving heads, give us your specifications. Clevite Corporation, Brush Instruments Division, 37th and Perkins, Cleveland, Ohio 44114.

CLEVITE BRUSH

MICHIGAN MAGNETICS

is ready to meet your needs for magnetic heads

DIGITAL · ANALOG · "SPOT CHECK"
· FERRITES "[illegible] JIM" · AERO-SPACE ·
INSTRUMENTATION · AUDIO-VISUAL
MEDICAL ELECTRONIC · "K-SET" ·
C[illegible] [illegible]AGE LABS ·
ORBITAL TELEMETERING · "SEMA-
PHORE" B[illegible]NG ·
"X-CITERS" DRUMS · GEOPHYSICAL ·
VIDEO · SEIZMIC · DISCS

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Sanyo Electric Co Ltd Osaka ... Japan
Siemens America Inc New York ... N Y
Telectro Systems Corp Corona ... N Y
Thermionic Products Electronics Ltd Southampton ... England
United Control Corp Redmond ... Wash
Video Research Corp Rockville ... Md
Western Magnetics Inc Sub Midtex Inc Glendale ... Cal
Westrex Div Litton Industries, Inc Hollywood ... Cal
World Magnetics Inc Sub Fairchild Cam & Inst Corp Charlotte ... Mich

HEARING AIDS

NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Audio Equipment Co Div Walter Kidde & Co Inc Port Washington ... NY
Beltone Electronics Corp Chicago ... Ill
Cosmocord Ltd Waltham Cross ... Hertfordshire UK
Eckstein Bros Hawthorne ... Cal
Electronic Futures Inc Div KMS Indus Inc North Haven ... Conn
Matsushita Communication Industrial Co Ltd Yokohama ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Nippon Electric Co Ltd Tokyo ... Japan
Radioear Corp Canonsburg ... Pa
Telex Communications Div Minneapolis ... Minn
Unex Labs Inc Hathorne ... Mass

HEARING-AID TUBES

***See* Tubes—Hearing-Aid**

HEAT CONTROLS

***See* Controls—Temperature**

HEATERS, ELECTRONIC—DIELECTRIC

Barth Electronics, Inc Cleveland ... Ohio
Cober Electronics Inc Stamford ... Conn
Cycle-Dyne, Inc Jamaica ... N Y
Feco A Bangor Punta Co Cleveland ... Ohio
Genesys Systems Inc Mountain View ... Cal
Industron Corp Needham Heights ... Mass
Ionic Electrostatic Corp Garfield ... N J
Larose & Assoc Inc, W T Cohoes ... NY
Mann-Russell Electronics Inc Tacoma ... Wash
Nichols Co Ltd, R H Downsview ... Ont
PinFin Inc Waltham ... Mass
Radio Frequency Corp Inc Medfield ... Mass
Raybond Electronics Inc Div Willcox & Gibbs Inc Norwood ... Mass
Reaction Research Labs of America Groton ... Conn
Reeve Electronics Inc Chicago ... Ill
Taylor-Winfield Corp Warren ... Ohio
Thermatron Div Wilcox & Gibbs Inc New York ... N Y
Votator Div Chemetron Corp Louisville ... Ky
Weldotron Corp Newark ... N J

HEATERS, ELECTRONIC—INDUCTION

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
Ajax Magnethermic Corp Warren ... Ohio
Alcatel Paris 8eme ... France
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place ... N Y
Controlomag Labs Roslyn ... Pa
Cycle-Dyne, Inc Jamaica ... N Y
Denki Kogyo Co Ltd Tokyo ... Japan
Dynamic Air Engineering Inc Santa Ana ... Cal
Feco A Bangor Punta Co Cleveland ... Ohio
General Electric Co, ECSO Schenectady ... N Y
Industron Corp Needham Heights ... Mass
Instruments Inc San Diego ... Cal
Ionic Electrostatic Corp Garfield ... N J
Ipsen Industries Div Alco Standard Corp Cherry Valley ... Ill
Lab-Line Instruments Inc Melrose Park ... Ill
Lepel High Frequency Labs, Inc Maspeth ... N Y
Radio Frequency Corp Inc Medfield ... Mass
Raybond Electronics Inc Div Willcox & Gibbs Inc Norwood ... Mass
Reaction Research Labs of America Groton ... Conn
Reeve Electronics Inc Chicago ... Ill
Research Industrolectronics Roslyn ... Pa
Robotron Corp Detroit ... Mich
Seven Associates Inc Sunnyvale ... Cal
Spectra-Mat Inc Watsonville ... Cal
Tafa Div Humphreys Corp Concord ... N H
Taylor-Winfield Corp Warren ... Ohio
Thermatron Div Wilcox & Gibbs Inc New York ... N Y
Tocco Div Park-Ohio Ind Inc Cleveland ... Ohio
Westinghouse Electric Corp Indus Equip Div Baltimore ... Md
Wickes Industries Inc Camden ... N J
Zephyr Mfg Co Inc Inglewood ... Cal

HEATERS, ELECTRONIC—FIXTURES & OTHER ASSOCIATED EQUIPMENT

Coltron Industries, Inc Charlotte ... N C
Cycle-Dyne, Inc Jamaica ... N Y
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park ... N J
Genesys Systems Inc Mountain View ... Cal
Hayakawa Electric Co Ltd Osaka ... Japan
Industron Corp Needham Heights ... Mass
Ionic Electrostatic Corp Garfield ... N J
Larose & Assoc Inc, W T Cohoes ... NY
Logan Electronics Corp Revere ... Mass
Loyola Industries Inc Harbor City ... Cal
Lytron Inc Woburn ... Mass
Mann-Russell Electronics Inc Tacoma ... Wash
Miller Co, L C Monterey Park ... Cal
PinFin Inc Waltham ... Mass
Poco Graphite, Inc Garland ... Tex
Radio Frequency Corp Inc Medfield ... Mass
Raybond Electronics Inc Div Willcox & Gibbs Inc Norwood ... Mass
Reaction Research Labs of America Groton ... Conn
Reeve Electronics Inc Chicago ... Ill
Robotron Corp Detroit ... Mich
Sanders Nuclear, Inc Nashua ... N H
Signet Scientific Co Burbank ... Cal
Taylor-Winfield Corp Warren ... Ohio
Thermal Systems Inc Los Angeles ... Cal
Thermatron Div Wilcox & Gibbs Inc New York ... N Y
Thermo-Physics Corp Cambridge ... Mass
Tocco Div Park-Ohio Ind Inc Cleveland ... Ohio
Westinghouse Electric Corp Indus Equip Div Baltimore ... Md
Wickes Industries Inc Camden ... N J

HEATERS—INFRARED

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
Cleveland Process Corp Cleveland ... Ohio
Despatch Oven Co Minneapolis ... Minn
De Vilbiss Co Toledo ... Ohio
Engelhard Hanovia Inc Newark ... N J
Etchomatic Inc Waltham ... Mass
Fostoria-Fannon Inc Fostoria ... Ohio
General Electric Co, ECSO Schenectady ... N Y
Gulton Industries Inc Metuchen ... N J
Hayakawa Electric Co Ltd Osaka ... Japan
Hi-Shear Corp Torrance ... Cal
Infra-Red Systems Inc Riverdale ... N J
Irtronics Inc Stamford ... Conn
Merco Products Inc Eugene ... Ore
Miskella Infra-Red Co Cleveland ... Ohio
OAL Associates Inc Westbury ... N Y
Ovitron Corp Industrial Syst Div Cheshire ... Conn
Precision Scientific Co Sub GCA Corp Chicago ... Ill
Pyrotel Corp C/O Milletron Inc Pittsburgh ... PA
Quartz Radiation Corp Fairfield ... N J
Quartz & Silice Paris 8 eme ... France
Ramyr Mfg Co Buena Park ... Cal
Research Inc, R-I Controls Div Minneapolis ... Minn
Syncor Products Co, Inc Malden ... Mass
Trent Inc Philadelphia ... Pa
Vulcan Electric ITT Danvers ... Mass

HEAT EXCHANGERS

Accel Electronic Products Co Rosemead ... Cal
Air Products & Chemicals, Inc Allentown ... Pa
Alpha Components Corp Venice ... Cal
Astrodyne Inc Burlington ... Mass
Avco Aerostructures Div Nashville ... Tenn
Benson Mfg Div E C I Inc Kansas City ... Mo
Borg-Warner, Thermoelectric Div Des Plaines ... Ill
Carbone Corp Boonton ... N J
Cargocaire Engineering Corp Amesbury ... Mass
Corning Glass Works Corning ... N Y
Cryogenic Engineering Co Denver ... Colo
CVI Corp Columbus ... Ohio
Daedalus Sales Co Los Angeles ... Cal
Despatch Oven Co Minneapolis ... Minn
Dynatex Div Republic Corp Redwood City ... Cal
Eastern Industries Div Lab for Electronics Inc Hamden ... Conn
Electro Impulse Lab Inc Red Bank ... N J
Fansteel Inc North Chicago ... Ill
Fulton Sylphon Div Robertshaw Controls Co Knoxville ... Tenn
Gasket Mfg Co Inc Carson ... Cal
Goodyear Aerospace Corp Akron ... Ohio
Heatron Co York ... Pa
Hirst Electric Industries Ltd Crawley, Sussex ... England
International Electronic Research Corp Burbank ... Cal
International Rectifier Semiconductor Div El Segundo ... Cal
Janitrol Aero Div Midland-Ross Corp Columbus ... Ohio
Lear Siegler Inc Santa Monica ... Cal
Lockhart Industries Inc Paramount ... Cal
Lytron Inc Woburn ... Mass
Mann Co, Henry Cornwell Heights ... Pa
Materials Electronic Products Corp Trenton ... N J
Meridian Metalcraft Inc Whittier ... Cal
Pall Corp, Environmental Control Systems Div Long Island City ... NY
Penntube Plastics Co Clifton Heights ... Pa
PinFin Inc Waltham ... Mass
Polymica & Insulation Co Inc Hartford ... Conn
Pyromet Industries San Carlos ... Cal
Ramyr Mfg Co Buena Park ... Cal
Reeve Electronics Inc Chicago ... Ill
Research Inc, R-I Controls Div Minneapolis ... Minn
Roberts & Associates Inc, E V Culver City ... Cal
Texas Instruments Incorporated Dallas ... Tex
Thermo Electron Engineering Corp Waltham ... Mass
Union Carbide Corp, Materials Systems Div Kokomo ... Ind
United Aircraft Products Inc Dayton ... Ohio
Vapor Corp Chicago ... Ill
Wakefield Engineering Inc Wakefield ... Mass

HEATING ELEMENTS

BLUE M ENGINEERING CO BLUE ISLAND ... ILL
CIRCON COMPONENT CORP GOLETA CAL ... ADV PG 292
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
Abar Corp Feasterville ... Pa
Acra Electric Corp Schiller Park ... Ill
Blue M Engineering Co Blue Island ... Ill
Brew & Co Inc, Richard D Concord ... N H
Circon Component Corp Goleta ... Cal
Cleveland Process Corp Cleveland ... Ohio
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon ... Ohio
Coltron Industries, Inc Charlotte ... N C
Corning Glass Works Corning ... N Y
Cox & Company, Inc New York ... NY
Despatch Oven Co Minneapolis ... Minn
Eagle Electric Mfg Co Inc Long Island City ... N Y
Electro Applications, Inc Canonsburg ... Pa
Electrofilm, Inc North Hollywood ... Cal
Electro-Flex Heat Inc Bloomfield ... Conn
Engelhard Hanovia Inc Newark ... N J
Everlube Corp of America North Hollywood ... Cal
General Electric Co, ECSO Schenectady ... N Y
Gruenberg Electric Co Inc Garden City ... N Y
Gulton Industries Inc Metuchen ... N J
Harrel Inc East Norwalk ... Conn
Hayes Inc, C I Cranston ... R I
Hotfoil Electric Co Wood Dale ... Ill
Hotpack Corp Philadelphia ... Pa
Hotwatt Inc Danvers ... Mass
Huppert Co, K H South Holland ... Ill
Keith Co Inc, W P Pico Rivera ... Cal
Lake Engineering Co Ltd Scarborough ... Ont
Lindberg Hevi-Duty Div Sola Basic Industries Chicago ... Ill
Logan Electronics Corp Revere ... Mass
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Met-Bay Inc Bay City ... Mich
Minco Products Inc Minneapolis ... Minn
Miskella Infra-Red Co Cleveland ... Ohio
Norton Co Worcester ... Mass
OAL Associates Inc Westbury ... N Y
Ohmweve Co Inc West Hartford ... Conn
PinFin Inc Waltham ... Mass
Poco Graphite, Inc Garland ... Tex
Precision Inc Minneapolis ... Minn
Ramyr Mfg Co Buena Park ... Cal
Safeway Heat Elements Inc Middletown ... Conn
Sunbeam Equipment Corp Meadville ... Pa
Sylvania Elec Prods Inc Special Prod Div Danvers ... Mass
Thermal Engineering & Design Co Akron ... Ohio
Thermal Systems Inc Los Angeles ... Cal
Thermo Electron Engineering Corp Waltham ... Mass
Thermolyne Corp Dubuque ... Iowa
Trent Inc Philadelphia ... Pa
Ultra Carbon Corp Bay City ... Mich
Union Carbide Corp, Carbon Products Div New York ... N Y
Vulcan Electric ITT Danvers ... Mass
Waage Electric Inc Kenilworth ... N J
Watlow Electric Mfg Co St Louis ... Mo

HEATING ELEMENTS-ELECTRIC

BLUE M ENGINEERING CO BLUE ISLAND ... ILL
CIRCON COMPONENT CORP GOLETA CAL ... ADV PG 292
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
Ackerman Gould Co, Inc Oceanside ... N Y
Acra Electric Corp Schiller Park ... Ill
Aero Research Instrument Dept American Standard Franklin Park ... Ill
Blue M Engineering Co Blue Island ... Ill
Brew & Co Inc, Richard D Concord ... N H
Carborundum Co Electrical & Elctns Br Niagara Falls ... NY
Circon Component Corp Goleta ... Cal
Cleveland Process Corp Cleveland ... Ohio
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon ... Ohio
Coltron Industries, Inc Charlotte ... N C
Consolidated Controls Corp El Segundo ... Cal
Cox & Company, Inc New York ... NY
Despatch Oven Co Minneapolis ... Minn
Eagle Electric Mfg Co Inc Long Island City ... N Y
Electro Applications, Inc Canonsburg ... Pa
Electrofilm, Inc North Hollywood ... Cal
Electro-Flex Heat Inc Bloomfield ... Conn
Electroglas Inc Menlo Park ... Cal
General Electric Co, ECSO Schenectady ... N Y
Gruenberg Electric Co Inc Garden City ... N Y
Harrel Inc East Norwalk ... Conn
Hi-Shear Corp Torrance ... Cal
Hotfoil Electric Co Wood Dale ... Ill
Hotwatt Inc Danvers ... Mass
Huppert Co, K H South Holland ... Ill
Infra-Red Systems Inc Riverdale ... N J
Kanthal Corp Bethel ... Conn
Keith Co Inc, W P Pico Rivera ... Cal
Lake Engineering Co Ltd Scarborough ... Ont
Logan Electronics Corp Revere ... Mass
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Minco Products Inc Minneapolis ... Minn
Miskella Infra-Red Co Cleveland ... Ohio
Multi-Flex Seals Inc Bronx ... N Y
Norton Co Worcester ... Mass
Norton Co Metals Div Newton ... Mass
OAL Associates Inc Westbury ... N Y
Ohmweve Co Inc West Hartford ... Conn
PinFin Inc Waltham ... Mass
Poco Graphite, Inc Garland ... Tex
Ramyr Mfg Co Buena Park ... Cal
Rogers Corp Rogers ... Conn
Rosemount Engineering Co Minneapolis ... Minn
Safeway Heat Elements Inc Middletown ... Conn
Spectra-Mat Inc Watsonville ... Cal
Sunbeam Equipment Corp Meadville ... Pa
Thermal Engineering & Design Co Akron ... Ohio
Thermal Systems Inc Los Angeles ... Cal
Thermo Electron Engineering Corp Waltham ... Mass
Thermotronic Devices Conshohocken ... Pa
Topper Mfg Co Inc Great Neck ... NY
Trent Inc Philadelphia ... Pa
Ulanet Co, George Newark ... N J
Vulcan Electric ITT Danvers ... Mass
Waage Electric Inc Kenilworth ... N J
Wall Manufacturing Co Kinston ... N C
Watlow Electric Mfg Co St Louis ... Mo
Zeva Electric Corp Hanover ... N J

HEAT SINKS

ALUMINUM DESIGN CORP BROOKFIELD ILL
AMERICAN LAVA CORP CHATTANOOGA . . . . TENN
AUGAT, INC ATTLEBORO . . . . MASS
CGS UNITS INC ROCHESTER . . . . N Y
DABURN ELECTRONICS & CABLE CORP BRONX . . . . N Y
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO . . IND
GUDEBROD BROS SILK CO INC ELECTRONICS DIV PHILADELPHIA . . . . PA
Aavid Engineering Inc Laconia . . . . N H
Accel Electronic Products Co Rosemead . . . . Cal
Advanced Development Corp Gardena . . . . Cal
Alpha Components Corp Venice . . . . Cal
Aluminum Design Corp Brookfield Ill
Amatom Electronic Hardware New Rochelle . . . . N Y
American Lava Corp Chattanooga . . . . Tenn
Arwood Corp Rockleigh . . . . NJ
Asheville-Schoonmaker Mica Co Newport News . . . . Va
Astrodyne Inc Burlington . . . . Mass
Atomite Electronics Corp Roosevelt . . . . N Y
Augat, Inc Attleboro . . . . Mass
Avtron Mfg, Inc Cleveland . . . . Ohio
Basic Ceramics Inc Sub Basic Inc Hawthorne . . . . NJ
Birnbach Co Inc Freeport . . . . N Y
Birtcher Corp, Industrial Div Monterey Park . . . . Cal
Blinn Co Inc, Delbert Pomona . . . . Cal
Brush Beryllium Co Cleveland . . . . Ohio
Cambridge Thermionic Corp Cambridge . . . . Mass
CGS Units Inc Rochester . . . . N Y
Channellock Inc Meadville . . . . Pa
Cinch-Monadnock City of Industry . . . . Cal
Clauss Cutlery Co Div Alco Standard Corp Fremont . . . . . Ohio
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon . . . . Ohio
Daburn Electronics & Cable Corp Bronx . . . . N Y
Daedalus Sales Co Los Angeles . . . . Cal
Daylen Co South Gate . . . . Cal
Delco Radio Div General Motors Corp Kokomo . . . . Ind
Dynatex Div Republic Corp Redwood City . . . . Cal
Emerson & Cuming Inc Canton . . . . Mass
Engineering & Electronic Devices Inc Los Angeles . . . . Cal
Extrudonics Inc New Brunswick . . . . N J
Fansteel Inc North Chicago Ill
Fischer Special Mfg Co Cincinnati . . . . Ohio
Frenchtown/CFI Inc Frenchtown . . . . N J
G C Electronics Div, Hydrometals Inc Rockford Ill
General Systems Inc Erie . . . . Pa
Gibson Electric-Talon Div Textron Delmont . . . . Pa
Golding Mfg Co North Arlington . . . . N J
Gudebrod Bros Silk Co Inc Electronics Div Philadelphia . . . . Pa
Hobson Brothers Inc Chicago Ill
Horex Electronics Inc Santa Monica . . . . Cal
Hunter Industries Santa Fe Springs . . . . Cal
Hydro Molding Co Inc Plattsburgh . . . . N Y
Industrial Heat Sink Co Rosemead . . . . Cal
International Electronic Research Corp Burbank . . . . Cal
International Rectifier Semiconductor Div El Segundo . . . . Cal
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Janitrol Aero Div Midland-Ross Corp Columbus . . . . Ohio
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . . . Pa
Jermyn Industries Sevenoaks . . . . Kent UK
Keith Co Inc, W P Pico Rivera . . . . Cal
Lake Engineering Co Ltd Scarborough . . . . Ont
Lockhart Industries Inc Paramount . . . . Cal
Lytron Inc Woburn . . . . Mass
MacDonald & Co Glendale . . . . Cal
Mann Co, Henry Cornwell Heights . . . . Pa
Materials Electronic Products Corp Trenton . . . . N J
Methode Electronics Inc Chicago Ill
Micro Parts Inc Los Angeles . . . . Cal
National Beryllia Corp Haskell . . . . N J
New-Tronics Corp Brookpark . . . . Ohio
Norrich Plastics Corp Roosevelt . . . . N Y
Pall Corp, Environmental Control Systems Div Long Island City . . . . NY
PinFin Inc Waltham . . . . Mass
Risk Industries Inc, George Columbus . . . . Neb
Saxonburg Ceramics Inc Pittsburgh . . . . Pa
Schaffner, Hans - Elektronische Bauteile Luterbach Sq . Switz
Seastrom Mfg Co Inc Glendale . . . . Cal
Solitron Devices Inc Tappan . . . . NY
Staver Co Inc Bay Shore . . . . N Y
Techni-Tool Inc Philadelphia . . . . Pa
Thermal Engineering & Design Co Akron . . . . Ohio
Thermalloy Co Dallas . . . . Tex
Trought Associates Inc Belleville . . . . N J
Union Carbide Corp, Carbon Products Div New York . . . . . N Y
Vemaline Products Co, Inc Wycoff . . . . N J
Wakefield Engineering Inc Wakefield . . . . Mass
Waterbury Pressed Metal Co Waterbury . . . . Conn
X-Acto Precision Tools Inc Long Island City . . . . N Y

HEAT-TREATING FURNACES

See **Furnaces**

HEAT-TREATING SERVICES

American Gas Furnace Co Elizabeth . . . . N J
Amuneal Mfg Corp Philadelphia . . . . Pa
A V Electronics, Inc Fresno . . . . Cal
Brew & Co Inc, Richard D Concord . . . . N H
C M Mfg Co Bloomfield . . . . N J
Device Seals Inc Sun Valley . . . . Cal
Hamilton Precision Metals Div Hamilton Watch Co Lancaster . . . . Pa
Hayes Inc, C I Cranston . . . . R I
Infinetics Inc, Electromagnetic Div Wilmington . . . . Del
Klystronics Inc Eatontown . . . . N J
Lockhart Industries Inc Paramount . . . . Cal
Magnetic Metals Co Camden . . . . N J
Nuclear Materials & Equipment Corp Apollo . . . . Pa
Pyromet Industries San Carlos . . . . Cal
Spectra-Mat Inc Watsonville . . . . Cal

HERMETIC SEALS

See **Sealing Services; Seals—Hermetic**

HIGH-PERMEABILITY CORES

See **Cores—Laminated**

HOLDERS—BATTERY

See **Battery Holders**

HOLDERS—BRUSH

See **Brush Holders**

HOLDERS—CRYSTAL DIODE

ACCURATE ELECTRONICS CORP ELYRIA . . . . OHIO
AUGAT, INC ATTLEBORO . . . . MASS
SYSTRON-DONNER CORP CONCORD . . . . CAL
Accurate Electronics Corp Elyria . . . . Ohio
Alpha Industries Inc Newton Upper Falls . . . . Mass
Augat, Inc Attleboro . . . . Mass
Automatic Metal Products Corp Brooklyn . . . . N Y
Birtcher Corp, Industrial Div Monterey Park . . . . Cal
Cambridge Thermionic Corp Cambridge . . . . Mass
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Daedalus Sales Co Los Angeles . . . . Cal
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck . . . . N Y
Electrovac Vienna . . . . Austria
Engelmann Microwave Co Montville . . . . NJ
General Microwave Corp Farmingdale . . . . N Y
Hermetite Corp Avon . . . . Mass
Houston Electronics Corp Kane . . . . Pa
Maury Microwave Corp Cucamonga . . . . Cal
MCS Corp Monrovia . . . . Cal
Meca Electronics, Inc Denville . . . . N J
Metox Paris 20 . . . . France
Microwave Associates Inc Burlington . . . . Mass
Microwave Development Labs Inc Needham Heights . . . . Mass
Microwave Filter Co Inc East Syracuse . . . . NY
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
National Tel-Tronics Corp Yonkers . . . . N Y
Numar Corp New York . . . . N Y
Portchester Instrument Corp Port Chester . . . . N Y
RLC Electronics Inc Port Chester . . . . N Y
Robinson-Nugent Inc New Albany . . . . Ind
Sanyo Electric Co Ltd Osaka . . . . Japan
Sealectro Corp Mamaroneck . . . . N Y
Seastrom Mfg Co Inc Glendale . . . . Cal
Systron-Donner Corp Concord . . . . Cal
Veritron West Inc Chatsworth . . . . Cal
Victor Microwave Inc Wakefield . . . . Mass
Wakefield Engineering Inc Wakefield . . . . Mass

HOLDERS—FUSE

ACCURATE ELECTRONICS CORP ELYRIA . . . . OHIO
AUGAT, INC ATTLEBORO . . . . MASS
BRAUN TOOL & INSTRUMENT CO INC, H HAWTHORNE . . N J
BUSSMANN MFG DIV MCGRAW-EDISON CO ST LOUIS MO . . . . ADV PGS 276,277
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
Accurate Electronics Corp Elyria . . . . Ohio
Alden Products Co, Inc Brockton . . . . Mass
Appareillage Electrique Cehess Paris . . . . France
Atlee Corp Winchester . . . . Mass
Augat, Inc Attleboro . . . . Mass
Braun Tool & Instrument Co Inc, H Hawthorne . . . . N J
Bussmann Mfg Div McGraw-Edison Co St Louis . . . . Mo
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Dante Electric Mfg Co Bantam . . . . Conn
Ercona Corp Bellmore . . . . NY
ETC Inc Cleveland . . . . Ohio
Federal Screw Products Inc Chicago Ill
Fuse Indicator Corp Rockville . . . . Md
G C Electronics Div, Hydrometals Inc Rockford Ill
Hosiden Electronics Co Ltd Osaka . . . . Japan
Intelect Inc Honolulu . . . . Hawaii
Kolton Electric Mfg Co Newark . . . . N J
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
National Tel-Tronics Corp Yonkers . . . . N Y
Permonite Mfg Co Chicago Ill
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Robinson-Nugent Inc New Albany . . . . Ind
Sanyo Electric Co Ltd Osaka . . . . Japan
Schurter AG, H 6002 Lucerne . . . . Switzerland
Seastrom Mfg Co Inc Glendale . . . . Cal
Shigoto Industries Ltd New York . . . . N Y
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Staffall, Inc Providence . . . . R I
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa

HOLDERS—THERMISTOR

Atlee Corp Winchester . . . . Mass
Conax Corp Buffalo . . . . N Y
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
General Microwave Corp Farmingdale . . . . N Y
Jermyn Industries Sevenoaks . . . . Kent UK
MCS Corp Monrovia . . . . Cal
Narda Microwave Corp Plainview . . . . N Y
PRD Electronics Inc, Sub H-I Corp Westbury . . . . N Y
Robinson-Nugent Inc New Albany . . . . Ind
Seastrom Mfg Co Inc Glendale . . . . Cal
Veritron West Inc Chatsworth . . . . Cal
Yellow Springs Instrument Co Inc Yellow Springs . . . . Ohio

HOLDING FIXTURES

See **Fixtures—Holding**

HOLE PLUGS

See **Plugs**

HOLOGRAPHIC EQUIPMENT

Gaertner Scientific Corp Chicago I
Hadron, Inc. Westbury . . . . N
Jodon Engineering Assoc Ann Arbor . . . . Mich
Seed Electronics Corp Lexington . . . . Mas
TRW Instruments El Segundo . . . . Ca

HONEYCOMB STRUCTURES

AMERICAN LAVA CORP CHATTANOOGA . . . . TEN
Albano Honeycomb Div, Aerospace Technology Corp New York . . . . N
American Lava Corp Chattanooga . . . . Ten
Avco Aerostructures Div Nashville . . . . Ten
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon . . . . Ohi
Corning Glass Works Corning . . . . N
Dynatex Div Republic Corp Redwood City . . . . Ca
EMI Electronics Ltd Hayes . . . . Middlesex En
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . M
Goodyear Aerospace Corp Akron . . . . Ohi
Hexcel Dublin . . . . Ca
3M Company St Paul . . . . Min
Parabam Inc Compton . . . . Ca
REF Dynamics Div UOP Mineola . . . . N
Technical Wire Products Inc Cranford . . . . N
Zero Mfg Co Burbank . . . . Ca

HOODS—ASSEMBLY

BARNSTEAD CO DIV SYBRON CORP BOSTON . . . . . . MAS
Advanced Purification System Co Inc Great Neck . . . . N
Agnew-Higgins Inc Garden Grove . . . . Ca
Baker Co, Inc Biddeford . . . . M
Barnstead Co Div Sybron Corp Boston . . . . Mas
Clean Room Products Inc Farmingdale . . . . N
Edcraft Industries Inc Linden . . . . N
Janel Inc Stirling . . . . N
Kewaunee Scientific Equipment Adrian . . . . Mic
Kirk & Blum Mfg Co Cincinnati . . . . Ohi
Kulicke & Soffa Industries Inc Fort Washington . . . . P
Matthews Research Inc Alexandria V
NII Laboratory Furniture Inc Hicksville . . . . N
Ramney Industries Corp Farmingdale . . . . N
Ray Products Inc Alhambra . . . . Ca

HOODS—DISPLAY

Bennett Mfg Co, Inc Alden . . . . N
Edcraft Industries Inc Linden . . . . N

HOOKUP WIRE

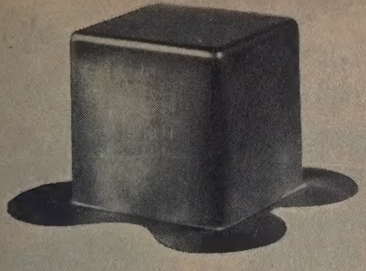
See **Wire-Hookup**

HORIZONTAL DEFLECTION TRANSFORMERS

See **Transformers Special**

HORNS—WAVEGUIDE

ALUMINUM DESIGN CORP BROOKFIELD I
AMPHENOL DANBURY . . . . CON
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON . . . . MAS
PREMIER MICROWAVE CORP PORT CHESTER . . . . N
SCIENTIFIC-ATLANTA INC ATLANTA . . . . G
SYSTRON-DONNER CORP CONCORD C
Ainslie Corp Braintree . . . . Ma
Aircom Inc Union . . . . N
Airtec Inc Roselle . . . . N
Airtron, Div of Litton Industries, Inc Morris Plains . . . . N
Alpha Industries Inc Newton Upper Falls . . . . Ma
Aluminum Design Corp Brookfield . . . .
Amperex Electronic Corp, Professional Tube Div Hicksville . N
Amphenol Danbury . . . . Co
Andrew Corp Orland Park . . . .
Arra, Inc Bay Shore . . . . N
Arwood Corp Rockleigh . . . .
Bean & Co, Morris Yellow Springs . . . . Oh
Cardwell Condenser Corp Lindenhurst . . . . N
Chu Associates Inc Littleton . . . . Ma
Control Data Corp. Boston Sp & Def Sys Div East Boston . . . . Ma
Denki Kogyo Co Ltd Tokyo . . . . Jap
Diamond Antenna & Microwave Corp Winchester . . . . Ma
Eastern Microwave Corp Winchester . . . . Ma
Electroforms Inc Gardena . . . . (
Electronic Resources Inc Tasker Indus Los Angeles . . . . (
E & M Labs Westlake Village . . . . (
Fenwick Paris 10 . . . . Frar
Gabriel Electronics Div Maremont Corp Saco . . . . Ma
Gombos Microwave Inc Clifton . . . .
Guide Industries Inc Sun Valley . . . . (
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . .
Kling Metal Spinning & Stpg Corp New York . . . .


Aluminum;
12″ diameter, .030″ blank
One draw • 12,000 psi

Stainless Steel 211;
6½″ diameter, .024″ blank
One draw • 12,000 psi

Cold Rolled Steel;
12″ diameter, .040″ blank
Two draws • 13,000 psi

Co-Netic Metal;
4″ diameter, .025″ blank
Two draws • 12,500 psi

Cold Rolled Steel;
11½″ diameter, .050″ blank
One draw • 12,000 psi

Tin Plate
10″ diameter, .015″ blank
Four draws • 13,000 psi

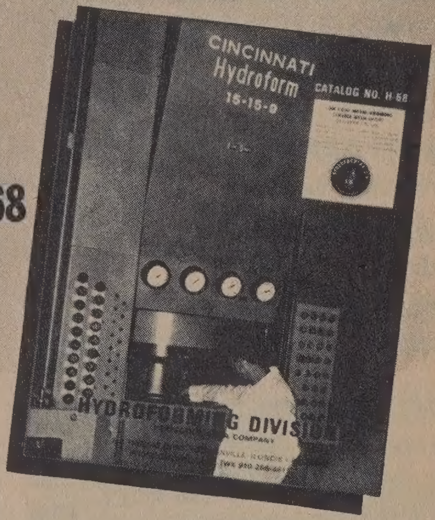
Aluminum 3003-0;
2½″ diameter, .025″ blank
One draw • 5,000 psi

Aluminum 1100-0;
11″ diameter, .050″ blank
One draw • 5,000 psi

Cold Rolled Steel;
11″ x 8″, .030″ blank
One draw • 9,000 psi

SEND FOR NEW CATALOG NO. H-68

for details on how Perfection Mica's Hydroforming Service can reduce your costs.



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Ferrous and non-ferrous parts are formed faster and cheaper . . . most sizes or shapes . . . with minimum scrap and low tooling/finishing costs . . . using latest hydroforming equipment. From prototype through production runs, even difficult shapes are formed easily. (Some typical examples are shown above.)

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740 THOMAS DRIVE, BENSENVILLE, ILLINOIS 60106 (Chicago suburb)
Phone 312, 776-7800 • TWX 910 256-4815

HYDROFORMING DIV.
PERFECTION MICA CO.

Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
Laminair, Inc Los Angeles .... Cal
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microlab/F X R Livingston .... N J
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Filter Co Inc East Syracuse .... NY
Microwave Labs of America Brooklyn .... N Y
Microwave Products Inc Chatsworth .... Cal
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
O'Dell Brothers Mountain View .... Cal
Omega Laboratories Inc Rowley .... Mass
Plessey Co Ltd Ilford Essex .... England
Portchester Instrument Corp Port Chester .... N Y
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Rantec Div Emerson Electric Co Calabasas .... Cal
R F Systems Inc Cohasset .... Mass
Scientific-Atlanta Inc Atlanta .... Ga
Sedco Systems Inc Farmingdale .... N Y
Singer Co Instrumentation Div Bridgeport .... Conn
Specialty Waveguide Corp Burlington .... Mass
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Transco Products Inc Venice .... Cal
Victor Microwave Inc Wakefield .... Mass
Waveline Inc West Caldwell .... N J

HOUSINGS

***See* Enclosures; Cabinets; Cases**

HOUSINGS—ANTENNA

***See* Antenna Housings**

HOUSINGS—METAL, SMALL

***See* Cans**

HUMIDITY CHAMBERS

***See* Chambers**

HUMIDITY CONTROLS

***See* Controls—Humidity**

HUMIDITY INDICATORS

***See* Indicators—Humidity**

HUMIDITY RECORDERS

***See* Recorders—Humidity**

HYBRID JUNCTIONS—MICROWAVE

***See Also* Couplers—Microwave**

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IND
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV
  EAST BOSTON .... MASS
LEL DIV VARIAN ASSOCIATES COPIAGUE .... N Y
MICROWAVE CAVITY LABS DIV KMS INDUS INC
  LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
VARI-L CO INC STAMFORD .... CONN
Aircom Inc Union .... N H
Airtec Inc Roselle .... N J
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Alford Mfg Co Winchester .... Mass
Allied Research & Engineering Co Los Angeles .... Cal
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Anaren Microwave Inc Syracuse .... N Y
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Applied Microwave Lab, Inc Andover .... Mass
Applied Research, Inc Port Washington .... N Y
Arra, Inc Bay Shore .... NY
Arwood Corp Rockleigh .... NJ
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Ball Brothers Research Corp Boulder .... Colo
Bendix Corp, Microwave Devices Div Franklin .... Ind
Cardwell Condenser Corp Lindenhurst .... N Y
Control Data Corp. Boston Sp & Def Sys Div
  East Boston .... Mass
Diamond Antenna & Microwave Corp Winchester .... Mass
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Elpac Inc RF/Microwave Div Irvine .... Cal
Engelmann Microwave Co Montville .... NJ
Fenwick Paris 10 .... France
General Dynamics, Electronics Div Rochester .... N Y
General Microwave Corp Farmingdale .... N Y
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
Lel Div Varian Associates Copiague .... N Y
Lieco Inc West Babylon .... N Y
Lorch Electronics Corp Englewood .... N J
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Melabs Palo Alto .... Cal
Meridian Metalcraft Inc Whittier .... Cal

Merrimac Research & Development Inc West Caldwell, ... N J
Microlab/F X R Livingston .... N J
Microphase Corp Cos Cob .... Conn
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Labs of America Brooklyn .... N Y
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
O'Dell Brothers Mountain View .... Cal
Omega Laboratories Inc Rowley .... Mass
Omni Spectra Inc Farmington .... Mich
Phelps Dodge Communications Co North Haven .... Conn
Portchester Instrument Corp Port Chester .... N Y
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Rantec Div Emerson Electric Co Calabasas .... Cal
R F Systems Inc Cohasset .... Mass
RLC Electronics Inc Port Chester .... N Y
Schutter Microwave Div, Cardwell Condenser Corp
  Lindenhurst .... NY
Sonoma Engineering & Rsch Inc Santa Rosa .... Cal
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Taco (Technical Appliance Corp Sub Jerrold Corp)
  Sherburne .... NY
Tek-Wave Inc Princeton .... N J
Transco Products Inc Venice .... Cal
Varian Palo Alto .... Cal
Vari-L Co Inc Stamford .... Conn
Vector Industries A Teledyne Co Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass
Vitramon Microwave Corp Middlesex .... N J
Waveline Inc West Caldwell .... N J

HYDROFORM FABRICATION

MAGNETIC SHIELD DIV, PERFECTION MICA CO
  BENSENVILLE ILL .... ADV PG 305
Bossert Mfg Co Utica .... NY
Fansteel Inc North Chicago Ill
Magnetic Shield Div, Perfection Mica Co Bensenville Ill

HYDROPHONES

ITHACO INC ITHACA .... N Y
SCIENTIFIC-ATLANTA INC ATLANTA .... GA
Alcatel Paris 8eme .... France
Aquadyne Inc East Falmouth .... Mass
Bendix Corp Electrodynamics Div North Hollywood .... Cal
Burnett Electronics Lab Inc San Diego .... Cal
Channel Industries Inc Santa Barbara .... Cal
Chesapeake Instrument Corp Shadyside .... Md
Columbia Research Labs Inc Woodlyn .... Pa
Edo Western Corp Salt Lake City .... Utah
E G & G Int'l Inc Geodyne Div Waltham .... Mass
Electronics Communications Div Atlantic Research Corp
  Alexandria .... Va
Geodyne Div EG&G Int'l Waltham .... Mass
Geo Space Corp Houston .... Tex
Gulton Industries Inc Metuchen .... N J
Hydro Products Div Dillingham Corp San Diego .... Cal
International Transducer Corp Goleta .... Cal
Ithaco Inc Ithaca .... N Y
Linden Labs Inc State College .... Pa
Massa Div Dynamics Corp of America Hingham .... Mass
Nus Corp Paramus .... N J
Oki Electric Industry Co Ltd Tokyo .... Japan
Pioneer Instrument Inc Hanover .... Mass
Research Mfg Corp San Diego .... Cal
Scientific-Atlanta Inc Atlanta .... Ga
Sparton Corp Jackson .... Mich
Sparton Electronics, Div Sparton Corp Jackson .... Mich
Straza Industries Div Ametek Inc El Cajon .... Cal
Wilcoxon Research Bethesda .... Md

I-F AMPLIFIERS

***See* Amplifiers—I-F**

IGNITION SYSTEMS—ELECTRONIC

SYSTRON-DONNER CORP CONCORD .... CAL
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
WAGNER ELECTRIC CORP, TUNG-SOL DIV LIVINGSTON . N J
AMBAC Industries Inc Garden City .... N Y
American Cable Electronic Supply Inc Sacramento ...... Cal
Automatic Radio Sales Inc Melrose .... Mass
Aviation Electric Ltd St Laurent, Montreal .... Que
Bendix Corp Electrical Components Div Sidney .... N Y
Canadian Research Institute Don Mills .... Ont
Conductron-Missouri St Charles .... Mo
Co-Operative Industries Inc Chester .... N J
Delta Products Inc Grand Junction .... Colo
Dowa Trading Co Ltd Kobe .... Japan
Electronic Homes Co New York .... N Y
Estes Engineering Co Gardena .... Cal
General Laboratory Assoc Inc Norwich .... N Y
Judson Research Conshohocken .... Pa
Modelectric Products Corp Asbury Park .... N J
Phelon Co Inc, R E East Longmeadow .... Mass
Philco-Ford Corp Washington .... D C
Renco Electronics Inc Hicksville .... N Y
Systron-Donner Corp Concord .... Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Triple A Specialty Co Chicago Ill
TRW Systems Group Redondo Beach .... Cal
Tung-Sol Div Wagner Electric Corp Newark .... N J

Ultra Electronics Ltd London, W 3 .... Eng
Vitra Instrument & Electronics Corp Syosset ....
Wagner Electric Corp, Tung-Sol Div Livingston ....

IGNITRONS

***See* Tubes—Ignitron**

IMAGE SCANNERS

***See* Scanners—Image**

IMPACT SWITCHES

***See* Switches—Automatically Operated, Iner**

IMPEDANCE BRIDGES

***See* Bridges**

IMPEDANCE COMPARATOR BRIDGES

***See* Comparators**

IMPEDANCE PLOTTERS

***See* Recorders—Graphic**

IMPREGNATING MACHINES

***See* Machines—Impregnating**

IMPULSE COUNTERS

***See* Counters—Electronic**

IMPULSE GENERATORS

***See* Generators—Signal, Pulse**

IMPULSE TIMERS

***See* Timers—Electronic**

INCANDESCENT LAMPS

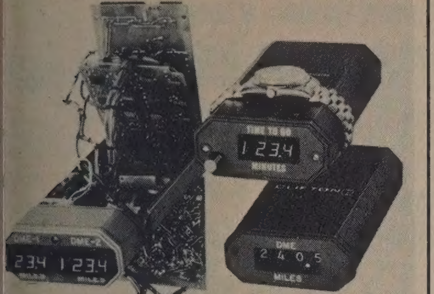
***See* Lamps**

INDICATORS—AIRCRAFT FLIGHT PANEL

***See* Avionic Equipment**

INDICATORS—ALPHANUMERIC

BOWMAR INSTRUMENT CORP FORT WAYNE ....
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS I
  DREXEL HILL PA .... ADV PG
COMPUTER PRODUCTS INC FORT LAUDERDALE
  FLA .... ADV PG
DISCON CORP FORT LAUDERDALE ....
HEWLETT-PACKARD PALO ALTO ....
MICRO SWITCH DIV, HONEYWELL FREEPORT ....
NIPPON ELECTRIC CO LTD TOKYO .... JA
NON-LINEAR SYSTEMS INC DEL MAR ....
TEKTRONIX INC BEAVERTON ....
Alco Electronic Products, Inc Lawrence ....
Amperex Electronic Corp Semiconductor & Microcircuits D
  Slatersville ....
Arizona Modular Electronic Systems Tempe ....
Atlantic Technology Corp Somers Point ....
Bowmar Instrument Corp Fort Wayne ....
Burroughs Corp Electronic Components Div Plainfield ...
Chicago Miniature Lamp Works Chicago ....
Clifton Div Litton Industries Litton Prec Prods Inc
  Drexel Hill ....
Computer Products Inc Fort Lauderdale ....
Conrac Corp New York ....
Co-Ord Div LVC Industries Inc Corona ....
Dialight Corp Brooklyn ....
Digital Instruments Co Inc Shawnee-Mission ....
Discon Corp Fort Lauderdale ....
EICO Electronic Instrument Co Inc Brooklyn ....
Farrand Controls Inc Valhalla ....
Geo Space Systems Inc St Petersburg ....
Grimes Mfg Co Urbana ....
Hartman Systems Co Inc Huntington Station ....
Hewlett-Packard Palo Alto ....
Industrial Electronic Engineers Inc Van Nuys ....
Inter-Market Inc Glenview ....
ITT Aerospace, Optical Div Fort Wayne ....
ITT Aerospace Optical Div Aerospace Oper San Fernando
ITT Europe Inc Components Gp Brussels 1 .... Be
Kearfott Div Singer-General Precision Inc Little Falls ...
La Radiotechnique Compelec Paris 11e .... F
Lear Siegler Inc, Instrument Div Grand Rapids ....
Loral Electronic Systems, Div Loral Corp New York ....
Mesa Co Bristol ....
Micro Switch Div, Honeywell Freeport ....
Monsanto-Electronic Special Products Cupertino ....
Nippon Electric Co Ltd Tokyo ....
Non-Linear Systems Inc Del Mar ....
Oppenheimer, Inc Willow Grove ....
Philco-Ford Corp Washington ....
Pinlites, Inc Fairfield ....



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nia - Industrie Elettroniche Assoc Rome	Italy
lly Associates, Inc El Segundo	Cal
ari & C/Udine Udine	Italy
rry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Engineering Inc Gardena	Cal
nbolic Displays Inc Orange	Cal
ker Industries, Radar Div Van Nuys	Cal
hmetric Co Redwood City	Cal
tronix Inc Beaverton	Ore
e-O-Matic Inc Danville	Ill
nsistor Electronics Corp Minneapolis	Minn
dea Electronics, Sub Conductron Corp El Monte	Cal
o Instrument Div Waltham	Mass
BCO Aerospace Dept Pittsburgh	Pa
stinghouse Brake & Signal Co Ltd Automation Div hippenham	England

DICATORS—ANTENNA-POSITION

FTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC REXEL HILL	**PA**
RTH ATLANTIC INDUSTRIES INC PLAINVIEW	**N Y**
ENTIFIC-ATLANTA INC ATLANTA	**GA**
ETA INSTRUMENT CORP FAIRFIELD	**N J**
craft Instruments Co Montgomeryville	Pa
omation Development Co Culver City	Cal
ndix Corp Navigation & Control Div Teterboro,	N J
ysler Corp, Missile Div Detroit	Mich
ton Div Litton Industries Litton Prec Prods Inc rexel Hill	Pa
mputer Conversions Corp East Northport	N Y
nell-Dubilier Electronics Div Federal Pacific Electric Co ewark	N J
ctric Tachometer Corp Philadelphia	Pa
rrand Controls Inc Valhalla	N Y
p Instrument Corp Westbury	N Y
neral Equipment & Mfg Co Louisville	Ky
Space Systems Inc St Petersburg	Fla
nger Associates Palo Alto	Cal
rtman Systems Co Inc Huntington Station	N Y
hl Scientific Instrument Corp El Cajon	Cal
arfott Div Singer-General Precision Inc Little Falls	NJ
ltron Corp Waltham	Mass
llsman Motor Corp Dublin	Pa
E Electronics Waltham	Mass
Master Products Corp Chicago	Ill
asurement Technology Corp Canoga Park	Cal
cro Metrics Inc Paterson	N J
tional Water Lift Co Kalamazoo	Mich
rth Atlantic Industries Inc Plainview	N Y
rthern Precision Labs Inc Fairfield	N J

Orbit Instrument Corp Syosset	N Y
Philco-Ford Corp Washington	D C
Scientific-Atlanta Inc Atlanta	Ga
Selenia - Industrie Elettroniche Assoc Rome	Italy
Sequential Electronic Systems Inc Elmsford	N Y
Servo Development Corp Hicksville	NY
Smiths Industries North America Ltd Jamaica	N Y
Sterling Mfg Co Cleveland	Ohio
Superior Mfg & Instrument Co Long Island City	N Y
Tasker Industries, Radar Div Van Nuys	Cal
Techmetric Co Redwood City	Cal
Theta Instrument Corp Fairfield	N J
Trylon Inc Elverson	Pa
Veeder-Root Hartford	Conn
Wac Line Div Simmonds Precision Prods Dayton	Ohio
West Coast Research Corp Los Angeles	Cal
Weston-Transicoil, Weston Instruments Inc Worcester	Pa

INDICATORS—ARC BACK

Energy Systems Inc Palo Alto	Cal

INDICATORS, DIGITAL—LAMP TYPE

BOWMAR INSTRUMENT CORP FORT WAYNE	**IND**
CIRCON COMPONENT CORP GOLETA CAL	**ADV PG 292**
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL	**PA**
DISCON CORP FORT LAUDERDALE	**FLA**
E D P CORP ORLANDO	**FLA**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
NON-LINEAR SYSTEMS INC DEL MAR	**CAL**
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK	**N J**
Alco Electronic Products, Inc Lawrence	Mass
A M E C 45 Orleans	France
Arizona Modular Electronic Systems Tempe	Ariz
Bowmar Instrument Corp Fort Wayne	Ind
Burroughs Corp, Defense, Space & Spec Sys Group Paoli	Pa
California Instruments Corp San Diego	Cal
Canadian Research Institute Don Mills	Ont
Chicago Miniature Lamp Works Chicago	Ill
Circon Component Corp Goleta	Cal
Clare-Pendar Co Post Falls	Idaho
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Control Logic Inc Natick	Mass
Co-Ord Div LVC Industries Inc Corona	NY
Counting Instruments Ltd Hertfordshire	England
Dialight Corp Brooklyn	N Y
Discon Corp Fort Lauderdale	Fla
Display Devices Inc Santa Monica	Cal
Drake Mfg Co Harwood Heights	Ill
E D P Corp Orlando	Fla
EICO Electronic Instrument Co Inc Brooklyn	NY
Electronic Engineering Co of Cal Santa Ana	Cal
Fujitsu Ltd Tokyo	Japan
Honeywell Industrial Div Fort Washington	Pa
Howell Instruments Co Fort Worth	Tex
Industrial Electronic Engineers Inc Van Nuys	Cal
Integrated Circuit Electronics Div Datatronics Waltham	Mass
ITT Europe Inc Components Gp Brussels 1	Belgium
Kimura Electric Mfg Co Ltd Shinagawa Tokyo	Japan
Lake Engineering Co Ltd Scarborough	Ont
LeCroy Research Systems Corp West Nyack	N Y
Leecraft Mfg Co Inc Long Island City	N Y
Lockheed Electronics Co, Houston Aerospace Systems Div Houston	Tex
Loral Electronic Systems, Div Loral Corp New York	NY
Luminator Inc Plano	Tex
Mesa Co Bristol	Pa
Milgo Electronic Corp Miami	Fla
Nippon Electric Co Ltd Tokyo	Japan
Non-Linear Systems Inc Del Mar	Cal
Okaya Electric Industries Co Ltd Tokyo	Japan
Oki Electric Industry Co Ltd Tokyo	Japan
Opcalite Inc Santa Ana	Cal
Oppenheimer, Inc Willow Grove	Pa
Optomechanisms Inc Plainview	N Y
Penn Keystone Corp Ansonia	Conn
Pennwood Numechron Co Tymeter Electronics Pittsburgh	Pa
Pinlites, Inc Fairfield	N J
Plessey Airborne Corp Hillside	NJ
P P M Inc Cleveland	Ohio
RC-95 Inc New York	N Y
Schurter AG, H 6002 Lucerne	Switzerland
Science Accessories Corp Southport	Conn
Scientific Data Systems Inc El Segundo	Cal
Shelly Associates, Inc El Segundo	Cal
Sigma Instruments Inc Braintree	Mass
Simpson Electric Co Chicago	Ill
Sloan Co Sun Valley	Cal
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Sunbeam Electronics Fort Lauderdale	Fla
Sunshine Scientific Instruments Inc Philadelphia	Pa
Symbolic Displays Inc Orange	Cal
Techmetric Co Redwood City	Cal
Time-O-Matic Inc Danville	Ill
Toledo Scale Co Div Reliance Elec Co Toledo	Ohio
Transistor Electronics Corp Minneapolis	Minn
Transitron Electronic Corp Wakefield	Mass
Tridea Electronics, Sub Conductron Corp El Monte	Cal
Tung-Sol Div Wagner Electric Corp Newark	N J
Vemaline Products Co, Inc Wycoff	N J
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham	England
Weston Instruments Div Weston Instr Inc Newark	N J

INDICATORS, DIGITAL—MOVING SCALE OR DIAL

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL	**PA**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
IDEAL PRECISION METER CO INC BROOKLYN	**N Y**
LINAIR DESIGN CORP LINDEN	**N J**
Admiral Systems Corp Chicago	Ill
American Hydromath Co New Hyde Park	N Y
Astronautics Corp of America Milwaukee	Wis
Automation Development Co Culver City	Cal
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
Canadian Research Institute Don Mills	Ont
Chicago Dial Indicator Co Des Plaines	Ill
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Components Corp Denville	NJ
Consolidated Airborne Systems Carle Place	N Y
Cox Instruments Div Lynch Corp Detroit	Mich
Daytronic Corp Dayton	Ohio
EICO Electronic Instrument Co Inc Brooklyn	NY
Faul-Coradi Inc Skaneateles	N Y
Gap Instrument Corp Westbury	N Y
Hartman Systems Co Inc Huntington Station	N Y
Haydon Co The, A W Waterbury	Conn
Hickok Electrical Instrument Co Cleveland	Ohio
Honeywell Industrial Div Fort Washington	Pa
Ideal Precision Meter Co Inc Brooklyn	N Y
Keltron Corp Waltham	Mass
Kinetic Instrument Co Div Nortek Inc Brooklyn	N Y
Kollsman Motor Corp Dublin	Pa
Lear Siegler Inc Santa Monica	Cal
Lewis Engineering Co Naugatuck	Conn
Linair Design Corp Linden	N J
Loral Electronic Systems, Div Loral Corp New York	NY
Martin-Decker Corp Santa Ana	Cal
Micro Metrics Inc Paterson	N J
Motorola Instrumentation & Control Inc Phoenix	Ariz
Norden Div, United Aircraft Corp Norwalk	Conn
Northern Precision Labs Inc Fairfield	N J
Occo Mfg Corp South Hackensack	N J
Oppenheimer, Inc Willow Grove	Pa
Optomechanisms Inc Plainview	N Y
Patwin Waterbury	Conn
Pennwood Numechron Co Tymeter Electronics Pittsburgh	Pa
Robertson Instrument Co Azusa	Cal
Scherr Tumico Inc St James	Minn
Servo Development Corp Hicksville	NY
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Sunbeam Electronics Fort Lauderdale	Fla
Sunshine Scientific Instruments Inc Philadelphia	Pa
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Thwing-Albert Instrument Co Philadelphia	Pa
Time-O-Matic Inc Danville	Ill
Transducers, Inc Santa Fe Springs	Cal
United Systems Corp Dayton	Ohio
Veeder-Root Hartford	Conn
WABCO Aerospace Dept Pittsburgh	Pa
Weston Instruments Div Weston Instr Inc Newark	N J
Westronics Inc Fort Worth	Tex

INDICATORS, DIGITAL—TUBE TYPE

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL	**PA**
COMPUTER PRODUCTS INC FORT LAUDERDALE FLA	**ADV PG 487**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
NATIONAL ELECTRONICS INC VARIAN SUB GENEVA	**ILL**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK	**N J**
A D Data Systems Inc Rochester	N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville	R I
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Analogic Corp Wakefield	Mass
Applied Control Co Cedar Grove	NJ
Baird-Atomic, Inc Cambridge	Mass
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
Burroughs Corp Electronic Components Div Plainfield	N J
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Computer Displays Inc Waltham	Mass
Computer Products Inc Fort Lauderdale	Fla
Control Logic Inc Natick	Mass
Dawe Instruments Ltd London W3	England
Digiac Corp Plainview	N Y
Dynapar Corp Sub Louis Allis Co Gurnee	Ill
EICO Electronic Instrument Co Inc Brooklyn	NY
GMR, Inc Berkeley	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	Conn
Instrument Displays Inc Sub Burns & Towne Inc Haverhill	Mass
Integrated Circuit Electronics Div Datatronics Waltham	Mass
ITT Europe Inc Components Gp Brussels 1	Belgium
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Martin-Decker Corp Santa Ana	Cal
Milletron, Inc Pittsburgh	Pa
National Electronics Inc Varian Sub Geneva	Ill
Nippon Electric Co Ltd Tokyo	Japan
Pinlites, Inc Fairfield	N J
Plessey Airborne Corp Hillside	NJ
Raytheon Co, Components Div, Ind Compnts Oper Quincy	Mass
Reliance Electric Co Cleveland	Ohio
Schaevitz Engineering Pennsauken	N J
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Techmetric Co Redwood City	Cal
Transistor Electronics Corp Minneapolis	Minn
Transitron Electronic Corp Wakefield	Mass
Tung-Sol Div Wagner Electric Corp Newark	N J
Tyco Instrument Div Waltham	Mass
Varian Palo Alto	Cal
Veeder-Root Hartford	Conn
Wer Industrial Corp Grand Island	N Y
Weston Instruments Div Weston Instr Inc Newark	N J

INDICATORS—ELAPSED TIME

BOWMAR INSTRUMENT CORP FORT WAYNE ....IND
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL ....PA
CURTIS INSTRUMENTS INC MT KISCO ....N Y
E D P CORP ORLANDO ....FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV PG 7
HAYDON SWITCH & INSTRUMENT INC WATERBURY .CONN
IDEAL PRECISION METER CO INC BROOKLYN ....N Y
MODUTEC INC NORWALK ....CONN
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN ....N Y
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y ....ADV PG 642
Aerospace Research, Inc Boston ....Mass
A L Controls Co New Haven ....Conn
A & M Instruments Inc Great Neck ....N Y
Amstro Corp Fairfield ....N J
Arizona Modular Electronic Systems Tempe ....Ariz
Astrodata Inc Anaheim ....Cal
Automatic Timing & Controls, Inc King of Prussia ....Pa
Beckman Instruments Inc Fullerton, ...Cal
Bergen Lab, Inc Paterson ....N J
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica . . Cal
Bitronics Inc Bethlehem ....Pa
Bowmar Instrument Corp Fort Wayne ....Ind
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook ....Conn
Canadian Marconi Co Montreal 16 ....Quebec
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....Pa
Condor Industrial Corp Wheaton Ill
Conrac Corp New York ....N Y
Control Logic Inc Natick ....Mass
Co-Ord Div LVC Industries Inc Corona ....NY
Cramer Div Conrac Corp Old Saybrook ....Conn
Curtis Instruments Inc Mt Kisco ....N Y
Daco Instrument Co Inc Trumbull ....Conn
Dixson Inc Meter Div Grand Junction ....Colo
Dynapar Corp Sub Louis Allis Co Gurnee Ill
E D P Corp Orlando ....Fla
Electro-Med Instruments Inc Houston ....Tex
E & L Instruments Inc Derby ....Conn
E N M Co Chicago Ill
Epic Inc New York ....N Y
Flow Corp Watertown ....Mass
General Electric Co, ECSO Schenectady ....N Y
General Time, Industrial Controls Div Torrington ....Conn
Giannini-Voltex-Radex-Irvine Whittier ....Cal
Haydon Co The, A W Waterbury ....Conn
Haydon Switch & Instrument Inc Waterbury ....Conn
Heuer Electronics Corp Norwalk ....Conn
Ideal Precision Meter Co Inc Brooklyn ....N Y
Integrated Circuit Electronics Div Datatronics Waltham . Mass
Lear Siegler Inc Santa Monica ....Cal
Louis Allis Co Div Litton Industries Milwaukee ....Wisc
McElroy Electronics Corp Shirley ....Mass
Miniature Electronic Components Corp Holbrook ....Mass
Miniature Electronic Components Ltd Surrey ....England
Modutec Inc Norwalk ....Conn
Nuclear Equipment Chemical Corp Farmingdale ....N Y
Pennwood Numechron Co Tymeter Electronics Pittsburgh . . Pa
Plessey Airborne Corp Hillside ....NJ
Racal Electronics Ltd Bracknell Berks ....England
Rawco Instruments Inc Fort Worth ....Tex
Robertson Instrument Co Azusa ....Cal
Sela Electronics Co New York ....N Y
Simpson Electric Co Chicago Ill
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Space & Systems Div General Time Corp Stamford ....Conn
Sticht Co Inc, Herman H New York ....N Y
Sunshine Scientific Instruments Inc Philadelphia ....Pa
Symbolic Displays Inc Orange ....Cal
Techmetric Co Redwood City ....Cal
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn ....N Y
Telecontrol Div Vogue Instrument Corp Plainview ....NY
Tempo Instrument Inc, Military Div Plainview ....N Y
Veeder-Root Hartford ....Conn
Vocaline Co of America Inc Old Saybrook ....Conn
Watesta Electronics Ltd Loughton Essex ....England
Westinghouse Electric Corp, Relay & Instr Div Newark . . . N J
Weston Instruments Div Weston Instr Inc Newark ....N J

INDICATORS—FAULT INDICATION

See **Detectors—Flaw & Defect, Electronic**

INDICATORS—FLUID FLOW

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL ....PA
COMPUTER INSTRUMENTS CORP HEMPSTEAD ....N Y
Acoustica Associates Inc Los Angeles ....Cal
Anadex Instruments, Inc Van Nuys ....Cal
Audn Corp Hamburg ....N Y
Aviation Electric Ltd St Laurent, Montreal ....Que
Badger Meter Mfg Co Milwaukee ....Wis
Bailey Meter Co Wickliffe ....Ohio
Bell & Howell Co, Elctn Instr Grp Pasadena ....Cal
Bendix Corp, Flight & Engine Instr Div South Montrose . . . Pa
B I F Unit General Signal Corp Providence ....R I
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica . . Cal
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham ....Mass
Bristol Div, American Chain & Cable Co Waterbury ....Conn
Brooks Instrument Div Hatfield ....Pa
Brooks Instrument Div Emerson Elec Canada Ltd Markham ....Ont
B/W Controller Corp Birmingham ....Mich
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....Pa
Computer Instruments Corp Hempstead ....N Y
Consolidated Airborne Systems Carle Place ....N Y
Consolidated Controls Corp Bethel ....Conn
Controlotron Corp Farmingdale ....N Y
Corning Glass Works Corning ....N Y
Cox Instruments Div Lynch Corp Detroit ....Mich
Decker Corp Bala Cynwyd ....Pa
Dietz Co Inc, Henry G Long Island City ....N Y
Digital Blending Systems Inc Providence ....R I
Dynalog Corp Fort Lauderdale ....Fla
Edison, Thomas A Industries, Instr Div West Orange ....N J
Elastronics Labs Tarzana ....Cal
Ellison Instrument Div Dieterich Std Corp New Buffalo . . Mich
E N M Co Chicago Ill
Erdco Engineering Corp Addison Ill
Exactel Instrument Co Div Statham Instrs Inc Oxnard ....Cal
Fischer & Porter Co Warminster ....Pa
Fisher-Akin Co Manhattan Beach ....Cal
Flowcon Co Anaheim ....Cal
Flow Corp Watertown ....Mass
Flow Technology Inc Tempe ....Ariz
Foxboro Co Foxboro ....Mass
Foxboro Co Valenica Plant Valencia ....Cal
Fuji Electric Co Ltd Tokyo ....Japan
Gems Co Inc Farmington ....Conn
Gilmont Instruments Inc Roger Great Neck ....N Y
Gilmore Industries Inc Cleveland ....Ohio
Hartman Systems Co Inc Huntington Station ....N Y
Harwil Co Santa Monica ....Cal
Hastings-Raydist A Teledyne Co Hampton ....Va
Hersey-Sparling Meter Co El Monte ....Cal
Honeywell Industrial Div Fort Washington ....Pa
Industrial Msmts. & Controls Div. Intl. Rectifier Pomona . . Cal
Intertechnique Plaisir 78 ....France
ITT Barton Controls & Instr Div Monterey Park ....Cal
Kingmann-White Inc Placentia ....Cal
Leupold & Stevens Inc Portland ....Ore
Liquid Level Lectronics Inc Richardson ....Tex
Matheson Gas Products East Rutherford ....N J
McDonnell & Miller Inc Chicago Ill
Memcor Div LTV Electrosystems Inc Huntington ....Ind
Moore Products Co Spring House ....Pa
Motorola Instrumentation & Control Inc Phoenix ....Ariz
National Instrument Labs Inc Rockville ....Md
Performance Measurements Co Detroit ....Mich
Ramapo Instrument Co Inc Bloomingdale ....NJ
Revere Electronic Div Wallingford ....Conn
Richard Lee Co New Providence ....N J
Robertshaw Controls Co, Aero & Instrument Div Anaheim . . Cal
Signet Controls Inc Tulsa ....Okla
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Sperry Flight Systems Div Sperry Rand Corp Phoenix ....Ariz
Sunbeam Electronics Fort Lauderdale ....Fla
Superior Continental Corp Hickory ....N C
Taylor Instrument Process Con Div Sybron Corp Rochester ....N Y
Technical Development Co Glenolden ....Pa
Technology Inc Dayton ....Ohio
Technology/Versatronics Inc Yellow Springs ....Ohio
Thermo-Systems Inc St Paul ....Minn
Tylan Corp Torrance ....Cal
Veeder-Root Hartford ....Conn
Wallace & Tiernan Div Pennwalt Corp Belleville ....N J
West Coast Research Corp Los Angeles ....Cal
Westronics Inc Fort Worth ....Tex
Whittaker Corp Instrument Sys Div Chatsworth ....Cal

EBG – the industry's store.

Your marketplace for products

INDICATORS—HUMIDITY, ELECTRONIC

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE ....MD
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL ....PA
COMPUTER INSTRUMENTS CORP HEMPSTEAD ....N Y
Abrax Instrument Corp Jamaica ....N Y
Advance Instrument Corp Belmar ....N J
American Instrument Co, Inc Silver Spring ....Md
Amlab Inc Rahway ....NJ
Amstro Corp Fairfield ....N J
Atkins Technical, Inc Gainesville ....Fla
Atlantic Instruments & Electronics, Inc Watertown ....Mass
Bacharach Instrument Co Pittsburgh ....Pa
Beckman Instruments Inc Fullerton, ...Cal
Bell & Howell Co, Elctn Instr Grp Pasadena ....Cal
Bendix Corp Environmental Science Div Baltimore ....Md
Cambridge Systems Inc Newton ....Mass
Clean Room Products Inc Farmingdale ....N Y
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....Pa
Computer Instruments Corp Hempstead ....N Y
Electron-Radar Products Chicago Ill
Foxboro Co Foxboro ....Mass
Foxboro Co Valenica Plant Valencia ....Cal
Fuji Electric Co Ltd Tokyo ....Japan
Gardner Lab Inc Bethesda ....Md
Gems Co Inc Farmington ....Conn
Hill Inc E Vernon San Francisco ....Cal
Honeywell Inc Apparatus Controls Div Minneapolis ....Minn
Honeywell Industrial Div Fort Washington ....Pa
Hygrodynamics Inc Silver Spring ....Md
ITT Decca Marine Inc New York ....NY
Produits Chimiques Pechiney St Gobain 92 Neuilly Iseine ....France
Sigma Instruments Inc Braintree ....Mass
STM Corp Oakland ....Cal
Strandberg Engineering Labs Inc Greensboro ....N C
Sunshine Scientific Instruments Inc Philadelphia ....Pa
Taylor Instrument Process Con Div Sybron Corp Rochester ....N Y
Technology Inc Dayton ....Ohio
Thorn Automation Ltd Rugeley, Staffs ....England
Warren Components Corp Warren ....P
West Coast Research Corp Los Angeles C
Westronics Inc Fort Worth ....T
Yellow Springs Instrument Co Inc Yellow Springs ....Oh

INDICATORS—ILLUMINATED

BOWMAR INSTRUMENT CORP FORT WAYNE I
CIRCON COMPONENT CORP GOLETA CAL ....ADV PG 2
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS IN DREXEL HILL ....
DISCON CORP FORT LAUDERDALE ....F
ELECTRONIC HARDWARE CORP JAMAICA ....
FEDERAL SCREW PRODUCTS INC CHICAGO ....
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV P
IDEAL PRECISION METER CO INC BROOKLYN ....
KORRY MFG CO SEATTLE ....WA
MICRO SWITCH DIV, HONEYWELL FREEPORT ....
PARKER INSTRUMENT CORP STAMFORD ....CO
Aerolite Electronics Corp Union City ....
Aircraft Instruments Co Montgomeryville ....
Alco Electronic Products, Inc Lawrence ....Ma
A M E C 45 Orleans ....Fran
American Machine & Foundry Co Alexandria Div Alexandria ....
A & M Instruments Inc Great Neck ....
Applied Control Co Cedar Grove ....
Astronautics Corp of America Milwaukee ....
Audn Corp Hamburg ....
Autocon Industries, Inc St Paul ....M
Bailey Meter Co Wickliffe ....O
Beede Electrical Instrument Co, Inc Penacook ....
Bowmar Instrument Corp Fort Wayne ....
Burroughs Corp Electronic Components Div Plainfield ....
Canrad Precision Industries Inc New York ....
Carling Electric Inc West Hartford C
Chicago Miniature Lamp Works Chicago ....
Circon Component Corp Goleta ....
Clare-Pendar Co Post Falls ....Id
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....
Control Switch Div Controls Co of America Folcroft ....
Co-Ord Div LVC Industries Inc Corona ....
Dialight Corp Brooklyn ....
Discon Corp Fort Lauderdale ....
Dixson Inc Meter Div Grand Junction ....
Drake Mfg Co Harwood Heights ....
Edison, Thomas A Industries, Instr Div West Orange ....
Eldema Div Genisco Technology Corp Compton ....
Electronic Engineering Co of Cal Santa Ana ....
Electronic Hardware Corp Jamaica ....
Federal Screw Products Inc Chicago ....
Furnas Electric Co Batavia ....
General Electric Co, ECSO Schenectady ....
General Illumination Inc St Paul ....
Grimes Mfg Co Urbana ....
Hartman Systems Co Inc Huntington Station ....
Ideal Precision Meter Co Inc Brooklyn ....
Impectron Inc New York ....
Industrial Electronic Engineers Inc Van Nuys ....
Inter-Market Inc Glenview ....
ITT Decca Marine Inc New York ....
ITT Europe Inc Components Gp Brussels 1 ....Bel
Jay-El Products Inc Gardena ....
Kearfott Div Singer-General Precision Inc Little Falls ....
Kimura Electric Mfg Co Ltd Shinagawa Tokyo ....J
Kollsman Motor Corp Dublin ....
Korry Mfg Co Seattle ....
Lear Siegler Inc Santa Monica ....
Lear Siegler Inc, Instrument Div Grand Rapids ....
Loral Electronic Systems, Div Loral Corp New York ....
Luminator Inc Plano ....
Marco-Oak Industries Anaheim ....
Master Specialties Co Costa Mesa ....
Micro Switch Div, Honeywell Freeport ....
Molex Products Co Downers Grove ....
Mura Corp Great Neck ....
Oppenheimer, Inc Willow Grove ....
Parker Instrument Corp Stamford ....
Partrick & Wilkins Co Philadelphia ....
Penn Keystone Corp Ansonia ....
Pennwood Numechron Co Tymeter Electronics Pittsburgh
Radar Relay Div, Teledyne Inc Santa Monica ....
Schurter AG, H 6002 Lucerne ....Switze
Shelly Associates, Inc El Segundo ....
Sierra Electric Div Sola Basic Ind Gardena ....
Sloan Co Sun Valley ....
Sorenson Lighted Controls Inc West Hartford ....
Sperry Flight Systems Div Sperry Rand Corp Phoenix ....
Stacoswitch Inc Costa Mesa ....
Sunbeam Electronics Fort Lauderdale ....
Sunshine Scientific Instruments Inc Philadelphia ....
Superior Mfg & Instrument Co Long Island City ....
Sylvania Electric Prods Inc Lamp Div Danvers ....
Symbolic Displays Inc Orange ....
Toledo Scale Co Div Reliance Elec Co Toledo ....
Transistor Electronics Corp Minneapolis ....
Ucinite Co Div United-Carr Newtonville ....
United-Carr Inc Boston ....
U S Gauge Div Ametek Inc Sellersville ....
Utility Communication Systems Inc West Chester ....
Waber Electronics Inc Philadelphia ....
Wac Line Div Simmonds Precision Prods Dayton ....
Western Indicator Co Div DuPree Inc South El Monte ....
Westinghouse Brake & Signal Co Ltd Automation Div Chippenham ....E
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe ....
Weston Instruments Div Weston Instr Inc Newark ....

INDICATORS, LEVEL—DRY MATERIA

Acoustica Associates Inc Los Angeles ....
Aladdin Controls Div Aladdin Electronics Nashville ....
Amiproducts Corp New York ....
Automatic Timing & Controls, Inc King of Prussia ....

mation Products, Inc Houston . . . . Tex
tion Electric Ltd St Laurent, Montreal . . . . Que
Dicator Ultrasonics Div. Detroit . . . . Mich
ks Instrument Div Emerson Elec Canada Ltd
arkham . . . . Ont
rolotron Corp Farmingdale . . . . N Y
er Corp Bala Cynwyd . . . . Pa
van Mfg Co West Des Moines . . . . Iowa
Co Inc, Henry G Long Island City . . . . N Y
elbrook Engineering Co Glenside . . . . Pa
ıpar Corp Sub Louis Allis Co Gurnee Ill
Electric Co Ltd Tokyo . . . . Japan
ral Equipment & Mfg Co Louisville . . . . Ky
lin Inc Lake Mills . . . . Wis
-Brown Ltd Bolton, Lancs . . . . England
al-Co Tulsa . . . . Okla
s Allis Co Div Litton Industries Milwaukee . . . . Wisc
tin-Decker Corp Santa Ana . . . . Cal
itape Inc West Concord . . . . Mass
en Bosch, Inc Pleasantville . . . . N Y
onal Sonics Corp Farmingdale . . . . N Y
art Corp Cincinnati . . . . Ohio
ectone Sound Labs Allendale . . . . NJ
obell Co Inc New York . . . . N Y
re Electronic Div Wallingford . . . . Conn
ertshaw Controls Co, Aero & Instrument Div Anaheim . . Cal
ham Instruments Inc Oxnard . . . . Cal
or Instrument Process Con Div Sybron Corp
ochester . . . . N Y
n Automation Ltd Rugeley, Staffs . . . . England

DICATORS, LEVEL—LIQUIDS

DIX CORP ENVIRONMENTAL SCIENCE DIV
ALTIMORE . . . . MD
TON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
REXEL HILL . . . . PA
MPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
ERAL ELECTRIC CO, ECSO SCHENECTADY
Y . . . . ADV PG 7
ustica Associates Inc Los Angeles . . . . Cal
anced Kinetics, Inc Costa Mesa . . . . Cal
ldin Controls Div Aladdin Electronics Nashville . . . . . . Tenn
O-Matic Instruments & Systems Inc New Hyde Park . . N Y
products Corp New York . . . . N Y
onian Associates, Inc Waltham . . . . Mass
n Corp Hamburg . . . . N Y
ocon Industries, Inc St Paul . . . . Minn
omatic Timing & Controls, Inc King of Prussia . . . . Pa
omation Products, Inc Houston . . . . Tex
ition Electric Ltd St Laurent, Montreal . . . . Que
ey Meter Co Wickliffe . . . . Ohio
kman Instruments Inc Fullerton, ... Cal
dix Corp Environmental Science Div Baltimore . . . . Md
dix Corp, Flight & Engine Instr Div South Montrose . . . Pa
F Unit General Signal Corp Providence . . . . R I
Dicator Ultrasonics Div. Detroit . . . . Mich
tol Div, American Chain & Cable Co Waterbury . . . . . Conn
oks Instrument Div Hatfield . . . . Pa
oks Instrument Div Emerson Elec Canada Ltd
larkham . . . . Ont
V Controller Corp Birmingham . . . . Mich
Electronics Div Ametek Feasterville . . . . Pa
De Signaux Et D'Entreprises Electriques
aris 17eme . . . . France
ton Div Litton Industries Litton Prec Prods Inc
rexel Hill . . . . Pa
nputer Instruments Corp Hempstead . . . . N Y
rac Corp New York . . . . N Y
solidated Airborne Systems Carle Place . . . . N Y
solidated Controls Corp Bethel . . . . Conn
solidated Ohmic Devices Inc Carle Place . . . . N Y
trolotron Corp Farmingdale . . . . N Y
ke Vacuum Products Inc South Norwalk . . . . Conn
ogenic Engineering Co Denver . . . . Colo
ogenic Research Co Inc Boulder . . . . Colo
Corp Columbus . . . . Ohio
ker Corp Bala Cynwyd . . . . Pa
avan Mfg Co West Des Moines . . . . Iowa
ice Seals Inc Sun Valley . . . . Cal
tz Co Inc, Henry G Long Island City . . . . N Y
xelbrook Engineering Co Glenside . . . . Pa
apar Corp Sub Louis Allis Co Gurnee Ill
son, Thomas A Industries, Instr Div West Orange . . . . . N J
O Electronic Instrument Co Inc Brooklyn . . . . NY
son Instrument Div Dieterich Std Corp New Buffalo . . Mich
c Inc New York . . . . N Y
actel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
rchild Controls Hicksville . . . . N Y
stex Div Illinois Tool Works Des Plaines Ill
cher & Porter Co Warminster . . . . Pa
xboro Co Foxboro . . . . Mass
xboro Co Valenica Plant Valencia . . . . Cal
L Inc Fisher Research Div Palo Alto . . . . Cal
ji Electric Co Ltd Tokyo . . . . Japan
ton Sylphon Div Robertshaw Controls Co Knoxville . . . Tenn
ms Co Inc Farmington . . . . Conn
neral Electric Co, ECSO Schenectady . . . . N Y
neral Equipment & Mfg Co Louisville . . . . Ky
neral Hardware Mfg Co Inc New York . . . . N Y
ssco Instrument Co Pasadena . . . . Cal
rsey-Sparling Meter Co El Monte . . . . Cal
d-Brown Ltd Bolton, Lancs . . . . England
neywell Industrial Div Fort Washington . . . . Pa
ernational Controls Corp Cryogenics Div Fairfield . . . . . N J
Val-Co Tulsa . . . . Okla
T Barton Controls & Instr Div Monterey Park . . . . Cal
gmann-White Inc Placentia . . . . Cal
upold & Stevens Inc Portland . . . . Ore
uid Level Lectronics Inc Richardson . . . . Tex
ckheed-Georgia Co Marietta . . . . Ga
uis Allis Co Div Litton Industries Milwaukee . . . . Wisc
cci & Co Marine Div Mechtron-Genco Sarasota . . . . Fla
nkenheimer Co Div Conval Corp Cincinnati . . . . Ohio
agnetrol Inc Downers Grove Ill
emcor Div LTV Electrosystems Inc Huntington . . . . Ind
etritape Inc West Concord . . . . Mass
oore Products Co Spring House . . . . Pa

Motorola Instrumentation & Control Inc Phoenix . . . . Ariz
M Ten Bosch, Inc Pleasantville . . . . N Y
National Sonics Corp Farmingdale . . . . N Y
Neill Engineering Co East Hartland . . . . Conn
Ohmart Corp Cincinnati . . . . Ohio
Perfectone Sound Labs Allendale . . . . NJ
Photobell Co Inc New York . . . . N Y
Revere Electronic Div Wallingford . . . . Conn
Robertshaw Controls Co, Aero & Instrument Div Anaheim . . Cal
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Square D Co Park Ridge Ill
Statham Instruments Inc Oxnard . . . . Cal
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . . N Y
Technical Development Co Glenolden . . . . Pa
Thorn Automation Ltd Rugeley, Staffs . . . . England
Trans-Sonics Inc Lexington . . . . Mass
Westronics Inc Fort Worth . . . . Tex

INDICATORS—NULL

API INSTRUMENTS CO CHESTERLAND . . . . OHIO
FLUKE MFG CO INC, JOHN SEATTLE . . . . WASH
HEWLETT-PACKARD PALO ALTO . . . . CAL
IDEAL PRECISION METER CO INC BROOKLYN . . . . N Y
MINI-CIRCUITS LAB BROOKLYN . . . . N Y
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW . . . . . . N Y
NORTH HILLS ELECTRONICS INC GLEN COVE . . . . N Y
THETA INSTRUMENT CORP FAIRFIELD . . . . N J
WEINSCHEL ENGINEERING CO INC GAITHERSBURG . . . . MD
A & M Instruments Inc Great Neck . . . . N Y
Ammon Instruments Inc Manchester . . . . N H
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook . N Y
API Instruments Co Chesterland . . . . Ohio
Audn Corp Hamburg . . . . N Y
Beckman Instruments Inc Fullerton, ... Cal
Beede Electrical Instrument Co, Inc Penacook . . . . N H
B & F Instruments, Inc Cornwells Heights . . . . Pa
Bitronics Inc Bethlehem . . . . Pa
BLH Electronics Inc Sub Baldwin-Lima-Hamilton
  Waltham . . . . Mass
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Canadian Research Institute Don Mills . . . . Ont
Clinton Instrument Co Clinton . . . . Conn
Decker Corp Bala Cynwyd . . . . Pa
Dixson Inc Meter Div Grand Junction . . . . Colo
Dytronics Co Inc Columbus . . . . Ohio
Electro Scientific Industries Inc Portland . . . . Ore
Epic Inc New York . . . . N Y
Fluke Mfg Co Inc, John Seattle . . . . Wash
Freed Transformer Co Inc Brooklyn . . . . N Y
Fuji Electric Co Ltd Tokyo . . . . Japan
Guildline Instruments Ltd Smiths Falls . . . . Ont
Hallmark Standards Inc Mount Vernon . . . . N Y
Hamlin Inc Lake Mills . . . . Wis
Hewlett-Packard Palo Alto . . . . Cal
Howell Instruments Co Fort Worth . . . . Tex
Ideal Precision Meter Co Inc Brooklyn . . . . N Y
Impectron Inc New York . . . . N Y
Industrial Control Co Farmingdale . . . . N Y
Industrial Test Equipment Co Port Washington . . . . N Y
Julie Research Labs, Inc New York . . . . N Y
Keithley Instruments Inc Cleveland . . . . Ohio
Keltron Corp Waltham . . . . Mass
Kollsman Motor Corp Dublin . . . . Pa
Landis & Gyr, Inc New York . . . . N Y
Leeds & Northrup Co North Wales . . . . Pa
Luft Instruments Inc Lincoln . . . . Mass
Malaker Corp High Bridge . . . . N J
Mastercraft Instrument Co Dubuque . . . . Iowa
McKee-Pedersen Instruments Danville . . . . Cal
Medistor Instrument Co Seattle . . . . Wash
Metermaster, Inc Los Angeles . . . . Cal
Micro Metrics Inc Paterson . . . . N J
Millivac Instruments Inc Schenectady . . . . N Y
Mini-Circuits Lab Brooklyn . . . . N Y
Monroe Electronics Inc Middleport . . . . N Y
Muirhead Instruments Inc Mountainside . . . . N J
Mura Corp Great Neck . . . . N Y
Natel Electronic Industries Inc. Van Nuys . . . . Cal
Neill Engineering Co East Hartland . . . . Conn
North Atlantic Industries Inc Plainview . . . . N Y
North Hills Electronics Inc Glen Cove . . . . N Y
Perfectone Sound Labs Allendale . . . . NJ
Phaostron Instrument & Electronic Co South Pasadena . . . Cal
Plessey Airborne Corp Hillside . . . . NJ
Q V S Inc East Orange . . . . N J
Razdow Labs Inc Newark . . . . N J
RFL Industries Inc, Instrumentation Div Boonton . . . . N J
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Singer Co Instr Div Ballantine Oper Boonton . . . . N J
Sterling Mfg Co Cleveland . . . . Ohio
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Superior Mfg & Instrument Co Long Island City . . . . N Y
Taffet Electronics Inc Woodside . . . . N Y
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . . N Y
Thermal Systems Inc Los Angeles . . . . Cal
Theta Instrument Corp Fairfield . . . . N J
Trio Laboratories Inc Plainview . . . . N Y
Universal Ad-Yu Electronics Inc Passaic . . . . N J
VP Co Pasadena . . . . Cal
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Weinschel Engineering Co Inc Gaithersburg . . . . Md
Weston Instruments Div Weston Instr Inc Newark . . . . N J
Westronics Inc Fort Worth . . . . Tex
Winslow Tele-Tronics Inc Eatontown . . . . N J

INDICATORS, NULL—POTENTIOMETER TYPE

AMPHENOL JANESVILLE . . . . WISC
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
DREXEL HILL . . . . PA

COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
FLUKE MFG CO INC, JOHN SEATTLE . . . . WASH
WEINSCHEL ENGINEERING CO INC GAITHERSBURG . . . . MD
A & M Instruments Inc Great Neck . . . . N Y
Amphenol Janesville . . . . Wisc
Beckman Instruments Inc Fullerton, ... Cal
Bendix Corp, Flight & Engine Instr Div South Montrose . . . Pa
Binary Electronics of Cal Div Avionic Structures Inc
  Anaheim . . . . Cal
BLH Electronics Inc Sub Baldwin-Lima-Hamilton
  Waltham . . . . Mass
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Cambridge Systems Inc Newton . . . . Mass
Carbonara Inc, Victor E Port Washington . . . . N Y
Clifton Div Litton Industries Litton Prec Prods Inc
  Drexel Hill . . . . Pa
Coltron Industries, Inc Charlotte . . . . N C
Computer Instruments Corp Hempstead . . . . N Y
Control Technology Co Inc Long Island City . . . . N Y
Decker Corp Bala Cynwyd . . . . Pa
Design Products Corp Troy . . . . Mich
Doric Scientific Corp San Diego . . . . Cal
Electro Scientific Industries Inc Portland . . . . Ore
Fluke Mfg Co Inc, John Seattle . . . . Wash
Fuji Electric Co Ltd Tokyo . . . . Japan
Gap Instrument Corp Westbury . . . . N Y
Gilmore Industries Inc Cleveland . . . . Ohio
Guildline Instruments Ltd Smiths Falls . . . . Ont
Hallmark Standards Inc Mount Vernon . . . . N Y
Helm Instrument Co Inc Toledo . . . . Ohio
Honeywell Industrial Div Fort Washington . . . . Pa
Howell Instruments Co Fort Worth . . . . Tex
Industrial Control Co Farmingdale . . . . N Y
Julie Research Labs, Inc New York . . . . N Y
Keithley Instruments Inc Cleveland . . . . Ohio
Keltron Corp Waltham . . . . Mass
Kollsman Motor Corp Dublin . . . . Pa
Leeds & Northrup Co North Wales . . . . Pa
Lewis Engineering Co Naugatuck . . . . Conn
McKee-Pedersen Instruments Danville . . . . Cal
Measuring Instrument Controls Inc Berkeley Heights . . . . . N J
Medistor Instrument Co Seattle . . . . Wash
Micro Metrics Inc Paterson . . . . N J
Perfectone Sound Labs Allendale . . . . NJ
Plessey Airborne Corp Hillside . . . . NJ
Pyro-Serv Instruments, Inc North Arlington . . . . N J
Servo Development Corp Hicksville . . . . NY
Superior Mfg & Instrument Co Long Island City . . . . N Y
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . . N Y
Texas Instruments Inc Indl Prods Div Houston . . . . Tex
Thermo Electric Co Inc Saddle Brook . . . . N J
Thwing-Albert Instrument Co Philadelphia . . . . Pa
Tinsley H & Co c/o Southfield Electronics Southfield . . . . Mich
Transducer Controls Corp Covina . . . . Cal
Transducers, Inc Santa Fe Springs . . . . Cal
Weinschel Engineering Co Inc Gaithersburg . . . . Md
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa
Westronics Inc Fort Worth . . . . Tex
Winslow Tele-Tronics Inc Eatontown . . . . N J

INDICATORS—NUMERICAL DISPLAY

***See* Indicators—Digital**

INDICATORS—PH

HEATH CO BENTON HARBOR . . . . MICH
Aceto Chemical Co, Inc Flushing . . . . NY
Amstro Corp Fairfield . . . . N J
Analytical Measurements, Inc Chatham . . . . NJ
Bailey Meter Co Wickliffe . . . . Ohio
Beckman Instruments Inc Fullerton, ... Cal
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Canadian Research Institute Don Mills . . . . Ont
Central Scientific Co Chicago Ill
Chemalloy Electronics Corp Santee . . . . Cal
Corning Glass Works Corning . . . . N Y
Fischer & Porter Co Warminster . . . . Pa
Foxboro Co Foxboro . . . . Mass
Fuji Electric Co Ltd Tokyo . . . . Japan
Heath Co Benton Harbor . . . . Mich
Honeywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
Instrumentation Lab Inc Lexington . . . . Mass
KDI Polytechnic Inc Div KDI Corp Cincinnati . . . . Ohio
Keithley Instruments Inc Cleveland . . . . Ohio
LaPine Scientific Co Chicago Ill
Leeds & Northrup Co North Wales . . . . Pa
London Co Westlake . . . . Ohio
McKee-Pedersen Instruments Danville . . . . Cal
Micro Metrics Inc Paterson . . . . N J
Montedoro Corp San Luis Obispo . . . . Cal
Moore Products Co Spring House . . . . Pa
Princeton Applied Research Corp Princeton . . . . N J
Ramyr Mfg Co Buena Park . . . . Cal
Strandberg Engineering Labs Inc Greensboro . . . . N C
Takeda Riken Industry Co Ltd Tokyo . . . . Japan
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . . N Y
Thorn Automation Ltd Rugeley, Staffs . . . . England
Westronics Inc Fort Worth . . . . Tex

INDICATORS—PHASE—SEQUENCE

ASSOCIATED RESEARCH, INC CHICAGO ILL
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
DREXEL HILL . . . . PA
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y . . . . ADV PG 7
NORTH HILLS ELECTRONICS INC GLEN COVE . . . . N Y
OPAD ELECTRIC CO, INC NEW YORK . . . . N Y
THETA INSTRUMENT CORP FAIRFIELD . . . . N J
WEINSCHEL ENGINEERING CO INC GAITHERSBURG . . . . MD
ADC Electronics, Inc Harbor City . . . . Cal
Advanced Energy Conversion Menlo Park . . . . Cal

Aerometrics Div Aerojet-General Corp San Ramon . . . . Cal
Aerospace Avionics Inc Bohemia . . . . NY
A & M Instruments Inc Great Neck . . . . N Y
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook . N Y
Associated Research, Inc Chicago Ill
Autronics Corp Pasadena . . . . Cal
Avtron Mfg, Inc Cleveland . . . . Ohio
Brunswick Instruments New Brunswick . . . . N J
Canadian Research Institute Don Mills . . . . Ont
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill . . . . Pa
Diversified Electronics Inc Evansville . . . . Ind
Dytronics Co Inc Columbus . . . . Ohio
Eastern Specialty Co Philadelphia . . . . Pa
Fuji Electric Co Ltd Tokyo . . . . Japan
General Electric Co, ECSO Schenectady . . . . N Y
Giannini-Voltex-Radex-Irvine Whittier . . . . Cal
Knopp Inc Oakland . . . . Cal
Korfund Dynamics Corp Westbury . . . . N Y
Lark Electronics Inc New York . . . . N Y
Martindale Electric Co Cleveland . . . . Ohio
North Hills Electronics Inc Glen Cove . . . . N Y
Opad Electric Co, Inc New York . . . . N Y
Rantec Div Emerson Electric Co Calabasas . . . . Cal
Singer Co Instrumentation Div Bridgeport . . . . Conn
Sticht Co Inc, Herman H New York . . . . N Y
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Symbolic Displays Inc Orange . . . . Cal
Theta Instrument Corp Fairfield . . . . N J
United Mfg Div, UMC Electronics Co North Haven . . . . . . Conn
Universal Ad-Yu Electronics Inc Passaic . . . . N J
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Weinschel Engineering Co Inc Gaithersburg . . . . Md
Wiltron Co Palo Alto . . . . Cal

INDICATORS—POSITIONING

***See Also* Synchros**

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE . . . . MD
BOWMAR INSTRUMENT CORP FORT WAYNE . . . . IND
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL . . . . PA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
IDEAL PRECISION METER CO INC BROOKLYN . . . . N Y
KAVLICO ELECTRONICS INC CHATSWORTH . . . . CAL
LINAIR DESIGN CORP LINDEN . . . . N J
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW . . . . . . N Y
SCIENTIFIC-ATLANTA INC ATLANTA . . . . GA
TABER INSTRUMENTS A TELEDYNE CO NORTH TONAWANDA N Y . . . . ADV PG 653
THETA INSTRUMENT CORP FAIRFIELD . . . . N J
Aircraft Instruments Co Montgomeryville . . . . Pa
Airmec-AEI Ltd Buckinghamshire . . . . England
Astronautics Corp of America Milwaukee . . . . Wis
Audn Corp Hamburg . . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Automation Development Co Culver City . . . . Cal
Bailey Meter Co Wickliffe . . . . Ohio
Baldwin Electronics Inc Little Rock . . . . Ark
Bendix Corp Environmental Science Div Baltimore . . . . Md
Bendix Corp, Flight & Engine Instr Div South Montrose . . . Pa
Bowmar Instrument Corp Fort Wayne . . . . Ind
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus . . . . Ohio
Carbonara Inc, Victor E Port Washington . . . . N Y
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill . . . . Pa
C & N Electrical Ltd Gosport . . . . Hampshire Eng
Collins Corp, G L Long Beach . . . . Cal
Computer Conversions Corp East Northport . . . . N Y
Consolidated Airborne Systems Carle Place . . . . N Y
Controlotron Corp Farmingdale . . . . N Y
Control Technology Co Inc Long Island City . . . . N Y
Co-Ord Div LVC Industries Inc Corona . . . . NY
Curtiss-Wright Corp Electronics Div E Paterson . . . . N J
Decker Corp Bala Cynwyd . . . . Pa
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electric Tachometer Corp Philadelphia . . . . Pa
Elesta Ltd Electronics Bad Ragaz . . . . Switzerland
E & L Instruments Inc Derby . . . . Conn
Fairchild Controls Hicksville . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Foxboro Co Foxboro . . . . Mass
Fuji Electric Co Ltd Tokyo . . . . Japan
Gap Instrument Corp Westbury . . . . N Y
Gems Co Inc Farmington . . . . Conn
General Electric Co, ECSO Schenectady . . . . N Y
General Equipment & Mfg Co Louisville . . . . Ky
Geo Space Systems Inc St Petersburg . . . . Fla
Gilmore Industries Inc Cleveland . . . . Ohio
Hartman Systems Co Inc Huntington Station . . . . N Y
Henschel Corp Amesbury . . . . Mass
Humphrey Inc San Diego . . . . Cal
Ideal Precision Meter Co Inc Brooklyn . . . . N Y
IKL Inc Newport Beach . . . . Cal
Industrial Control Co Farmingdale . . . . N Y
Jordan Controls Inc Milwaukee . . . . Wis
Kavlico Electronics Inc Chatsworth . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Keltron Corp Waltham . . . . Mass
Kollsman Motor Corp Dublin . . . . Pa
La Radiotechnique Compelec Paris 11e . . . . France
Ledex Div Ledex Inc Dayton . . . . Ohio
Leupold & Stevens Inc Portland . . . . Ore
Linair Design Corp Linden . . . . N J
Loral Electronic Systems, Div Loral Corp New York . . . . . . NY
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
Lucci & Co Marine Div Mechtron-Genco Sarasota . . . . Fla
Martin-Decker Corp Santa Ana . . . . Cal
Memcor Div LTV Electrosystems Inc Huntington . . . . Ind
Metritape Inc West Concord . . . . Mass
Micro Metrics Inc Paterson . . . . N J
Micro Switch Div, Honeywell Freeport Ill
Muirhead Instruments Inc Mountainside . . . . N J

North Atlantic Industries Inc Plainview . . . . N Y
Northern Precision Labs Inc Fairfield . . . . N J
Nuclear Research Instruments Berkeley . . . . Cal
Optomechanisms Inc Plainview . . . . N Y
Orbit Instrument Corp Syosset . . . . N Y
Penn Keystone Corp Ansonia . . . . Conn
Perfectone Sound Labs Allendale . . . . NJ
Photobell Co Inc New York . . . . N Y
Racal Electronics Ltd Bracknell Berks . . . . England
Reeves Instrument Div, DCA Garden City . . . . N Y
Reflex Controls Corp Huntington Station . . . . NY
Remex Electronics Hawthorne . . . . Cal
Robertson Instrument Co Azusa . . . . Cal
Schaevitz Engineering Pennsauken . . . . N J
Scientific-Atlanta Inc Atlanta . . . . Ga
Servo Development Corp Hicksville . . . . NY
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
States Electronics Corp, Bludworth Marine Div Linden . . . . N J
Sunbeam Electronics Fort Lauderdale . . . . Fla
Superior Mfg & Instrument Co Long Island City . . . . N Y
Taber Instruments A Teledyne Co North Tonawanda . . . . . N Y
Tapeswitch Corp of America Farmingdale . . . . N Y
Taylor Instrument Process Con Div Sybron Corp Rochester . . . . N Y
Theta Instrument Corp Fairfield . . . . N J
Thorn Automation Ltd Rugeley, Staffs . . . . England
Transducer Controls Corp Covina . . . . Cal
United Control Corp Redmond . . . . Wash
Veeder-Root Hartford . . . . Conn
Wang Labs Inc Tewksbury . . . . Mass
Wayne Kerr Co c/o Southfield Electronics Southfield . . . . Mich
West Coast Research Corp Los Angeles . . . . Cal
Westinghouse Electric Corp, Relay & Instr Div Newark . . . . N J
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa

INDICATORS—PRESSURE (COMPLETE INSTRUMENTS)

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE . . . . MD
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL . . . . PA
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . N Y
GRANVILLE-PHILIPS CO BOULDER . . . . COLO
IDEAL PRECISION METER CO INC BROOKLYN . . . . N Y
NON-LINEAR SYSTEMS INC DEL MAR . . . . CAL
TABER INSTRUMENTS A TELEDYNE CO NORTH TONAWANDA N Y . . . . ADV PG 653
Aero Mechanism, Inc Van Nuys . . . . Cal
Aerometrics Div Aerojet-General Corp San Ramon . . . . Cal
Aircraft Components Inc Benton Harbor . . . . Mich
Alnor Instrument Co Div Ill Testing Labs Chicago Ill
American Instrument Co, Inc Silver Spring . . . . Md
American-Standard, Advanced Technology Div Monrovia . . Cal
Andonian Associates, Inc Waltham . . . . Mass
Audn Corp Hamburg . . . . N Y
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Bailey Meter Co Wickliffe . . . . Ohio
Beckman Instruments Inc Fullerton, ... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . Cal
Bendix Corp Environmental Science Div Baltimore . . . . Md
Bendix Corp, Flight & Engine Instr Div South Montrose . . . Pa
B I F Unit General Signal Corp Providence . . . . R I
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica . . Cal
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham . . . . Mass
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Bytrex Inc Waltham . . . . Mass
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
C-E Electronics Div Ametek Feasterville . . . . Pa
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill . . . . Pa
Computer Instruments Corp Hempstead . . . . N Y
Conrac Corp New York . . . . N Y
Cox Instruments Div Lynch Corp Detroit . . . . Mich
Datametrics Inc Waltham . . . . Mass
Decker Corp Bala Cynwyd . . . . Pa
Doric Scientific Corp San Diego . . . . Cal
Dynisco Div Microdot Inc Westwood . . . . Mass
Edison, Thomas A Industries, Instr Div West Orange . . . . . N J
Elastronics Labs Tarzana . . . . Cal
Ellison Instrument Div Dieterich Std Corp New Buffalo . . . Mich
Exactel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
Fischer & Porter Co Warminster . . . . Pa
Foxboro Co Foxboro . . . . Mass
Foxboro Co Valenica Plant Valencia . . . . Cal
Fuji Electric Co Ltd Tokyo . . . . Japan
Fulton Sylphon Div Robertshaw Controls Co Knoxville . . . . Tenn
General Thermodynamics Corp North Wilmington . . . . . . Mass
Gentran Inc Santa Clara . . . . Cal
Gilmore Industries Inc Cleveland . . . . Ohio
Granville-Philips Co Boulder . . . . Colo
Gulton Industries Inc Metuchen . . . . N J
Hagan Computer Systems Div Westinghouse Pittsburgh . . . Pa
Hastings-Raydist A Teledyne Co Hampton . . . . Va
Hersey-Sparling Meter Co El Monte . . . . Cal
Hill Inc E Vernon San Francisco . . . . Cal
Honeywell Industrial Div Fort Washington . . . . Pa
Howell Instruments Co Fort Worth . . . . Tex
Ideal Precision Meter Co Inc Brooklyn . . . . N Y
In-Val-Co Tulsa . . . . Okla
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kistler Instrument Corp Clarence . . . . N Y
Kollsman Instrument Corp Syosset . . . . N Y
Kollsman Motor Corp Dublin . . . . Pa
Lear Siegler Inc Santa Monica . . . . Cal
Lewis Engineering Co Naugatuck . . . . Conn
Lion Research Corp Newton . . . . Mass
Martin-Decker Corp Santa Ana . . . . Cal
Matheson Gas Products East Rutherford . . . . N J
MB Electronics A Textron Co New Haven . . . . Conn
Memcor Div LTV Electrosystems Inc Huntington . . . . Ind
MKS Instruments Inc Burlington . . . . Mass
Montedoro Corp San Luis Obispo . . . . Cal
Moore Products Co Spring House . . . . Pa

Motorola Instrumentation & Control Inc Phoenix . . . . Ar
Non-Linear Systems Inc Del Mar C
Orbitran Co, Inc Lakeside C
Pall Trinity Micro Corp Cortland . . . . N
Perfectone Sound Labs Allendale . . . . N
Ramsay Engineering Co Anaheim C
Revere Electronic Div Wallingford . . . . Co
Robertshaw Controls Co, Aero & Instrument Div Anaheim . . C
Robertson Instrument Co Azusa C
Rosemount Engineering Co Minneapolis . . . . Mi
Schaevitz Engineering Pennsauken . . . . N
Scherr Tumico Inc St James . . . . Mi
Sigma Systems Corp, Sub Applied Science Inc Dallas . . . . T
Smiths Industries North America Ltd Jamaica . . . . N
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . Engla
Standard Precision Div ECI an NCR sub Wichita . . . . K
Statham Instruments Inc Oxnard C
Sunshine Scientific Instruments Inc Philadelphia . . . .
Superior Mfg & Instrument Co Long Island City . . . . N
Taber Instruments A Teledyne Co North Tonawanda . . . . . N
Taylor Instrument Process Con Div Sybron Corp Rochester . . . . N
Tek-Sel Labs Inc Saddle Brook . . . . N
Texas Instruments Inc Indl Prods Div Houston . . . . T
Thorn Automation Ltd Rugeley, Staffs . . . . Engla
Transducer Controls Corp Covina C
Unibraze Corp White Plains . . . . N
U S Gauge Div Ametek Inc Sellersville . . . .
Veeco Instruments Inc Plainview . . . . N
Volumetrics Inglewood C
Wallace & Tiernan Div Pennwalt Corp Belleville . . . . N
Westberg Mfg Co Sonoma C
West Coast Research Corp Los Angeles C
West Instrument Div Gulton Ind Inc Schiller Park . . . .
Westronics Inc Fort Worth . . . . T
Whittaker Corp Instrument Sys Div Chatsworth C

INDICATORS—RPM

***See* Tachometers**

INDICATORS—STRAIN

HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OH
IDEAL PRECISION METER CO INC BROOKLYN . . . .
ITHACO INC ITHACA . . . .
TEKTRONIX INC BEAVERTON . . . . O
Anadex Instruments, Inc Van Nuys . . . .
Audn Corp Hamburg . . . . N
Bean Inc, William T Detroit . . . . M
Bell & Howell Co, Elctn Instr Grp Pasadena . . . .
Binary Electronics of Cal Div Avionic Structures Inc Anaheim . . . .
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham . . . . M
Consolidated Airborne Systems Carle Place . . . .
Cox Instruments Div Lynch Corp Detroit . . . . M
Decker Corp Bala Cynwyd . . . .
Doric Scientific Corp San Diego . . . .
Dynisco Div Microdot Inc Westwood . . . . M
Dytro Corp Hicksville . . . .
Foxboro Co Foxboro . . . . M
Helm Instrument Co Inc Toledo . . . . O
Hickok Electrical Instrument Co Cleveland . . . . O
Ideal Precision Meter Co Inc Brooklyn . . . .
Industrial Electronetics Corp Satellite Beach . . . .
Ithaco Inc Ithaca . . . .
Korfund Dynamics Corp Westbury . . . .
Lion Research Corp Newton . . . . M
Lockheed Electronics Co, Houston Aerospace Systems Div Houston . . . .
Magnaflux Corp Chicago . . . .
Martin-Decker Corp Santa Ana . . . .
Optron Corp New Haven C
Perfectone Sound Labs Allendale . . . .
Performance Measurements Co Detroit . . . .
P P M Inc Cleveland . . . .
Rustrak Instrument Div Gulton Ind Inc Manchester . . . . . .
Sigma Systems Corp, Sub Applied Science Inc Dallas . . . .
Sprengnether Instrument Co Inc, W F St Louis . . . .
Strainsert Co Bryn Mawr . . . .
Strandberg Engineering Labs Inc Greensboro . . . .
Tek-Sel Labs Inc Saddle Brook . . . .
Tektronix Inc Beaverton . . . .
Thorn Automation Ltd Rugeley, Staffs . . . . Engl
Thwing-Albert Instrument Co Philadelphia . . . .
Transducer Controls Corp Covina . . . .
Vishay Instruments Inc. Malvern . . . .
Westronics Inc Fort Worth . . . .

INDICATORS—SYNCHRO REMOTE

***See* Synchros**

INDICATORS—TEMPERATURE

API INSTRUMENTS CO CHESTERLAND . . . .
BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE . . . .
BRADY CO, W H MILWAUKEE . . . .
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . . .
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV
HEWLETT-PACKARD PALO ALTO . . . .
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . .
J-B-T INSTRUMENTS INC NEW HAVEN C
TABER INSTRUMENTS A TELEDYNE CO NORTH TONAWANDA N Y . . . . ADV PG
Advanced Dynamics Inc Div Alco Std Corp Cleveland . . . .
Advanced Kinetics, Inc Costa Mesa . . . .
Advanced Products Co North Haven . . . .
Advance Instrument Corp Belmar . . . .
Aeromarine Electronics, Inc San Diego . . . .
Aircraft Components Inc Benton Harbor . . . .

Products & Chemicals, Inc Allentown .... Pa
ddin Controls Div Aladdin Electronics Nashville .... Tenn
r Instrument Co Div Ill Testing Labs Chicago Ill
erican-Standard, Advanced Technology Div Monrovia .. Cal
M Instruments Inc Great Neck .... N Y
ab Inc Rahway .... NJ
robe Instrument Div SOS Consolidated Inc. Lynbrook . N Y
stro Corp Fairfield .... N J
onian Associates, Inc Waltham .... Mass
Instruments Co Chesterland .... Ohio
ins Technical, Inc Gainesville .... Fla
n Corp Hamburg .... N Y
harach Instrument Co Pittsburgh .... Pa
ger Meter Mfg Co Milwaukee .... Wis
ey Meter Co Wickliffe .... Ohio
kman Instruments Inc Fullerton, ... Cal
de Electrical Instrument Co, Inc Penacook .... N H
& Howell Co, Elctn Instr Grp Pasadena .... Cal
dix Corp Environmental Science Div Baltimore .... Md
dix Corp, Flight & Engine Instr Div South Montrose ... Pa
ett-Berman Corp Sub Alloys Unltd Inc Santa Monica .. Cal
onics Inc Bethlehem .... Pa
Electronics Inc Sub Baldwin-Lima-Hamilton
altham .... Mass
dy Co, W H Milwaukee .... Wis
tol Div, American Chain & Cable Co Waterbury .... Conn
ing Instrument Co Chatham .... N J
bridge Metallurgical Corp of Ohio Precision Sys Div
olumbus .... Ohio
bridge Systems Inc Newton .... Mass
wil Inc Honolulu .... Haw
adian Motorola Electronics Ltd Willowdale 425 .... Ont
adian Research Institute Don Mills .... Ont
De Signaux Et D'Entreprises Electriques
aris 17eme .... France
n Room Products Inc Farmingdale .... N Y
eland Process Corp Cleveland .... Ohio
-Parmer Instrument Co Chicago Ill
puter Instruments Corp Hempstead .... N Y
solidated Airborne Systems Carle Place .... N Y
solidated Controls Corp El Segundo .... Cal
trolotron Corp Farmingdale .... N Y
Instruments Div Lynch Corp Detroit .... Mich
ogenic Engineering Co Denver .... Colo
ker Corp Bala Cynwyd .... Pa
rmann Instruments Co Mountain View .... Cal
ic Scientific Corp San Diego .... Cal
isco Div Microdot Inc Westwood .... Mass
ro Corp Hicksville .... NY
son, Thomas A Industries, Instr Div West Orange .... N J
ctronic Control Systems Inc Fairmont .... W Va
ctronic Development Labs Inc Plainview .... N Y
ctronic Modules Corp Timonium .... Md
ctro-Standards Labs Inc Miami .... Fla
Cer Inc South Holland Ill
wal Inc Ashland .... Mass
her & Porter Co Warminster .... Pa
boro Co Foxboro .... Mass
boro Co Valenica Plant Valencia .... Cal
Electric Co Ltd Tokyo .... Japan
ton Sylphon Div Robertshaw Controls Co Knoxville ... Tenn
dner Lab Inc Bethesda .... Md
ns Co Inc Farmington .... Conn
eral Electric Co, ECSO Schenectady .... N Y
isco Technology Instrument Div Compton .... Cal
tran Inc Santa Clara .... Cal
nini-Voltex-Radex-Irvine Whittier .... Cal
ore Industries Inc Cleveland .... Ohio
sco Electronics Inc Rockford Ill
don Co Claud S Richmond Ill
enberg Electric Co Inc Garden City .... N Y
ton Industries Inc Metuchen .... N J
strom Technical Products Inc San Diego .... Cal
lmark Standards Inc Mount Vernon .... N Y
rel Inc East Norwalk .... Conn
vlett-Packard Palo Alto .... Cal
kok Electrical Instrument Co Cleveland .... Ohio
Inc E Vernon San Francisco .... Cal
melstein & Co, S Elk Grove Village Ill
eywell Inc Apparatus Controls Div Minneapolis .... Minn
eywell Industrial Div Fort Washington .... Pa
eywell Resdntl & Coml Sls Divs Minneapolis .... Minn
vell Instruments Co Fort Worth .... Tex
ustrial Electronetics Corp Satellite Beach .... Fla
ernational Controls Corp Cryogenics Div Fairfield .... N J
on Inc Niles Ill
onics Inc Stamford .... Conn
Decca Marine Inc New York .... NY
-T Instruments Inc New Haven .... Conn
us Instrument Corp New Hyde Park .... N Y
l Scientific Instrument Corp El Cajon .... Cal
ye & Co Inc, Joseph Cambridge .... Mass
lsman Instrument Corp Syosset .... N Y
lsman Motor Corp Dublin .... Pa
ds & Northrup Co North Wales .... Pa
vis Engineering Co Naugatuck .... Conn
ci & Co Marine Div Mechtron-Genco Sarasota .... Fla
laker Corp High Bridge .... N J
nn Co, Henry Cornwell Heights .... Pa
ricopa Controls Scottsdale .... Ariz
rkal Co Chicago Ill
stercraft Instrument Co Dubuque .... Iowa
asuring Instrument Controls Inc Berkeley Heights .... N J
teorology Research Inc Altadena .... Cal
letron, Inc Pittsburgh .... Pa
nco Products Inc Minneapolis .... Minn
ntedoro Corp San Luis Obispo .... Cal
ore Products Co Spring House .... Pa
torola Instrumentation & Control Inc Phoenix .... Ariz
irhead Instruments Inc Mountainside .... N J
ll Engineering Co East Hartland .... Conn
hols Co Ltd, R H Downsview .... Ont
n Industries Mechanicsburg .... Pa
tron Corp Industrial Syst Div Cheshire .... Conn
cific Transducer Corp Los Angeles .... Cal
fectone Sound Labs Allendale .... NJ
formance Measurements Co Detroit .... Mich
ssey Airborne Corp Hillside .... NJ
M Inc Cleveland .... Ohio
nco Instruments Inc Southampton .... Pa

Pyrometer Instrument Co Inc Northvale .... N J
Pyro-Serv Instruments, Inc North Arlington .... N J
Pyrotel Corp C/O Milletron Inc Pittsburgh .... PA
Ramsay Engineering Co Anaheim .... Cal
Rawco Instruments Inc Fort Worth .... Tex
RdF Corp Hudson .... N H
Relco Products Inc Denver .... Colo
Reliance Electric Co Cleveland .... Ohio
RFL Industries Inc, Thermocontrol Div Boonton .... N J
RIL Electronics Inc Southampton .... Pa
Robertshaw Controls Co, Aero & Instrument Div Anaheim .. Cal
Robertson Instrument Co Azusa .... Cal
Rosemount Engineering Co Minneapolis .... Minn
Rustrak Instrument Div Gulton Ind Inc Manchester .... NH
Sigma Instruments Canada Ltd Toronto 18 Ont .... Canada
Sigma Instruments Inc Braintree .... Mass
Signet Controls Inc Tulsa .... Okla
Simpson Electric Co Chicago Ill
Smiths Industries North America Ltd Jamaica .... N Y
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .. England
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ariz
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Superior Mfg & Instrument Co Long Island City .... N Y
Taber Instruments A Teledyne Co North Tonawanda .... N Y
Taylor Instrument Process Con Div Sybron Corp
Rochester .... N Y
Techni-Tool Inc Philadelphia .... Pa
Tek-Sel Labs Inc Saddle Brook .... N J
Tempil Div Big Three Ind Gas & Equip Co New York .... N Y
Texas Instruments Inc Indl Prods Div Houston .... Tex
Thermal Systems Inc Los Angeles .... Cal
Thermo Electric Co Inc Saddle Brook .... N J
Thermo-Systems Inc St Paul .... Minn
Thermotronic Devices Conshohocken .... Pa
Thorn Automation Ltd Rugeley, Staffs .... England
Time-O-Matic Inc Danville Ill
TPC Div Webb Press Eng Cedarburg .... Wisc
Trans-Sonics Inc Lexington .... Mass
Tylan Corp Torrance .... Cal
United Electric Controls Co Watertown .... Mass
United Mineral & Chemical Corp New York .... N Y
U S Gauge Div Ametek Inc Sellersville .... Pa
United Systems Corp Dayton .... Ohio
Voltron Products Inc Pasadena .... Cal
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Wahl Corp, William Santa Monica .... Cal
Westberg Mfg Co Sonoma .... Cal
West Coast Research Corp Los Angeles .... Cal
Westinghouse Electric Corp, Industrial Plastics Div
West Mifflin .... Pa
Westinghouse Electric Corp, Relay & Instr Div Newark ... N J
West Instrument Div Gulton Ind Inc Schiller Park Ill
Weston Instruments Div Weston Instr Inc Newark .... N J
Westronics Inc Fort Worth .... Tex
Yellow Springs Instrument Co Inc Yellow Springs .... Ohio

INDICATORS—THICKNESS

See Also Gages—Beta; Ultrasonic Equipment

Alcatel Paris 8eme .... France
Amstro Corp Fairfield .... N J
Audn Corp Hamburg .... N Y
Automatic Timing & Controls, Inc King of Prussia .... Pa
Automation Industries Inc Matls Evaluation Grp
Danbury .... Conn
Automation Products, Inc Houston .... Tex
Bendix Corp Industrial Metrology Div Ann Arbor .... Mich
Chicago Dial Indicator Co Des Plaines Ill
Clinton Instrument Co Clinton .... Conn
Conrac Corp New York .... N Y
Custom Scientific Instruments Inc Whippany .... N J
Dawe Instruments Ltd London W3 .... England
Daytronic Corp Dayton .... Ohio
Decker Corp Bala Cynwyd .... Pa
Dice Co, J W Englewood .... N J
Edwards High Vacuum Inc Grand Island .... N Y
Electron Machine Corp. Umatilla .... Fla
Gardner Lab Inc Bethesda .... Md
General Hardware Mfg Co Inc New York .... N Y
Gilardoni S p A Mandello Lario Como .... Italy
Honeywell Inc Apparatus Controls Div Minneapolis .... Minn
ICC Mfg Corp South Hackensack .... N J
Industrial Control Co Farmingdale .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
Krautkramer Ultrasonics Inc Stratford .... Conn
Lion Research Corp Newton .... Mass
Magnaflux Corp Chicago Ill
Mann Co, Henry Cornwell Heights .... Pa
Microwave Instruments Co Corona del Mar .... Cal
MTI- Mechanical Technology Inc Latham .... NY
Muirhead Instruments Inc Mountainside .... N J
Nuclear Enterprises Ltd Edinburgh .... Scotland
Ohmart Corp Cincinnati .... Ohio
Optron Corp New Haven .... Conn
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Perfectone Sound Labs Allendale .... NJ
Ramyr Mfg Co Buena Park .... Cal
RIL Electronics Inc Southampton .... Pa
Robertshaw Controls Co, Aero & Instrument Div Anaheim .. Cal
Robertson Instrument Co Azusa .... Cal
Schaevitz Engineering Pennsauken .... N J
Scherr Tumico Inc St James .... Minn
Starrett Co, L S Athol .... Mass

EBG – the industry's store.

Your marketplace for products

Sunshine Scientific Instruments Inc Philadelphia .... Pa
Techni-Tool Inc Philadelphia .... Pa
Thorn Automation Ltd Rugeley, Staffs .... England
Ultek Div Perkin-Elmer Palo Alto .... Cal
Unit Process Assemblies Inc Woodside .... N Y
Wayne Kerr Co c/o Southfield Electronics Southfield ... Mich
Wharton Unitools Moosup .... Conn
Zeiss Inc, Carl New York .... N Y

INDICATORS—TORQUE

BENDIX CORP ENVIRONMENTAL SCIENCE DIV
BALTIMORE .... MD
KAVLICO ELECTRONICS INC CHATSWORTH .... CAL
Anadex Instruments, Inc Van Nuys .... Cal
Astronautics Corp of America Milwaukee .... Wis
Autotronics Inc Joplin .... Mo
Bendix Corp Environmental Science Div Baltimore .... Md
Bendix Corp, Flight & Engine Instr Div South Montrose ... Pa
Bergen Lab, Inc Paterson .... N J
B & F Instruments, Inc Cornwells Heights .... Pa
BLH Electronics Inc Sub Baldwin-Lima-Hamilton
Waltham .... Mass
Bytrex Inc Waltham .... Mass
C-E Electronics Div Ametek Feasterville .... Pa
Chatillon & Sons, John Kew Gardens .... N Y
Consolidated Airborne Systems Carle Place .... N Y
Dawe Instruments Ltd London W3 .... England
Daytronic Corp Dayton .... Ohio
Decker Corp Bala Cynwyd .... Pa
Dillon & Co Inc, W C Van Nuys .... Cal
Doric Scientific Corp San Diego .... Cal
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Edison, Thomas A Industries, Instr Div West Orange .... N J
Foxboro Co Valenica Plant Valencia .... Cal
Himmelstein & Co, S Elk Grove Village Ill
Industrial Electronetics Corp Satellite Beach .... Fla
ITT Decca Marine Inc New York .... NY
Jo-Line Tools Inc Anaheim .... Cal
Kavlico Electronics Inc Chatsworth .... Cal
Kollsman Motor Corp Dublin .... Pa
Korfund Dynamics Corp Westbury .... N Y
Lebow Associates Inc Troy .... Mich
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Martin-Decker Corp Santa Ana .... Cal
McNab Inc New York .... N Y
Perfectone Sound Labs Allendale .... NJ
Performance Measurements Co Detroit .... Mich
Power Instruments Inc Skokie Ill
Revere Electronic Div Wallingford .... Conn
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .. England
SRC Div Crescent Technology Corp Newport Beach, ... Cal
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Superior Mfg & Instrument Co Long Island City .... N Y
Taylor Instrument Process Con Div Sybron Corp
Rochester .... N Y
Techni-Tool Inc Philadelphia .... Pa
Tek-Sel Labs Inc Saddle Brook .... N J
Thorn Automation Ltd Rugeley, Staffs .... England
Toledo Scale Co Div Reliance Elec Co Toledo .... Ohio
Waters Mfg Inc Wayland .... Mass
West Coast Research Corp Los Angeles .... Cal
Westronics Inc Fort Worth .... Tex

INDIUM

Aceto Chemical Co, Inc Flushing .... NY
Active Alloys, Inc Elizabeth .... N J
Alpha Metals Inc Jersey City .... NJ
American Silver Co Div Flushing .... N Y
American Smelting & Refining Co New York .... N Y
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
Corp Carle Place .... N Y
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
Roslyn Heights .... NY
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Cerro Copper & Brass Co, Stamford Wks Stamford, ... Conn
Cerro Corp New York .... NY
Cominco American Inc Electronic Matls Div Spokane ... Wash
Corco Chemical Corp Fairless Hills .... Pa
Cramco Solder Alloys Scarborough .... Ont
Division Lead Co Summit Ill
Gardiner Solder Co Chicago Ill
Henley & Co Inc New York .... N Y
Indium Corp of America Utica .... N Y
Kawecki Berylco Industries Inc New York .... N Y
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Materials Research Corp Orangeburg .... N Y
Metal Ceram Inc Mount Vernon .... N Y
Monsanto Co St Peters .... Mo
NPC Electronics Canoga Park .... Cal
Ohio Semitronics Inc Columbus .... Ohio
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
United Refining & Smelting Co Franklin Park Ill
Var-Lac-Oid Chemical Co Elizabeth .... N J
Ventron Electronics Corp, Controls/Matls Div Bradford ... Pa
Western Gold & Platinum Co Belmont .... Cal

INDUCTANCES—FIXED

CAPTOR CORP TIPP CITY .... OHIO
CONTEMPORARY ELECTRONICS INC MINNEAPOLIS .. MINN
DALE ELECTRONICS INC COLUMBUS .... NEB
DALE ELECTRONICS INC, SIOUX DIV YANKTON .... S DAK

DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA N Y . . . ADV PG 139
DRESSEN-BARNES ELECTRONICS CORP PASADENA . . . CAL
HISONIC INC OLATHE . . . KAN
INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY . . . N J
KAPPA NETWORKS INC CARTERET . . . N J
MITSUMI ELECTRIC CO LTD TOKYO . . . JAPAN
NORTH HILLS ELECTRONICS INC GLEN COVE . . . N Y
NOTHELFER WINDING LABS INC TRENTON . . . N J
PCA ELECTRONICS INC SEPULVEDA . . . CAL
TOROTEL, INC GRANDVIEW . . . MO
UNITED TRANSFORMER CO DIV TRW INC NEW YORK . . . N Y
Ace Coil & Electronics Corp. Metuchen . . . N J
Aetna Electronics Corp North Branch . . . N J
Aladdin Electronics Div Aladdin Industries, Inc Nashville . . . Tenn
ALA Industries Inc Harrison . . . NY
Allen Electronics Div Allen Organ Co Macungie . . . Pa
Amk Electronics Co Inc Edison . . . N J
Ark Electronics Corp Willow Grove . . . Pa
Automatic Coil Co Div Designatronics, Inc Mineola . . . N Y
Bel-Tronics Corp Addison . . . Ill
Bourns Pacific Magnetic Corp Romoland . . . Cal
Brown Engineering-A Teledyne Co Huntsville . . . Ala
Bullock Magnetics Corp Pomona . . . Cal
Caddell-Burns Mfg Co Inc Mineola . . . N Y
Cambridge Thermionic Corp Cambridge . . . Mass
Captor Corp Tipp City . . . Ohio
Carol Electronics Div Weeco Inc Martinsburg . . . W Va
Central Transformer Co Chicago . . . Ill
Clippard Instrument Inc Cincinnati . . . Ohio
Coast Coil Co Los Angeles . . . Cal
Coilcraft Inc Cary . . . Ill
Components Corp Chicago . . . Ill
Contemporary Electronics Inc Minneapolis . . . Minn
Dale Electronics Inc Columbus . . . Neb
Dale Electronics Inc, Sioux Div Yankton . . . S Dak
Data Delay Devices Clifton . . . N J
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Dietz Design Inc Belton . . . Mo
Douglas Randall Inc Westerly . . . R I
Dressen-Barnes Electronics Corp Pasadena . . . Cal
Elasco-Eastern Inc Bloomfield . . . Conn
Electran Mfg Co Constant Voltage Co Div Chicago . . . Ill
Electro-Pacific Inc Goleta . . . Cal
El-Rad Mfg Co Chicago . . . Ill
EMP Electronics Inc Tempe . . . Ariz
Filtron Co Inc Sub Liquidonics Ind Inc Flushing . . . N Y
Fugle-Miller Labs Inc Kenilworth . . . N J
General Coil Products Corp Brooklyn . . . N Y
General Instrument Corp F W Sickles Div Chicopee . . . Mass
General Instrument of Canada Ltd Waterloo . . . Ont
General Radio Co West Concord . . . Mass
Geo Space Corp Houston . . . Tex
Hadley Co Inc, Robert M Los Angeles . . . Cal
Hisonic Inc Olathe . . . Kan
Houlihan Co, T J Chicago . . . Ill
Indiana General Corp Electronics Div/Ferrites Keasbey . . . N J
Inductor Engineering Inc Lewes . . . Del
Johnson Co, E F Waseca . . . Minn
Kappa Networks Inc Carteret . . . N J
Karkar Electronics Inc San Francisco . . . Cal
Lake Engineering Co Ltd Scarborough . . . Ont
Leeds & Northrup Co North Wales . . . Pa
Lenox-Fugle Electronics Inc South Plainfield . . . N J
LRC Electronics Inc Horseheads . . . N Y
LTV-Electrosystems Inc Memcor Div Huntington . . . Ind
Magnetic Devices Inc Lemon Grove . . . Cal
Magnetic Engineering Corp Danbury . . . Conn
Magnetico Inc East Northport . . . N Y
Magnetic Specialties Inc Trenton . . . N J
Merit Coil & Transformer Corp Hollywood . . . Fla
Microtran Co Inc Valley Stream . . . N Y
Millen Mfg Co Inc, James Malden . . . Mass
Miller Co, J W Compton . . . Cal
Mitsumi Electric Co Ltd Tokyo . . . Japan
Montedoro Corp San Luis Obispo . . . Cal
National Coil Co Inc Douglas . . . Ariz
Nippon Ferrite Industrial Co Ltd Tokyo . . . Japan
North Hills Electronics Inc Glen Cove . . . N Y
Nothelfer Winding Labs Inc Trenton . . . N J
Nytronics of Canada Ltd Trenton . . . Ont
Otis Radio & Electric Corp Hawarden . . . Iowa
PCA Electronics Inc Sepulveda . . . Cal
Pico Products Inc Ronkonkoma . . . NY
Precision Coil Mfg Co Santa Monica . . . Cal
Precision Inc Minneapolis . . . Minn
Preferred Electronics Inc Westfield . . . Mass
Ratel Inc Goleta . . . Cal
Redman Electronics Corp Thompsonville . . . Conn
Renco Electronics Inc Hicksville . . . N Y
R F L Industries Inc Components Div Brandon . . . Vt
Sangamo Electric Co Springfield . . . Ill
Sangamo Electric Co, Capacitor Div Pickens . . . S C
Sanyo Electric Co Ltd Osaka . . . Japan
S K G Associates Inc Boston . . . Mass
Smallwood Ltd, S G Kitchener . . . Ont
Solid State Electronics Corp Sepulveda . . . Cal
Spectrum Control Inc Fairview . . . Pa
Sprague Electric Co North Adams . . . Mass
Standard Industries Buena Park . . . Cal
Stanwyck Winding Div San Fernando Elec Mfg Co Inc Newburgh . . . N Y
Sterling Transformer Corp Brooklyn . . . N Y
Summit Engineering Corp Bozeman . . . Mont
Superex Electronics Corp Yonkers . . . N Y
Thiem-Transrex Inc Torrance . . . Cal
Tinsley H & Co c/o Southfield Electronics Southfield . . . Mich
Torelco Inc Irvington . . . N J
Toroidal Components Co Pasadena . . . Cal
Torotel, Inc Grandview . . . Mo
Tranex Inc Mountain View . . . Cal
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . . Pa
Triad Transformer Corp Venice . . . Cal
United Transformer Co Div TRW Inc New York . . . N Y
Universal Toroid Coil Winding Inc Irvington . . . NJ
Weecoil Inc Sub Wells Electronics South Bend . . . Ind
Whitewater Electronics Inc Whitewater . . . Wis
Xenon Co Medford . . . Mass

INDUCTANCES—VARIABLE

See Also Coils

CONTEMPORARY ELECTRONICS INC MINNEAPOLIS . . . MINN
DALE ELECTRONICS INC COLUMBUS . . . NEB
DALE ELECTRONICS INC, SIOUX DIV YANKTON . . . S DAK
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA N Y . . . ADV PG 139
INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY . . . N J
KAPPA NETWORKS INC CARTERET . . . N J
MITSUMI ELECTRIC CO LTD TOKYO . . . JAPAN
NIPPON ELECTRIC CO LTD TOKYO . . . JAPAN
NORTH HILLS ELECTRONICS INC GLEN COVE . . . N Y
NOTHELFER WINDING LABS INC TRENTON . . . N J
UNITED TRANSFORMER CO DIV TRW INC NEW YORK . . . N Y
VARI-L CO INC STAMFORD CONN . . . ADV PG 312
Ace Coil & Electronics Corp. Metuchen . . . N J
Aetna Electronics Corp North Branch . . . N J
Aladdin Electronics Div Aladdin Industries, Inc Nashville . . . Tenn
ALA Industries Inc Harrison . . . NY
Amk Electronics Co Inc Edison . . . N J
Ark Electronics Corp Willow Grove . . . Pa
Automatic Coil Co Div Designatronics, Inc Mineola . . . N Y
Bel-Tronics Corp Addison . . . Ill
Beukers Labs Inc Hauppauge . . . NY
Caddell-Burns Mfg Co Inc Mineola . . . N Y
Cambridge Thermionic Corp Cambridge . . . Mass
Carol Electronics Div Weeco Inc Martinsburg . . . W Va
Clippard Instrument Inc Cincinnati . . . Ohio
Coilcraft Inc Cary . . . Ill
Components Corp Chicago . . . Ill
Contemporary Electronics Inc Minneapolis . . . Minn
Dale Electronics Inc Columbus . . . Neb
Dale Electronics Inc, Sioux Div Yankton . . . S Dak
Data Delay Devices Clifton . . . N J
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Delta Electronics Inc Alexandria . . . Va
Drusch & Co 92 Rueil Malmaison . . . France
El-Rad Mfg Co Chicago . . . Ill
Fugle-Miller Labs Inc Kenilworth . . . N J
General Coil Products Corp Brooklyn . . . N Y
General Instrument Corp Automatic Mfg Div Newark . . . N J
General Instrument Corp F W Sickles Div Chicopee . . . Mass
General Instrument of Canada Ltd Waterloo . . . Ont
General Radio Co West Concord . . . Mass
Houlihan Co, T J Chicago . . . Ill
Indiana General Corp Electronics Div/Ferrites Keasbey . . . N J
Johnson Co, E F Waseca . . . Minn
Kappa Networks Inc Carteret . . . N J
Lake Engineering Co Ltd Scarborough . . . Ont
Leeds & Northrup Co North Wales . . . Pa
Lenox-Fugle Electronics Inc South Plainfield . . . N J
LRC Electronics Inc Horseheads . . . N Y
LTV-Electrosystems Inc Memcor Div Huntington . . . Ind
Magnetic Devices Inc Lemon Grove . . . Cal
Magnetic Specialties Inc Trenton . . . N J
Merit Coil & Transformer Corp Hollywood . . . Fla

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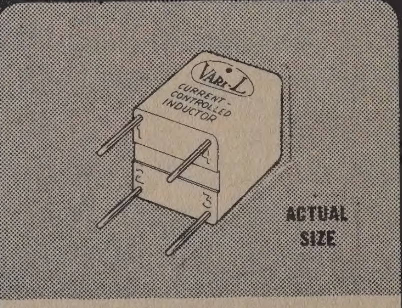

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Montedoro Corp San Luis Obispo . . . C
National Coil Co Inc Douglas . . . Ar
Nippon Electric Co Ltd Tokyo . . . Japa
North Hills Electronics Inc Glen Cove . . . N
Nothelfer Winding Labs Inc Trenton . . . N
Nytronics of Canada Ltd Trenton . . . O
Otis Radio & Electric Corp Hawarden . . . Iow
Piconics Inc North Billerica . . . Ma
Pico Products Inc Ronkonkoma . . . N
Precision Coil Mfg Co Santa Monica . . . C
Preferred Electronics Inc Westfield . . . Ma
Ratel Inc Goleta . . . C
Redman Electronics Corp Thompsonville . . . Co
Renco Electronics Inc Hicksville . . . N
San Fernando Electric Mfg Co San Fernando . . . C
Sangamo Electric Co Springfield . . .
Sangamo Electric Co, Capacitor Div Pickens . . . S
Sanyo Electric Co Ltd Osaka . . . Jap
Smallwood Ltd, S G Kitchener . . . O
Standard Industries Buena Park . . . C
Stanwyck Winding Div San Fernando Elec Mfg Co Inc Newburgh . . . N
Sterling Transformer Corp Brooklyn . . . N
Superex Electronics Corp Yonkers . . . N
Tinsley H & Co c/o Southfield Electronics Southfield . . . Mi
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . .
United Transformer Co Div TRW Inc New York . . . N
Vari-L Co Inc Stamford . . . Co
Voltronics, Inc Chicago . . .
Weecoil Inc Sub Wells Electronics South Bend . . . I
Whitewater Electronics Inc Whitewater . . . W

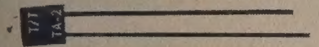
INDUCTORS

DALE ELECTRONICS INC COLUMBUS . . . N
DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK . . . ADV PG 1
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA N Y . . . ADV PG 1
DRESSEN-BARNES ELECTRONICS CORP PASADENA . . . C
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . ADV P
HISONIC INC OLATHE . . . K
INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY . . .
JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN . . .
KAPPA NETWORKS INC CARTERET . . .
NORTH HILLS ELECTRONICS INC GLEN COVE . . .
NOTHELFER WINDING LABS INC TRENTON . . .
PCA ELECTRONICS INC SEPULVEDA . . .
TOROTEL, INC GRANDVIEW MO . . . ADV PG
TORWICO ELECTRONICS, INC LAKEWOOD N J . ADV PG
UNITED TRANSFORMER CO DIV TRW INC NEW YORK . .
VARI-L CO INC STAMFORD . . . C
ADC Products Minneapolis . . . N
Aetna Electronics Corp North Branch . . .
Airco Speer Electronic Components Dubois . . .
Arnold Magnetics Corp Culver City . . .
Avco Electronics Div Cincinnati . . .
Avtron Mfg, Inc Cleveland . . .
Beukers Labs Inc Hauppauge . . .
Bourns Pacific Magnetic Corp Romoland . . .
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . .
Caddell-Burns Mfg Co Inc Mineola . . .
Carol Electronics Div Weeco Inc Martinsburg . . . V
Centroid Inc Garden City Park . . .
Components Corp Chicago . . .
Dale Electronics Inc Columbus . . .
Dale Electronics Inc, Sioux Div Yankton . . . S
Data Delay Devices Clifton . . .
Delevan Electronics Div Amer Prec Indus Inc East Aurora
Dietz Design Inc Belton . . .
Dressen-Barnes Electronics Corp Pasadena . . .
Electronic Transformer Corp Paterson . . .
Electro-Pacific Inc Goleta . . .
Electro Winders Co Inc Covina . . .
El-Rad Mfg Co Chicago . . .
Engineered Components Co Gardena . . .
Fullmer Electronics Inc Northridge . . .
General Electric Co, ECSO Schenectady . . .
General Radio Co West Concord . . .
Genisco Technology Corp Compton . . .
Geo Space Corp Houston . . .
Gulton Industries Inc Metuchen . . .
Hadley Co Inc, Robert M Los Angeles . . .
Hallmark Standards Inc Mount Vernon . . .
Hisonic Inc Olathe . . .
Houlihan Co, T J Chicago . . .
Indiana General Corp Electronics Div/Ferrites Keasbey .
Inductor Engineering Inc Lewes . . .
JB Electronic Transformers Inc Chicago . . .
JFD Electronics Corp, Components Div Brooklyn . . .
Johnson Co, E F Waseca . . .
Kappa Networks Inc Carteret . . .
Lake Engineering Co Ltd Scarborough . . .
Lenox-Fugle Electronics Inc South Plainfield . . .
Magnetic Circuit Elements Inc Monterey . . .
Magnetic Devices Inc Lemon Grove . . .
Magnetic Engineering Corp Danbury . . .
Magnetico Inc East Northport . . .
Merit Coil & Transformer Corp Hollywood . . .
Microtran Co Inc Valley Stream . . .
Millen Mfg Co Inc, James Malden . . .
Miller Co, J W Compton . . .
Multronics Inc Rockville . . .
North Hills Electronics Inc Glen Cove . . .
Nothelfer Winding Labs Inc Trenton . . .
Nytronics Inc Berkeley Heights . . .
PCA Electronics Inc Sepulveda . . .
Polyphase Instrument Co Bridgeport . . .
Precision Coil Mfg Co Santa Monica . . .
Precision Inc Minneapolis . . .
Precision Transformer Anaheim . . .

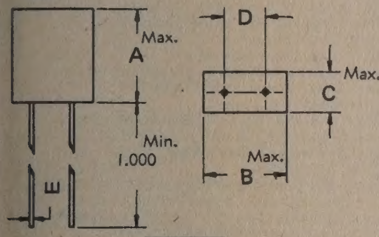
TOROTEL INC.

SUBMINIATURE INDUCTORS

MINI-L SERIES



- DESIGNED TO MEET THE REQUIREMENTS OF MIL-C-15305 C, GRADE 1, CLASS B (−55°C to +125°C)
- INDUCTANCE VALUES: From 0.01 uh to 10,000 uh.
- FREQUENCY RANGE: 50 KHz to 300 MHz.
- DIELECTRIC WITHSTANDING VOLTAGE: 700 volts rms.
- RATED TEMPERATURE RISE: 35°C at an ambient temperature of 90°C.
- LEADS: Tinned Copper. Weldable leads available by special order.



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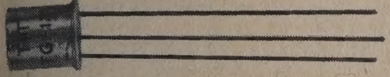
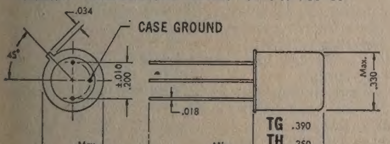
Series	A	B	C	D	E	Max. Power
TA	.225	.210	.110	.100	.020	0.2 Watt
TB	.300	.280	.160	.200	.025	0.33 Watt
TD	.390	.390	.197	.200	.025	0.5 Watt
TF	.225	.210	.110	.100	.020	0.2 Watt

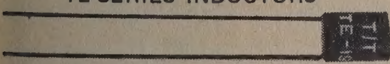
TG & TH SERIES INDUCTORS



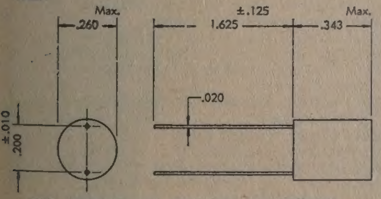
- HERMETICALLY SEALED INDUCTORS IN A STANDARD TO-5 TRANSISTOR CONFIGURATION.
- LOW EXTERNAL MAGNETIC & ELECTROSTATIC FIELD.
- TG SERIES DESIGNED TO MEET MIL-T-27B, GRADE 4, CLASS R.
- TH SERIES DESIGNED TO MEET MIL-C-15305 C, GRADE 1, CLASS 0.
- INDUCTANCE VALUES: TH Series, 10.0 uh to 1000 uh. TG Series, 1.0 mh to 500 mh.
- FREQUENCY RANGE: 10 KHz to 10 MHz, depending upon series and inductance value.
- DIELECTRIC WITHSTANDING VOLTAGE: 100 volts rms.
- AMBIENT TEMPERATURE RANGE: −55°C to +85°C.



TE-SERIES INDUCTORS



- DESIGNED TO MEET MIL-C-15305 C, GRADE 1, CLASS B (−55°C to +125°C)
- INDUCTANCE VALUES: 0.10 mh to 220.0 mh.
- FREQUENCY RANGE: 25 KHz to 2.5 MHz.
- DIELECTRIC WITHSTANDING VOLTAGE: 500 volts rms.
- RATED TEMPERATURE RISE: 35°C at an ambient temperature of 90°C.
- LEADS: Tinned Copper. Weldable leads available by special order.



CALL OR WRITE FOR ADDITIONAL INFORMATION

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Solid State Electronics Corp Sepulveda ....Cal
Sterling Transformer Corp Brooklyn ....N Y
Superex Electronics Corp Yonkers ....N Y
Superior Continental Corp Hickory ....N C
Tinsley H & Co c/o Southfield Electronics Southfield ....Mich
Torelco Inc Irvington ....N J
Torotel, Inc Grandview ....Mo
Torwico Electronics, Inc Lakewood ....N J
Triad Distributor Div Litton Industries Huntington ....Ind
Tri-Dex Co Visalia ....Cal
United Transformer Co Div TRW Inc New York ....N Y
Universal Toroid Coil Winding Inc Irvington ....NJ
Vari-L Co Inc Stamford ....Conn
Virginia Electronics Co Inc Falls Church ....Va

INERTIA SWITCHES

***See* Switches**

INFRARED EQUIPMENT—BOLOMETERS

SERVO CORP OF AMERICA HICKSVILLE ....N Y
VICTORY ENGINEERING CORP SPRINGFIELD N J ....ADV PG Facing Pg 1
Advanced Kinetics, Inc Costa Mesa ....Cal
Aerolux Light Co Inc Div Duro Test Corp New York ....N Y
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park ....N Y
Baird-Atomic, Inc Cambridge ....Mass
Barnes Engineering Co Def & Space Div Stamford ....Conn
Elastronics Labs Tarzana ....Cal
General Microwave Corp Farmingdale ....N Y
Heimann GMBH 62 Wiesbaden-Dotzheim ....Germany
Irtronics Inc Stamford ....Conn
Mullard Ltd London, WC 1 ....Eng
Plessey Co Ltd Ilford Essex ....England
Raytek Inc Mountain View ....Cal
Servo Corp of America Hicksville ....N Y
Texas Instruments Incorporated Dallas ....Tex
Texas Instruments Inc Indl Prods Div Houston ....Tex
Victory Engineering Corp Springfield ....N J

INFRARED EQUIPMENT—CAMERAS

HAMAMATSU TV CO LTD SHIZUOKA PRE ....JAPAN
NIPPON ELECTRIC CO LTD TOKYO ....JAPAN
AGA Corp Secaucus ....NJ
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ....U K
Baird-Atomic, Inc Cambridge ....Mass
Barnes Engineering Co Def & Space Div Stamford ....Conn
Canoga Industries Los Angeles ....Cal
Flame Research Inc Pittsburgh 35 ....Pa
Flight Research Div Geotel Inc Richmond ....Va
Hamamatsu TV Co Ltd Shizuoka Pre ....Japan
Hycon Monrovia ....Cal
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ....Japan
Infrared Industries Inc Santa Barbara ....Cal
Kahl Scientific Instrument Corp El Cajon ....Cal
Nippon Electric Co Ltd Tokyo ....Japan
Nye Optical Co Spring Valley ....Cal
Optomechanisms Inc Plainview ....N Y
Perkin-Elmer Corp, Optical Group Norwalk ....Conn
RCA, Defense Electronic Products Moorestown ....N J
Te Company Santa Barbara ....Cal

INFRARED EQUIPMENT—DETECTOR COOLING UNITS

Advanced Kinetics, Inc Costa Mesa ....Cal
Andonian Associates, Inc Waltham ....Mass
Barnes Engineering Co Def & Space Div Stamford ....Conn
Borg-Warner, Thermoelectric Div Des Plaines Ill
Dynatech Products Co Div Dynatech Corp Burlington ....Mass
E G & G Inc, Electronic Prods Div Boston ....Mass
Electron Machine Corp. Umatilla ....Fla
Electro Optics Assoc Palo Alto ....Cal
500 Inc Waltham ....Mass
Infrared Industries Inc Santa Barbara ....Cal
International Energy Conversion Div Nuclear Sys Inc Garland ....Tex
Materials Electronic Products Corp Trenton ....N J
Ohio Semitronics Inc Columbus ....Ohio
Pall Corp, Environmental Control Systems Div Long Island City ....NY
Philco-Ford Corp Washington ....D C
Pyrotel Corp C/O Milletron Inc Pittsburgh ....PA
Raytheon Co, Microwave & Power Tube Div Waltham ....Mass
RCA, Defense Electronic Products Moorestown ....N J
Reuter-Stokes Electronic Components Inc Cleveland ....Ohio
Sensor Precision Industries Inc Medfield ....Mass
U S Philips Corp., Cryogenic Div. Ashton ....R I

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HEWLETT-PACKARD PALO ALTO ....CAL
ITHACO INC ITHACA ....N Y
NIPPON ELECTRIC CO LTD TOKYO ....JAPAN
PRIMO CO LTD TOKYO ....JAPAN
SERVO CORP OF AMERICA HICKSVILLE N Y ....ADV PG 313
Abtronics, Inc Livermore ....Cal
ACR Electronics Corp New York ....N Y
Advanced Kinetics, Inc Costa Mesa ....Cal
Akers Electronics Horten ....Norway
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Beckman Instruments Inc Fullerton, ...Cal
Block Engineering Inc Cambridge ....Mass
Borg-Warner, Thermoelectric Div Des Plaines Ill
Cetron Electronic Corp Geneva Ill
Control Science Corp Alexandria ....Va
Eastman Kodak Co Rochester ....N Y
E G & G Inc, Electronic Prods Div Boston ....Mass
Elastronics Labs Tarzana ....Cal
Electron Machine Corp. Umatilla ....Fla
Electro-Nuclear Lab Inc Menlo Park ....Cal
Engis Equipment Co Morton Grove Ill
Eppley Lab Inc Newport ....R I
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison ....Ohio
Farrand Optical Co Inc Bronx ....N Y
General Electric Co Ordnance Systems Pittsfield ....Mass
General Microwave Corp Farmingdale ....N Y
Grace Electronics Inc Cleveland ....Ohio
Hamamatsu TV Co Ltd Shizuoka Pre ....Japan
Heimann GMBH 62 Wiesbaden-Dotzheim ....Germany
Hewlett-Packard Palo Alto ....Cal
Horiba Instruments Inc Kyoto ....Japan
Hycon Monrovia ....Cal
Industrial Components Inc Div Welsh Corp Beaverton ....Ore
Industrial Gauging & Control Inc Norwalk ....Conn
Infrared Industries Inc Santa Barbara ....Cal
Ion Physics Corp Burlington ....Mass
Ithaco Inc Ithaca ....N Y
ITT Decca Marine Inc New York ....NY
Judson Research Conshohocken ....Pa
Kollsman Instrument Corp Syosset ....N Y
La Radiotechnique Compelec Paris 11e ....France
Molecular Research Inc Palm Beach Gardens ....Fla
Mullard Ltd London, WC 1 ....Eng
Nash & Harrison Ltd Ottawa 3 ....Ont
Networks Electronic Corp Chatsworth ....Cal
Nippon Electric Co Ltd Tokyo ....Japan
Nuclear Diodes, Inc Prairie View Ill
Ovitron Corp Industrial Syst Div Cheshire ....Conn
Performance Measurements Co Detroit ....Mich
Perkin-Elmer Corp Norwalk ....Conn
Philco-Ford Corp Washington ....D C
Photobell Co Inc New York ....N Y
Primo Co Ltd Tokyo ....Japan
Pyrotector Inc Hingham ....Mass
Pyrotel Corp C/O Milletron Inc Pittsburgh ....PA
Quantic Industries Inc San Carlos ....Cal
Racal Electronics Ltd Bracknell Berks ....England
Raytheon Co, Microwave & Power Tube Div Waltham ....Mass
Seed Electronics Corp Lexington ....Mass
Sensor Corp Greenwich ....Conn
Sensor Precision Industries Inc Medfield ....Mass
Servo Corp of America Hicksville ....N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....N Y
Texas Instruments Incorporated Dallas ....Tex

TRW Systems Group Redondo Beach .... Cal
Wahl Corp, William Santa Monica .... Cal

INFRARED EQUIPMENT—FILTERS

Baird-Atomic, Inc Cambridge .... Mass
Barnes Engineering Co Def & Space Div Stamford...... Conn
Bausch & Lomb Inc Rochester .... N Y
Broomer Research Corp Plainview .... N Y
Control Science Corp Alexandria .... Va
Corning Glass Works Corning .... N Y
Crystalab Products Corp Rochelle Park .... N J
Denton Vacuum Inc Cherry Hill .... N J
Eastman Kodak Co Rochester .... N Y
Engis Equipment Co Morton Grove Ill
Fish-Schurman Corp New Rochelle .... N Y
General Laser Corp Natick .... Mass
General Optics Inc Bloomfield .... N J
Hamilton Industries Winter Haven .... Fla
Horiba Instruments Inc Kyoto .... Japan
Infrared Industries Inc Santa Barbara .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Jones Optical Works Inc A D Burlington .... Mass
Laser Optics Inc Danbury .... Conn
Leitz Canada Ltd, Ernst Midland .... Ont
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ... Pa
Metavac Inc Flushing .... N Y
Optical Coating Lab Inc Santa Rosa .... Cal
Optical Products A Teledyne Co Monrovia .... Cal
Optics Technology Inc Palo Alto .... Cal
Oriel-Optics Corp Stamford .... Conn
Owens-Illinois Consumer & Tech Products Div Toledo .... Ohio
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Precision Optics Div Penna Optical Co Reading .... Pa
Ransom Labs, John H Los Angeles .... Cal
Spectrum Systems, Inc Waltham .... Mass
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y

INFRARED EQUIPMENT—IMAGE CONVERTER TUBES

HAMAMATSU TV CO LTD SHIZUOKA PRE .... JAPAN
Abtronics, Inc Livermore .... Cal
Beckman & Whitley Mountain View .... Cal
Bendix Corp Electro Optics Div Ann Arbor .... Mich
EMI Electronics Ltd Hayes .... Middlesex Eng
Hamamatsu TV Co Ltd Shizuoka Pre .... Japan
Heimann GMBH 62 Wiesbaden-Dotzheim .... Germany
ITT Electron Tube Div Easton .... Pa
La Radiotechnique Compelec Paris 11e .... France
Mullard Ltd London, WC 1 .... Eng
Optics Technology Inc Palo Alto .... Cal
Radio Corp of America, Electronic Components Harrison .. N J
Rauland Div Zenith Radio Corp Melrose Park Ill
Seed Electronics Corp Lexington .... Mass
Thomson-CSF 78 Versailles .... France
TRW Instruments El Segundo .... Cal
TRW Systems Group Redondo Beach .... Cal
20th Century Electronics Ltd
New Addington Croydon Cr 90 BG .... England
Westinghouse Electric Corp, Tube Div Elmira .... NY
Zenith Radio Co Govt & Special Prod Div Chicago Ill

INFRARED EQUIPMENT—LAMPS

Advanced Kinetics, Inc Costa Mesa .... Cal
Aerolux Light Co Inc Div Duro Test Corp New York ...... N Y
Amglo Corp Chicago Ill
Barnes Engineering Co Def & Space Div Stamford...... Conn
Chicago Miniature Lamp Works Chicago Ill
Christie Electric Corp Los Angeles .... Cal
Cleveland Process Corp Cleveland .... Ohio
Cole-Parmer Instrument Co Chicago Ill
Ednalite Corp Peekskill .... N Y
Electro Powerpacs Corp Cambridge .... Mass
Engelhard Hanovia Inc Newark .... N J
Fostoria-Fannon Inc Fostoria .... Ohio
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Gilardoni S p A Mandello Lario Como .... Italy
Hamilton Industries Winter Haven .... Fla
Hi-Shear Corp Torrance .... Cal
Illumination Industries Inc Sunnyvale .... Cal
Merco Products Inc Eugene .... Ore
3M Company St Paul .... Minn
Monsanto-Electronic Special Products Cupertino .... Cal
Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
Oriel-Optics Corp Stamford .... Conn
Pek, Inc Sunnyvale .... Cal
Plessey Electronics Corp Farmingdale .... N Y
Quartz Radiation Corp Fairfield .... N J
Schoeffel Instrument Corp Westwood .... NJ
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Strong Electric Corp Toledo .... Ohio
Sylvania Electric Prods Inc Lamp Div Danvers .... Mass
Syncor Products Co, Inc Malden .... Mass
Ushio Electric Inc. Tokyo .... Japan
Warnecke Electron Tubes Inc Des Plaines Ill
Western Coil & Electrical Co Racine .... Wisc
Westinghouse Electric Corp, Lamp Div Bloomfield .... N J

INFRARED EQUIPMENT—LENSES

SERVO CORP OF AMERICA HICKSVILLE .... N Y
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ..... U K
Barnes Engineering Co Def & Space Div Stamford...... Conn
Bausch & Lomb Inc Rochester .... N Y
Beckman Instruments Inc Fullerton, ... Cal
Bendix Corp Electro Optics Div Ann Arbor .... Mich
Broomer Research Corp Plainview .... N Y
Coherent Radiation Labs Palo Alto .... Cal
Corning Glass Works Corning .... N Y
Crystalab Products Corp Rochelle Park .... N J
Davidson Optronics Inc West Covina .... Cal
Eastman Kodak Co Rochester .... N Y
Fairchild Space & Defense Sys Div Fairchild Cam & Inst Corp
El Segundo .... Cal
Fish-Schurman Corp New Rochelle .... N Y
General Electrodynamics Corp Garland .... Tex
General Laser Corp Natick .... Mass
General Optics Inc Bloomfield .... N J
Grimes Mfg Co Urbana .... Ohio
Horiba Instruments Inc Kyoto .... Japan
Industrial Optics Div Yardney Razdow Labs Newark ...... N J
Insaco Inc Quakertown .... Pa
Isomet Corp Palisades Park .... N J
Itek Corp Lexington .... Mass
Jones Optical Works Inc A D Burlington .... Mass
Laser Optics Inc Danbury .... Conn
Leitz Canada Ltd, Ernst Midland .... Ont
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ... Pa
Mati Elgeet Div Rochester .... NY
Meller Co, Adolf Providence .... R I
Metavac Inc Flushing .... N Y
Nye Optical Co Spring Valley .... Cal
Optical Products A Teledyne Co Monrovia .... Cal
Optics Electronics Corp Dallas .... Tex
Oriel-Optics Corp Stamford .... Conn
Perkin-Elmer Corp Norwalk .... Conn
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Precision Optics Div Penna Optical Co Reading .... Pa
Ransom Labs, John H Los Angeles .... Cal
Razdow Labs Inc Newark .... N J
Semi-Elements Inc Saxonburg .... Pa
Servo Corp of America Hicksville .... N Y
Spectrum Systems, Inc Waltham .... Mass
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Syncor Products Co, Inc Malden .... Mass
Te Company Santa Barbara .... Cal
Texas Instruments Incorporated Dallas .... Tex
Thermal American Fused Quartz Co Montville .... N J
Tropel Inc Fairport .... N Y

INFRARED EQUIPMENT—MODULATORS

Advanced Kinetics, Inc Costa Mesa .... Cal
Barnes Engineering Co Def & Space Div Stamford...... Conn
Crystalab Products Corp Rochelle Park .... N J
Heimann GMBH 62 Wiesbaden-Dotzheim .... Germany
Infrared Industries Inc Santa Barbara .... Cal
Isomet Corp Palisades Park .... N J
Mullard Ltd London, WC 1 .... Eng
Norbatrol Electronics Corp Murrysville .... Pa
Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
Radio Corp of America, Electronic Components Harrison .. N J
Seed Electronics Corp Lexington .... Mass
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Sylvania Electronic Systems Waltham .... Mass

INFRARED EQUIPMENT—RETICLES

Barnes Engineering Co Def & Space Div Stamford...... Conn
Bausch & Lomb Inc Rochester .... N Y
Broomer Research Corp Plainview .... N Y
General Electrodynamics Corp Garland .... Tex
General Optics Inc Bloomfield .... N J
Infrared Industries Inc Santa Barbara .... Cal
Jones Optical Works Inc A D Burlington .... Mass
Leitz Canada Ltd, Ernst Midland .... Ont
Metavac Inc Flushing .... N Y
Optical Coating Lab Inc Santa Rosa .... Cal
Optical Products A Teledyne Co Monrovia .... Cal
Ransom Labs, John H Los Angeles .... Cal
Razdow Labs Inc Newark .... N J
Semi-Elements Inc Saxonburg .... Pa
Spectrum Systems, Inc Waltham .... Mass
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y

INFRARED EQUIPMENT—SOURCES (INCL. BLACK BODIES)

HEWLETT-PACKARD PALO ALTO .... CAL
ACR Electronics Corp New York .... N Y
Advanced Kinetics, Inc Costa Mesa .... Cal
AGA Corp Secaucus .... NJ
American Atomics Corp Tucson .... Ariz
Assembly-Overland Div Rucker Co Los Angeles .... Cal
Aul Instruments Inc Flushing .... NY
Barnes Engineering Co Def & Space Div Stamford...... Conn
Carborundum Co Electrical & Elctns Br Niagara Falls .... NY
Coherent Radiation Labs Palo Alto .... Cal
Elastronics Labs Tarzana .... Cal
Electro-Nuclear Lab Inc Menlo Park .... Cal
Electro Optics Assoc Palo Alto .... Cal
English Electric Valve Co, Ltd Essex .... England
Eppley Lab Inc Newport .... R I
Fostoria-Fannon Inc Fostoria .... Ohio
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Heimann GMBH 62 Wiesbaden-Dotzheim .... Germany
Hewlett-Packard Palo Alto .... Cal
Infrared Industries Inc Santa Barbara .... Cal
Infra-Red Systems Inc Riverdale .... N J
International Energy Conversion Div Nuclear Sys Inc
Garland .... Tex
Irtronics Inc Stamford .... Conn
Monsanto-Electronic Special Products Cupertino .... Cal
Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
Pyrotel Corp C/O Milletron Inc Pittsburgh .... PA
Sensor Corp Greenwich .... Conn
Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Strong Electric Corp Toledo .... Ohio
TRW Instruments El Segundo .... Cal
Warner & Swasey Co Control Instr Div Flushing .... N Y

INFRARED EQUIPMENT—SYSTEMS, INDUSTRIAL & COMMERCIAL (EXCE OVENS)

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE ....
SERVO CORP OF AMERICA HICKSVILLE ....
VICTORY ENGINEERING CORP SPRINGFIELD N J .... ADV PG Facing
Aerometrics Div Aerojet-General Corp San Ramon ......
AGA Corp Secaucus ....
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ....
Audn Corp Hamburg ....
Aul Instruments Inc Flushing ....
Barnes Engineering Co Def & Space Div Stamford......
Beckman Instruments Inc Fullerton, ...
Beckman Instruments Intl SA 1207 Geneva ..... Switze
Bendix Corp Electro Optics Div Ann Arbor ....
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme .... Fr
Coherent Radiation Labs Palo Alto ....
Electron Machine Corp. Umatilla ....
Electro Optics Assoc Palo Alto ....
Euclid Electric & Mfg Div Harvey Hubbell Inc Madison ...
Executive Electronics Inc. Denver ....
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ..
Fostoria-Fannon Inc Fostoria ....
General Optics Inc Bloomfield ....
Heimann GMBH 62 Wiesbaden-Dotzheim .... Ger
Hi-Shear Corp Torrance ....
Horiba Instruments Inc Kyoto .... J
Industrial Components Inc Div Welsh Corp Beaverton ....
Infrared Industries Inc Santa Barbara ....
Ircon Inc Niles ....
KDI Polytechnic Inc Div KDI Corp Cincinnati ....
Kokusai Electric Co Ltd Tokyo-105 .... J
Leeds & Northrup Co North Wales ....
Milletron, Inc Pittsburgh ....
Norbatrol Electronics Corp Murrysville ....
Optomechanisms Inc Plainview ....
Optronics Labs Div Columbia Scientific Corp Waltham ...
Ovitron Corp Industrial Syst Div Cheshire ....
Perry Amplifier Brookline ....
Pyrotel Corp C/O Milletron Inc Pittsburgh ....
Ransom Labs, John H Los Angeles ....
Raytek Inc Mountain View ....
Raytheon Co, Government Marketing Lexington ......
Seed Electronics Corp Lexington ....
Sensor Corp Greenwich ....
Servo Corp of America Hicksville ....
Sparton Electronics, Div Sparton Corp Jackson ......
Systems Matrix Inc Trenton ....
Te Company Santa Barbara ....
Tek-Sel Labs Inc Saddle Brook ....
Victory Engineering Corp Springfield ....
Wilks Scientific Corp South Norwalk ....
Williamson Development Co Inc West Concord ....

INFRARED EQUIPMENT—SYSTEMS, MILITARY (INCL. COMMUNICATION GUIDANCE & NAVIGATION)

NIPPON ELECTRIC CO LTD TOKYO .... JA
SERVO CORP OF AMERICA HICKSVILLE ....
VICTORY ENGINEERING CORP SPRINGFIELD N J .... ADV PG Facing
Aerospace Controls Corp Los Angeles ....
AGA Corp Secaucus ....
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ....
Airborne Instruments Lab, Div Cutler-Hammer Inc
Deer Park ....
American Optical Corp Tech Prods Gr Laser Prods Dept
Southbridge ....
Autonetics Div North American Rockwell Corp Anaheim .
Avco Electronics Div Cincinnati ....
Barnes Engineering Co Def & Space Div Stamford....
Bausch & Lomb Inc Rochester ....
Beckman Instruments Inc Fullerton, ...
Bendix Corp Electro Optics Div Ann Arbor ....
Block Engineering Inc Cambridge ....
Canoga Industries Los Angeles ....
Chicago Aerial Industries Inc Barrington ....
Coherent Radiation Labs Palo Alto ....
Crystalab Products Corp Rochelle Park ....
Dalmo Victor, A Textron Div Belmont ....
Eastman Kodak Co Rochester ....
Flame Research Inc Pittsburgh 35 ....
General Laser Corp Natick ....
General Optics Inc Bloomfield ....
Geo Space Systems Inc St Petersburg ....
Giannini-Voltex-Radex-Irvine Whittier ....
Goodyear Aerospace Corp Akron ....
Infrared Industries Inc Santa Barbara ....
Ircon Inc Niles ....
KDI Polytechnic Inc Div KDI Corp Cincinnati ......
Kollsman Instrument Corp Syosset ....
Labtron Corp of Amer Div KDI Corp Dayton ....
Librascope Singer-General Precision Inc Glendale ....
Litton Industries, Guidance & Controls Sys Div
Woodland Hills ....
Loral Electronic Systems, Div Loral Corp New York ...
MPB Corp Keene ....
Nippon Electric Co Ltd Tokyo ....
Optomechanisms Inc Plainview ....
Optronics Labs Div Columbia Scientific Corp Waltham .
Perkin-Elmer Corp, Optical Group Norwalk ....
Perry Amplifier Brookline ....
Philco-Ford Corp Washington ....
Philips Electronics Indus Ltd Elctn Equip Div Toronto 1
Quantic Industries Inc San Carlos ....
Ransom Labs, John H Los Angeles ....
Raytheon Co, Government Marketing Lexington ......
RCA, Defense Electronic Products Moorestown ......
Sanders Associates, Inc Nashua ....

Electronics Corp Lexington .... Mass
r Precision Industries Inc Medfield .... Mass
Corp of America Hicksville .... N Y
Research Corp Buffalo .... N Y
y Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
ia Electronic Systems Waltham .... Mass
mpany Santa Barbara .... Cal
Instruments Incorporated Dallas .... Tex
son-CSF 78 Versailles .... France
Systems Group Redondo Beach .... Cal
y Engineering Corp Springfield .... N J
nghouse Electric Corp, Aerospace Div Baltimore .... Md

RARED EQUIPMENT—SYSTEMS, IENTIFIC

D CORP OF AMERICA HICKSVILLE .... N Y
ced Kinetics, Inc Costa Mesa .... Cal
Corp Secaucus .... NJ
ssociates Cambridge Ltd Cambridge Cb3 8EZ ..... U K
ne Instruments Lab, Div Cutler-Hammer Inc
r Park .... N Y
g Technology Corp Pasadena .... Cal
s Engineering Co Def & Space Div Stamford ...... Conn
h & Lomb Inc Rochester .... N Y
nan Instruments Inc Fullerton, ... Cal
nan Instruments Intl SA 1207 Geneva ..... Switzerland
Engineering Inc Cambridge .... Mass
ent Radiation Labs Palo Alto .... Cal
alab Products Corp Rochelle Park .... N J
Industries Corp Silver Spring .... Md
o Optics Assoc Palo Alto .... Cal
o Powerpacs Corp Cambridge .... Mass
y Lab Inc Newport .... R I
tive Electronics Inc. Denver .... Colo
nd Optical Co Inc Bronx .... N Y
Research Inc Pittsburgh 35 .... Pa
al Optics Inc Bloomfield .... N J
pace Systems Inc St Petersburg .... Fla
ini-Voltex-Radex-Irvine Whittier .... Cal
ear Aerospace Corp Akron .... Ohio
ann GMBH 62 Wiesbaden-Dotzheim .... Germany
Monrovia .... Cal
ed Industries Inc Santa Barbara .... Cal
Inc Niles Ill
on Corp of Amer Div KDI Corp Dayton .... Ohio
scope Singer-General Precision Inc Glendale .... Cal
ptical Co Spring Valley .... Cal
nechanisms Inc Plainview .... N Y
nics Labs Div Columbia Scientific Corp Waltham ... Mass
on Corp Industrial Syst Div Cheshire .... Conn
n-Elmer Corp Norwalk .... Conn
n-Elmer Corp, Optical Group Norwalk .... Conn
-Ford Corp Washington .... D C
om Labs, John H Los Angeles .... Cal
k Inc Mountain View .... Cal
w Labs Inc Newark .... N J
rch Inc, R-I Controls Div Minneapolis .... Minn
effel Instrument Corp Westwood .... NJ
Corp of America Hicksville .... N Y
y Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
mpany Santa Barbara .... Cal
Instruments Incorporated Dallas .... Tex
Scientific Corp South Norwalk .... Conn
mson Development Co Inc West Concord .... Mass

RARED EQUIPMENT—WINDOWS

O CORP OF AMERICA HICKSVILLE .... N Y
ican Optical Corp Tech Prods Gr Laser Prods Dept
uthbridge .... Mass
es Engineering Co Def & Space Div Stamford ...... Conn
ch & Lomb Inc Rochester .... N Y
man Instruments Inc Fullerton, ... Cal
mer Research Corp Plainview .... N Y
maseal Inc, Sub Lapp Insulator Co Inc
w Lebanon Center .... N Y
rent Radiation Labs Palo Alto .... Cal
nco American Inc Electronic Matls Div Spokane ... Wash
ng Glass Works Corning .... N Y
alab Products Corp Rochelle Park .... N J
man Kodak Co Rochester .... N Y
c Div, Varian Associates San Carlos .... Cal
ral Electrodynamics Corp Garland .... Tex
ral Laser Corp Natick .... Mass
ral Optics Inc Bloomfield .... N J
cience Instruments Corp Mt Vernon .... N Y
a Instruments Inc Kyoto .... Japan
red Industries Inc Santa Barbara .... Cal
-Red Systems Inc Riverdale .... N J
o Inc Quakertown .... Pa
et Corp Palisades Park .... N J
s Optical Works Inc A D Burlington .... Mass
r Optics Inc Danbury .... Conn
ty Mirror Div Libbey-Owens Ford Co Brackenridge ... Pa
er Co, Adolf Providence .... R I
vac Inc Flushing .... N Y
r Jewel Co Perth Amboy .... N J
Electronics Canoga Park .... Cal
Semitronics Inc Columbus .... Ohio
al Coating Lab Inc Santa Rosa .... Cal
al Products A Teledyne Co Monrovia .... Cal
s Electronics Corp Dallas .... Tex
-Optics Corp Stamford .... Conn
S Research Inc Riverton .... N J
in-Elmer Corp Norwalk .... Conn
in-Elmer Corp, Optical Group Norwalk .... Conn
ey Co Ltd Ilford Essex .... England
ision Optics Div Penna Optical Co Reading .... Pa
tz & Silice Paris 8 eme .... France
om Labs, John H Los Angeles .... Cal
iconductor Specialties Corp Fair Lawn .... NJ
i-Elements Inc Saxonburg .... Pa
o Corp of America Hicksville .... N Y
trum Systems, Inc Waltham .... Mass

Sperry Gyroscope Div Sperry Rand Corp Great Neck ..... N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda ...... Pa
Syncor Products Co, Inc Malden .... Mass
Texas Instruments Incorporated Dallas .... Tex
Thermal American Fused Quartz Co Montville .... N J
Velotron Inc Brooklyn .... N Y
Westinghouse Electric Corp, Tube Div Elmira .... NY
Wilks Scientific Corp South Norwalk .... Conn

INFRARED FILMS

***See* Films—Infrared**

INFRARED HEATERS

***See* Heaters—Infrared**

INFRARED OVENS

***See* Ovens; Dehumidifiers**

INKS

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND .... OHIO
HEWLETT-PACKARD PALO ALTO .... CAL
Acromark Co Berkeley Heights .... N J
Allaco Products Braintree .... Mass
American Screen Process Equipment Co Chicago Ill
Apex Machine Co Fort Lauderdale .... Fla
Aremco Products Inc Briarcliff Manor .... N Y
Beckman Instruments Inc Fullerton, ... Cal
Bell-Mark Corp Bloomfield .... N J
Bemis Co, Inc Minneapolis .... Minn
Black Light Corp of America San Gabriel .... Cal
Black Light Products Chicago Ill
Borden Chemical Div Borden Inc New York .... N Y
Clevite Corp, Brush Instruments Div Cleveland .... Ohio
Dietzgen Co, Eugene Chicago Ill
Dynaloy, Inc Hanover .... N J
Eastern Marking Machine Corp Island Park .... N Y
Electro Materials Corp of America Mamaroneck .... N Y
Electro Science Labs Inc Philadelphia .... Pa
Esterline Angus Div Esterline Corp Indianapolis .... Ind
Etchomatic Inc Waltham .... Mass
Fansteel Inc North Chicago Ill
Formulabs Industrial Inks Inc Escondido .... Cal
Foxboro Co Foxboro .... Mass
Geartronics Corp N Billerica .... Mass
Hewlett-Packard Palo Alto .... Cal
Ideal-Hellerman Canada Ltd Ajax .... Ontario
Kingmann-White Inc Placentia .... Cal
Leeds & Northrup Co North Wales .... Pa
London Chemical Co Inc Bensenville Ill
Markal Co Chicago Ill
Markem Corp Keene .... NH
Matthews & Co Jas H Pittsburgh .... Pa
Melpar Inc, Special Prods Dept Falls Church .... Va
Mereco Prods Inc, Div Metachem Resins Corp Cranston .... RI
Micro-Circuits Co New Buffalo .... Mich
Naz-Dar Co Chicago Ill
Organic Products Co Irving .... Tex
Phillips Process Co Inc Rochester .... N Y
Podgor Co Inc, Joseph E Philadelphia .... Pa
Polysciences Inc Warrington .... Pa
Popper & Sons Inc New York .... N Y
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Scherr Tumico Inc St James .... Minn
Shannon Luminous Materials Co Hollywood .... Cal
Stafford Mfg Co Inc Brooklyn .... N Y
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo .... Japan
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Techform Labs Inc Venice .... Cal
Tempil Div Big Three Ind Gas & Equip Co New York ..... N Y
Thermal American Fused Quartz Co Montville .... N J
Ultra-Violet Products Inc San Gabriel .... Cal
United States Machinery, Sub Geartronics Corp North Billerica .... Mass
Wornow Process Paint Co Los Angeles .... Cal

INSPECTION EQUIPMENT

***See* Specific Headings**

INSTRUMENTATION RECORDING AMPLIFIERS

***See* Amplifiers—Instrumentation**

INSTRUMENT CALIBRATION SERVICES

***See* Calibration Services**

INSTRUMENT CASES

***See* Cases—Portable**

INSTRUMENT CONVERTERS—A-C TO D-C

***See* Converters—A-C To D-C**

INSTRUMENT DIALS

***See* Dials**

INSTRUMENT DOLLIES

***See* Dollies**

INSTRUMENT PANELS

***See* Panels**

INSTRUMENTS

***See* Specific Headings**

INSTRUMENTS—GRAPHIC RECORDING

***See* Recorders**

INSTRUMENTS—PANEL

***See* Specific Headings**

INSULATED WIRE

***See* Wire—Listings**

INSULATING BEADS

***See* Beads**

INSULATING CEMENTS

***See* Cements**

INSULATING COMPOUND DISPENSER

***See* Dispensers—Encapsulating & Potting Compounds**

INSULATING VARNISHES

***See* Varishes**

INSULATING WASHERS

***See* Grommets; Washers**

INSULATION

***See* Individual Products i.e., Asbestos; Beads; Ceramics; Coatings; Plastics; Rubber; Varnishes; Etc.**

INSULATION TESTERS

***See* Testers—Insulation**

INSULATORS—ANTENNA

***See* Antenna Insulators**

INSULATORS—CERAMIC

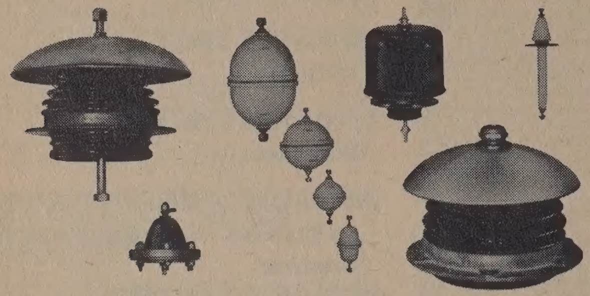
***See* Ceramics**

INSULATORS—FEED-THROUGH

AMERICAN LAVA CORP CHATTANOOGA .... TENN
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE .... WIS
CONCORD ELECTRONICS CORP NEW YORK .... N Y
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
LAPP INSULATOR DIV INTERPACE CORP LE ROY N Y .... ADV PGS 316,317
STAR PORCELAIN CO TRENTON N J .... ADV PG 110
Abacus Electronics Corp Dobbs Ferry .... N Y
Alberox Corp New Bedford .... Mass
Amatom Electronic Hardware New Rochelle .... N Y
American Lava Corp Chattanooga .... Tenn
Aremco Products Inc Briarcliff Manor .... N Y
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Beckman Instruments Inc Fullerton, ... Cal
Beowulf Connector & Cable Corp Huntsville .... Ala
Birnbach Co Inc Freeport .... N Y
Bundy Electronics Corp Div Covington Corp Springfield ... N J
Cambridge Thermionic Corp Cambridge .... Mass
Centralab, Div Globe-Union Inc Milwaukee .... Wis
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center .... N Y
Ceramics International Corp Mahwah .... NJ
Chemelec Products, Inc Cherry Hill .... N J
Chemplast Inc Wayne .... N J
Conax Corp Buffalo .... N Y
Concord Electronics Corp New York .... N Y
Consolidated Ceramics & Metalizing Corp Flemington .... N J
Coors Porcelain Co Golden .... Colo
Crystal Components Gr Saegertown Div GTI Corp Saegertown .... Pa
Culbertson Products Inc Bernardsville .... N J
Daburn Electronics & Cable Corp Bronx .... N Y
Dayton Aircraft Products Inc Fort Lauderdale .... Fla
D-Cemco Inc Burbank .... Cal

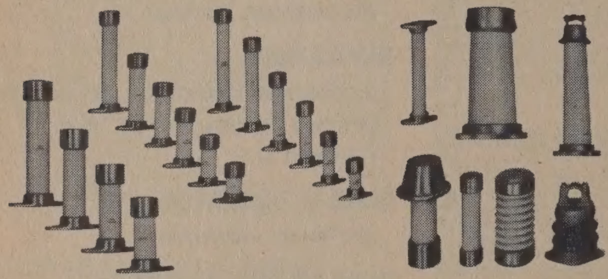
DEPENDABLE . . . STANDARDIZED . . . INSULATORS, SUPPORTS, COOLING EQUIPMENT AND CONDENSERS FROM LAPP

LAPP ENTRANCE INSULATORS—in a wide range of sizes



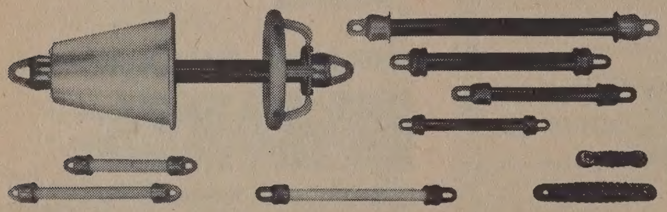
Lapp pioneered in manufacturing heavy duty entrance insulators, and these years of experience assure you maximum dependability and efficiency. These proven insulators are available in porcelain and steatite and a great variety of types for almost every electrical and mechanical requirement.

LAPP STAND-OFF INSULATORS



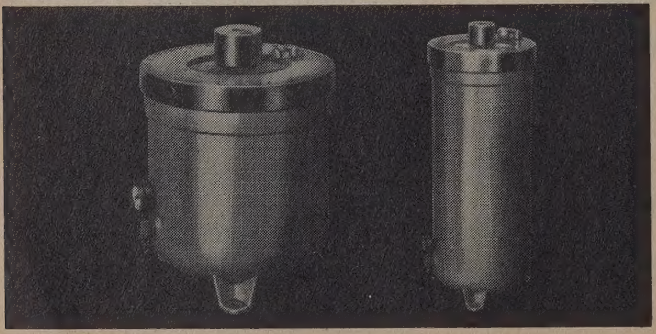
Lapp offers stand-offs in a tremendous selection of standard insulators. Specials? We've designed and produced literally hundreds for the radio, television and electronics industries. The ceramic used in these insulators is the same porcelain or steatite used in large radio and transmission insulators.

LAPP ANTENNA STRAIN INSULATORS



Lapp offers a complete, standard series of insulators for most electrical and mechanical applications, up to 12,000 lbs. strength. Other small units, in porcelain or steatite, are also available as strains and spreaders. Special large strain insulators have been made by Lapp up to 12,000 lbs. strength and 750 kv wet flashover.

LAPP GAS-FILLED CONDENSERS—for duty at high voltages & high currents

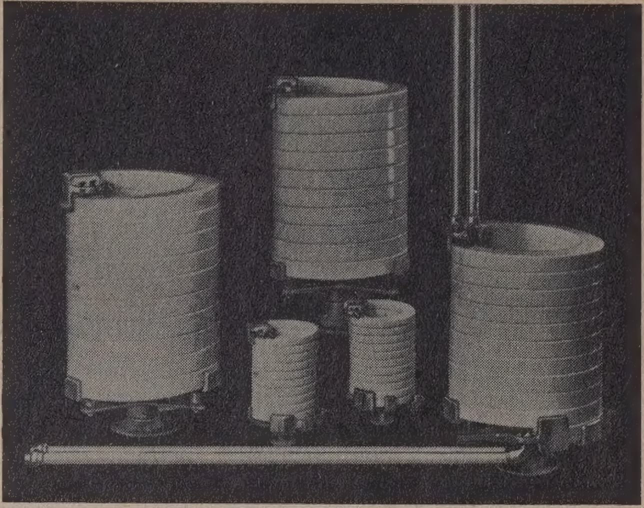


Have low loss, high safety factor in a compact, high efficiency condenser that is unaffected by temperature, moisture or dust conditions. They are available in four tank diameters (7″ to 18″) both fixed and variable. They can be supplied in current and voltage ratings that cover all requirements in the induction heating and radio transmitter fields, up to 85 kv peak safety gap settings and 500 amp current. Tuning on variable models is at ground potential. Write for Bulletin 302.

INSULATION FOR WATER-COOLED SYSTEMS

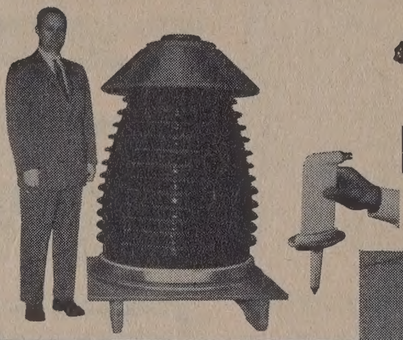
Porcelain Water Coils—for water-cooled power tubes. Lapp porcelain water coils are ideal where cooling water must undergo a change in potential. They provide superior insulation, and eliminate troubles caused by water contamination, conductivity and sludging associated with various types of tubing. Available in a number of standard sizes, assuring optimum water flow and long tube life. They are a permanent investment in a completely trouble-free cooling system.

Lapp Porcelain Pipe—for cooling systems where coils cannot be accommodated. This pipe can be installed on wall, overhead, or under floor of the cubicle. Excellent where water flow rate must be exceptionally high. Available in a range of standard sizes, allowing maximum design freedom.



SPECIALS . . . BY LAPP

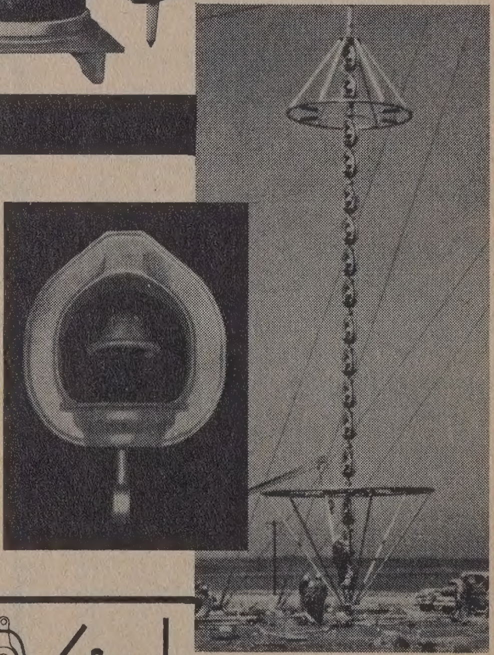
Our basic business is electrical porcelain. Lapp has been designing and manufacturing it for over 45 years. We've solved many tough problems with engineering ingenuity and production ability. Shown here are some of the thousands of special pieces developed. Your requirements become our specifications. Lapp makes special assemblies with economy, to perform with efficiency. Send us your insulator requirements.



LAPP ANTENNA TOWER INSULATORS

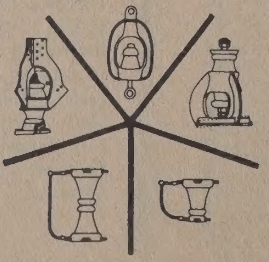
Shown here are giant antenna insulators designed and manufactured for U.S. Navy radio transmitter installation in Northern Maine. Lapp made use of known components to make the design meet electrical requirements. There are 16 insulator units in each string, weighing almost 7½ tons per string! Strings are suspended almost 1000 feet in the air and subjected to all kinds of atmospheric and weather conditions. Development of these highly specialized insulators took considerable time . . . testing alone lasted over a year! This highly unusual project is indicative of the capabilities of Lapp Insulator Company.

Lapp insulators support most of the world's large radio towers, both self-supporting towers and guyed masts. Our tower base insulators have been design-tested up to 9,000,000 lbs.!



Triple insulator tower base assembly—ultimate strength 9,000,000 lbs.

Typical base insulator for guyed mast. Ultimate strength up to 3,000,000 lbs.



Sketches of some of the standard design tower, mast base and guy insulators available.

For further information,
write Lapp Insulator Co.,
Inc., 350 Sumner Street,
LeRoy, N.Y. 14482

Lapp

Denki Kogyo Co Ltd Tokyo ... Japan
Device Seals Inc Sun Valley ... Cal
Dixon Corp Bristol ... R I
Dowa Trading Co Ltd Kobe ... Japan
Emerson Plastics Corp Bronx ... New York
Energy Beams Inc Haskell ... N J
Fastex Div Illinois Tool Works Des Plaines ... Ill
Franklin Fibre-Lamitex Corp Wilmington ... Del
Fusite Corp Cincinnati ... Ohio
Garner Glass Co Claremont ... Cal
General Electric Co, ECSO Schenectady ... N Y
Greenfield Components Corp Greenfield ... Mass
GTI Corp Meadville ... Pa
Hermetite Corp Avon ... Mass
Impectron Inc New York ... N Y
Insulating Shapes Inc Bronx ... N Y
Isolantite Mfg Corp Stirling ... N J
Johnson Co, E F Waseca ... Minn
Jones Electronics, Hiram Burbank ... Cal
Jones Inc, Norman South Merrimack ... N H
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto ... Japan
Lapp Insulator Div Interpace Corp Le Roy ... N Y
Latronics Corp Latrobe ... Pa
Lundey Associates Inc Waltham ... Mass
Maryland Lava Co Inc Bel Air ... Md
Millen Mfg Co Inc, James Malden ... Mass
Mosley Electronics Inc Bridgeton ... Mo
National Beryllia Corp Haskell ... N J
Norrich Plastics Corp Roosevelt ... N Y
Owens-Illinois Consumer & Tech Products Div Toledo ... Ohio
Penn Fibre & Specialty Co Philadelphia ... Pa
Permali Inc Mt Pleasant ... Pa
Polymer Corp Reading ... Pa
Porcelain Products Co Div Clarken Co Carey ... Ohio
Precision Metal Products Co of Malden Inc Stoneham ... Mass
Product Components Corp Hastings-on-Hudson ... N Y
Quartzite Processing, Inc Malden ... Mass
Rostone Corp Lafayette ... Ind
Royal Worcester Industrial Ceramics Inc Charlotte ... N C
Saxonburg Ceramics Inc Pittsburgh ... Pa
Seastrom Mfg Co Inc Glendale ... Cal
Semi-Alloys Inc Mt Vernon ... N Y
Severna Div Bunker-Ramo Corp Roseland ... N J
Shamban & Co, W S Los Angeles ... Cal
Sparta Mfg Co Dover ... Ohio
Sphere Co Inc Little Falls ... N J
Staffall, Inc Providence ... R I
Staff Gasket Mfg Corp New York ... N Y
Star Porcelain Co Trenton ... N J
Statham Instruments Inc Oxnard ... Cal
Taurus Corp Lambertville ... N J
Tekna Products Co Rochester ... N Y
Thermal American Fused Quartz Co Montville ... N J
Union Carbide Corp, Carbon Products Div New York ... N Y
United Mineral & Chemical Corp New York ... N Y
U S Terminals Inc Cincinnati ... Ohio
USECO Div, Litton Industries Van Nuys ... Cal
Veritron West Inc Chatsworth ... Cal
Victor-Bernard Industries Inc Philadelphia ... Pa
Western Coil & Electrical Co Racine ... Wisc

INSULATORS—FUSED QUARTZ

***See* Quartz—Fused**

INSULATORS—PLASTIC

***See* Plastics**

INSULATORS—STANDOFF

DABURN ELECTRONICS & CABLE CORP BRONX ... N Y
EDAL INDUSTRIES INC EAST HAVEN ... CONN
FEDERAL SCREW PRODUCTS INC CHICAGO ... ILL
GRAYHILL INC LA GRANGE ... ILL
LAPP INSULATOR DIV INTERPACE CORP LE ROY N Y ... ADV PGS 316,317
STAR PORCELAIN CO TRENTON N J ... ADV PG 110
Abacus Electronics Corp Dobbs Ferry ... N Y
Alberox Corp New Bedford ... Mass
Allmetal Screw Products Co Inc Garden City ... N Y
Basic Ceramics Inc Sub Basic Inc Hawthorne ... NJ
Bivar Inc Santa Ana ... Cal
Canadian Porcelain Co Ltd Hamilton ... Ont
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center ... N Y
Chemelec Products, Inc Cherry Hill ... N J
Chemplast Inc Wayne ... N J
Cinch-Monadnock City of Industry ... Cal
Coors Porcelain Co Golden ... Colo
Corning Glass Works Corning ... N Y
Culbertson Products Inc Bernardsville ... N J
Daburn Electronics & Cable Corp Bronx ... N Y
Dayton Aircraft Products Inc Fort Lauderdale ... Fla
D-Cemco Inc Burbank ... Cal
Dowa Trading Co Ltd Kobe ... Japan
Duramic Products Inc, Sub Kawecki Chemical Co Palisades Park ... N J
Edal Industries Inc East Haven ... Conn
Emerson Plastics Corp Bronx ... New York
Federal Screw Products Inç Chicago ... Ill
Franklin Fibre-Lamitex Corp Wilmington ... Del
G C Electronics Div, Hydrometals Inc Rockford ... Ill
Glastic Corp Cleveland ... Ohio
Grayhill Inc La Grange ... Ill
Hermetite Corp Avon ... Mass
Impectron Inc New York ... N Y
Insulating Shapes Inc Bronx ... N Y
Isolantite Mfg Corp Stirling ... N J
Jones Electronics, Hiram Burbank ... Cal
Jones Inc, Norman South Merrimack ... N H
Keystone Electronics Corp New York ... N Y
Lapp Insulator Div Interpace Corp Le Roy ... N Y
Latronics Corp Latrobe ... Pa
Leed Insulator Corp Los Angeles ... Cal
Maryland Lava Co Inc Bel Air ... Md
Metalized Ceramics Corp Providence ... R I
Norrich Plastics Corp Roosevelt ... N Y
Nylomatic Corp Morrisville ... Pa
Parker Metal Goods Co Worcester ... Mass
Porcelain Products Co Div Clarken Co Carey ... Ohio
Porter H K Co Electrical Div Pittsburgh ... Pa
Product Components Corp Hastings-on-Hudson ... N Y
Ross Co, Milton Southampton ... Pa
Rostone Corp Lafayette ... Ind
Royal Worcester Industrial Ceramics Inc Charlotte ... N C
Semi-Alloys Inc Mt Vernon ... N Y
Severna Div Bunker-Ramo Corp Roseland ... N J
Shamban & Co, W S Los Angeles ... Cal
Silicone Seals Inc Chicago ... Ill
Staffall, Inc Providence ... R I
Star Porcelain Co Trenton ... N J
Synthane-Taylor Corp Valley Forge ... Pa
Taurus Corp Lambertville ... N J
Tekna Products Co Rochester ... N Y
United Mineral & Chemical Corp New York ... N Y
U S Terminals Inc Cincinnati ... Ohio
Victor-Bernard Industries Inc Philadelphia ... Pa

INSULATORS—WATER TUBE

LAPP INSULATOR DIV INTERPACE CORP LE ROY N Y ... ADV PGS 316,317
Dowa Trading Co Ltd Kobe ... Japan
Lapp Insulator Div Interpace Corp Le Roy ... N Y
Maryland Lava Co Inc Bel Air ... Md
Mykroy Inc Wheeling ... Ill
National Beryllia Corp Haskell ... N J
Penn Fibre & Specialty Co Philadelphia ... Pa
Semi-Alloys Inc Mt Vernon ... N Y

INTEGRATED CIRCUITS

***See* Circuits—Integrated**

INTEGRATING AMPLIFIERS

***See* Amplifiers—Computer**

INTERCOMMUNICATION SYSTEMS—WIRED, ELECTRONIC

HEATH CO BENTON HARBOR ... MICH
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
SIEMENS AMERICA INC NEW YORK ... N Y
Action Systems Co Div Conn Consolidated Inds Inc Meriden ... Conn
ADEC Inc Newark ...
Advanced Technology Corp Chambersburg ...
Alpha Components Corp Venice ...
Altec Lansing Div LTV Ling Altec Inc Anaheim ...
Amtron Inc Sub Republic Corp Midlothian ...
Assembly-Overland Div Rucker Co Los Angeles ...
Atlas Sound Div Amer Trading & Prod Corp Parsippany ...
Audio Equipment Co Div Walter Kidde & Co Inc Port Washington ...
Audio Vox Intercom Inc Montreal 357 ...
Auth Electric Co, Inc Long Island City ...
Automatic Electric Co Northlake ...
Avco Electronics Div Cincinnati ...
A V Electronics, Inc Fresno ...
Barker & Williamson Div Sunshine Mining Co Bristol ...
Bayly Engineering Ltd Ajax ...
Bogen Communications Div Lear Siegler Inc Paramus ...
Brown Engineering-A Teledyne Co Huntsville ...
Calbest Electronics Los Angeles ...
Canadian Motorola Electronics Ltd Willowdale 425 ...
Canoga Industries Los Angeles ...
Central Dynamics Ltd Pte Claire ...
Cie De Signaux Et D'Entreprises Electriques Paris 17eme ... Fr
Components Specialties Inc Freeport ...
Continental Electronics Corp Brooklyn ...
Daltronics Inc Providence ...
Data Trends Inc Mountain Lakes ...
Daven Div McGraw-Edison Co Manchester ...
Dowa Trading Co Ltd Kobe ... J
DuKane Corp St Charles ...
Ebauches SA Dept Oscilloquartz 2001 Neuchatel ...
Edwards Co Inc, Unit of General Signal Corp Norwalk ...
Electronic Homes Co New York ...
Electrospace Corp Westbury ...
EMI Electronics Canada Ltd Dartmouth ... N
Ericsson Centrum Inc New York ...
Executone Inc Long Island City ...
Fanon Electronic Industries Div Courier Commun Inc Newark ...
Fasco Industries Inc, Electronic Div Fayetteville ...
Fedtro Inc Rockville Centre ...
Fisher Berkeley Corp Emeryville ...
Flush Wall Radio Co Clearwater ...
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ...
Fujitsu Ltd Tokyo ...
Gai-Tronics Corp Reading ...
Godfrey Mfg Co Chicago ...
G T Research Inc Imlaystown ...
Heath Co Benton Harbor ...
Honeywell Resdntl & Coml Sls Divs Minneapolis ...
ITT Terryphone Corp Harrisburg ...
Jensen Mfg Div, The Muter Co Chicago ...
Jetronics Co Div J L Hall Co Inc Redwood City ...
Kameco Electronics Ltd. Montreal ...
K L A Labs Inc Detroit ...
Labtron Corp of Amer Div KDI Corp Dayton ...
Lafayette Radio Electronics Syosset ...
Lake Systems Corp Newton ...
Lane Industries, Electronics Div North Hollywood ...
Lear Siegler Inc Santa Monica ...
Lear Siegler Inc, Electronic Instrumentation Div Anaheim
Loge Electronics Los Angeles ...
Marquardt Industrial Products Co Chicago ...
Matsushita Communication Industrial Co Ltd Yokohama ...
Matsushita Electric Industrial Co Ltd Osaka ...
Nelson-Hershfield Electronics Co Phoenix ...
Nippon Electric Co Ltd Tokyo ...
Oki Electric Industry Co Ltd Tokyo ...
Paraplegics Mfg Co Inc Bensenville ...
Philmore Mfg Co Inc Richmond Hill ...
Plessey Co Ltd Ilford Essex ... E
Private Tele Communications Inc Chicago ...
Racal Electronics Ltd Bracknell Berks ... E
Ratelco Inc Seattle ...
Rauland-Borg Corp Chicago ...
RCA, Defense Electronic Products Moorestown ...
Remler Co San Francisco ...
Sanyo Electric Co Ltd Osaka ...
Schindler's Los Angeles ...
Siemens America Inc New York ...
Spivey Inc, James S Washington ...
Standard Telephones & Cables Ltd London WC 2 ... E
Stelma Inc Stamford ...
Stromberg-Carlson Sub Gen Dynamics Rochester ...
Talk-A Phone Co Chicago ...
Telautograph Corp Los Angeles ...
Telecontrol Div Vogue Instrument Corp Plainview ...
Telectro Systems Corp Corona ...
Telephonics Div, Instrument Systems Corp Huntington ...
Touchmaster Labs Los Angeles ...
Virginia Electronics Co Inc Falls Church ...
Vitra Instrument & Electronics Corp Syosset ...
Voycall Sales & Lake Mfg Co Oakland ...
VP Co Pasadena ...
Webster Electric Co Racine ...

INTERCOMMUNICATION SYSTEMS—WIRED, SOUND-POWERED

NIPPON ELECTRIC CO LTD TOKYO ...
Action Systems Co Div Conn Consolidated Inds Inc Meriden ...
Atlas Sound Div Amer Trading & Prod Corp Parsippany
Continental Electronics Corp Brooklyn ...
Dowa Trading Co Ltd Kobe ...
DuKane Corp St Charles ...
Edwards Co Inc, Unit of General Signal Corp Norwalk ...
Fanon Electronic Industries Div Courier Commun Inc Newark ...
F & M Systems Co, Div Fischbach & Moore, Inc Dallas
Fujitsu Ltd Tokyo ...
G T Research Inc Imlaystown ...
Hayakawa Electric Co Ltd Osaka ...
Henschel Corp Amesbury ...
Jensen Mfg Div, The Muter Co Chicago ...

Works in Seconds.

The '70 Electronics Buyers' Guide lets you find people, places, and things in seconds. In the Directory of Manufacturers and Sales Offices, for example, more than 6,000 manufacturers are listed, including addresses, telephone numbers, sales offices, the people to call for information, the total number of engineers and employees and sales volumes. So use your EBG. It works in seconds.

Electronics Buyers' Guide

. A Labs Inc Detroit .... Mich
otron Corp of Amer Div KDI Corp Dayton .... Ohio
ar Siegler Inc Santa Monica .... Cal
ppon Electric Co Ltd Tokyo .... Japan
Electric Industry Co Ltd Tokyo .... Japan
ssey Co Ltd Ilford Essex .... England
dio Corp of America, Comml Elctn Prods Div Camden . . N J
uland-Borg Corp Chicago Ill
A, Defense Electronic Products Moorestown .... N J
we Co, L L Boston .... Mass
romberg-Carlson Sub Gen Dynamics Rochester .... N Y
ephonics Div, Instrument Systems Corp Huntington . . . . NY
uchmaster Labs Los Angeles .... Cal
versity Sound Div Ltv Ling Altec Inc Oklahoma City . . . Okla
rner Electronic Devices Rankin Ill

ITERCOMMUNICATION SYSTEMS—WIRELESS

ATH CO BENTON HARBOR .... MICH
PPON ELECTRIC CO LTD TOKYO .... JAPAN
EMENS AMERICA INC NEW YORK .... N Y
R Electronics Corp New York .... N Y
tomatic Clerical Systems Inc Pasadena .... Cal
De Signaux Et D'Entreprises Electriques Paris 17eme .... France
ricon Products Elizabeth .... N J
mponents Specialties Inc Freeport .... N Y
ncord Electronics Corp Los Angeles .... Cal
wa Trading Co Ltd Kobe .... Japan
Kane Corp St Charles Ill
ctronic Homes Co New York .... N Y
non Electronic Industries Div Courier Commun Inc Newark .... N J
sco Industries Inc, Electronic Div Fayetteville .... N C
dtro Inc Rockville Centre .... N Y
M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
jitsu Ltd Tokyo .... Japan
neral Dynamics, Electronics Div Rochester .... N Y
neral Instrument Corp Electronics Sys Div. Hicksville . . . N Y
ath Co Benton Harbor .... Mich
nnson Co, E F Waseca .... Minn
. A Labs Inc Detroit .... Mich
btron Corp of Amer Div KDI Corp Dayton .... Ohio
fayette Radio Electronics Syosset .... NY
ke Systems Corp Newton .... Mass
atsushita Communication Industrial Co Ltd Yokohama .... Japan
atsushita Electric Industrial Co Ltd Osaka .... Japan
es Reproducer Co Inc New York .... N Y
ppon Electric Co Ltd Tokyo .... Japan
ilmore Mfg Co Inc Richmond Hill .... N Y
ssey Co Ltd Ilford Essex .... England
cal Electronics Ltd Bracknell Berks .... England
A, Defense Electronic Products Moorestown .... N J
mens America Inc New York .... N Y
andard Telephones & Cables Ltd London WC 2 . . . . England
lk-A Phone Co Chicago Ill
ra Instrument & Electronics Corp Syosset .... N Y
Co Pasadena .... Cal

ITERFERENCE FILTERS

***See* Filters**

ITERFEROMETERS—MICROWAVE

NTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON .... MASS
PPON ELECTRIC CO LTD TOKYO .... JAPAN
STRON-DONNER CORP CONCORD .... CAL
vanced Kinetics, Inc Costa Mesa .... Cal
aren Microwave Inc Syracuse .... N Y
noga Industries Los Angeles .... Cal
u Associates Inc Littleton .... Mass
ntrol Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
nerson & Cuming Inc Canton .... Mass
neral Microwave Corp Farmingdale .... N Y
CS Corp Monrovia .... Cal
crowave Instruments Co Corona del Mar .... Cal
ppon Electric Co Ltd Tokyo .... Japan
stron-Donner Corp Concord .... Cal

ITERFEROMETERS—OPTICAL

vanced Kinetics, Inc Costa Mesa .... Cal
nerican Optical Corp Tech Prods Gr Laser Prods Dept Southbridge .... Mass
omic Labs, Div Cenco Instr Corp Chicago Ill
rringer Research Ltd Rexdale 605 .... Ont
ckman Instruments Inc Fullerton, ... Cal
ckman Instruments Intl SA 1207 Geneva . . . . . Switzerland
ckman & Whitley Mountain View .... Cal
ock Engineering Inc Cambridge .... Mass
ntral Scientific Co Chicago Ill
vidson Optronics Inc West Covina .... Cal
gital Development Corp San Diego .... Cal
All Co Des Plaines Ill
ling Corp Cambridge .... Mass
ectro Optics Assoc Palo Alto .... Cal
gis Equipment Co Morton Grove Ill
cona Corp Bellmore .... NY
ertner Scientific Corp Chicago Ill
lton Industries Inc Metuchen .... N J
rared Industries Inc Santa Barbara .... Cal
uffel & Esser Co Morristown .... N J
ser Optics Inc Danbury .... Conn
k Div Singer Co Binghamton .... N Y
clear Research Instruments Berkeley .... Cal
mpus Corp of America New Hyde Park .... N Y
tics Technology Inc Palo Alto .... Cal
Optomechanisms Inc Plainview .... N Y
Opto-Metric Tools Inc New York .... N Y
Perkin-Elmer Corp Norwalk .... Conn
Perkin-Elmer Corp Laser Dept Wilton .... Conn
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Sloan Instruments Corp Santa Barbara .... Cal
Spectra-Physics Mountain View .... Cal
Tropel Inc Fairport .... N Y
Varian Palo Alto .... Cal
Zeiss Inc, Carl New York .... N Y

INTERMETALLIC CRYSTALS

***See* Crystals—Semiconductor**

INTERMETALLICS—SEMICONDUCTOR—RAW MATERIAL ONLY

Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Cominco American Inc Electronic Matls Div Spokane . . . Wash
Henley & Co Inc New York .... N Y
Indium Corp of America Utica .... N Y
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Materials Research Corp Orangeburg .... N Y
Monsanto Co St Peters .... Mo
NPC Electronics Canoga Park .... Cal
Ohio Semitronics Inc Columbus .... Ohio
Rocky Mountain Research Inc Denver .... Colo
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semiconductor Specialties Corp Fair Lawn .... NJ
Semi-Elements Inc Saxonburg .... Pa
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa

INTERMODULATION ANALYZERS, METERS & TESTERS

***See* Analyzers—Intermodulation**

INTERVALOMETERS

***See* Timers**

INVERTERS, D-C TO A-C—CHOPPER

BELL, INC F W COLUMBUS .... OHIO
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL .... PA
ELECTRONIC MEASUREMENTS DIV ROWAN INDUSTRIES INC OCEANPORT .... N J
FORK STANDARDS INC WEST CHICAGO ILL . . . ADV PG 320
HEWLETT-PACKARD PALO ALTO .... CAL
INTERELECTRONICS CORP CONGERS .... N Y
KINTRON A DICTAPHONE CO PASADENA CAL . ADV PG 389
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PLASTIC CAPACITORS INC CHICAGO ILL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
Allen Aircraft Radio Inc Elk Grove Village Ill
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
Atlas Coil Corp Ansonia .... Conn
ATR Electronics, Inc St Paul .... Minn
Ault, Inc Minneapolis .... Minn
Autronics Corp Pasadena .... Cal
Barden Co Los Angeles .... Cal
Bell, Inc F W Columbus .... Ohio
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Bronson Corp, Sub Kurz & Root Co Appleton .... Wisc
Bush Transformer Div, Gladding-Keystone Corp Oneonta . . NY
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill .... Pa
Control Circuits Inc Middletown .... Conn
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark .... N J
Dowa Trading Co Ltd Kobe .... Japan
Electronic Measurements Div Rowan Industries Inc Oceanport .... N J
Fork Standards Inc West Chicago Ill
General Laboratory Assoc Inc Norwich .... N Y
Glentek Inc Santa Monica .... Cal
Hewlett-Packard Palo Alto .... Cal
Honeywell Industrial Div Fort Washington .... Pa
Inet Power A Teledyne Co Gardena .... Cal
Interelectronics Corp Congers .... N Y
Kapitol Magnetic Corp Chicago Ill
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kintron A Dictaphone Co Pasadena .... Cal
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Power Equipment Div Cleveland .... Ohio
Leclanche SA Ch - 1401 Yverdon .... Switz
Magnetika Inc Venice .... Cal
Microtran Co Inc Valley Stream .... N Y
MIL Associates Hudson .... NH
Nippon Electric Co Ltd Tokyo .... Japan
North Electric Co Galion .... Ohio
Nuclear Corp of America, Nuclear Div Denville .... N J
Nuclear Enterprises Ltd Edinburgh .... Scotland
Plastic Capacitors Inc Chicago Ill
Plessey Co Ltd Ilford Essex .... England
Power Control Corp Pittsburgh .... Pa
Raven Electronics Inc Burbank .... Cal
Reflectone. Inc, Englewood Cliffs .... N J
Roband Electronics Ltd Surrey .... England
SBD Systems Inc Farmingdale .... N Y
Scott Electronics Corp Orlando .... Fla
Signet Controls Inc Tulsa .... Okla
Sola Electric Div Sola Basic Industries Elk Grove Village . . . Ill
Solid State Electronics Corp Sepulveda .... Cal
Space Craft Inc Huntsville .... Ala
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
T M C Systems & Power Corp Springfield .... Va
Todd Products Corp Hicksville .... NY
Transistor Devices Inc Cedar Knolls .... N J
Triad Transformer Corp Venice .... Cal
Valradio Ltd Feltham, Mdsx .... Eng
Varo Inc, Static Power Div Plano .... Tex
Vector Engineering Inc Springfield .... N J
Washington Technological Assoc Inc Rockville .... Md

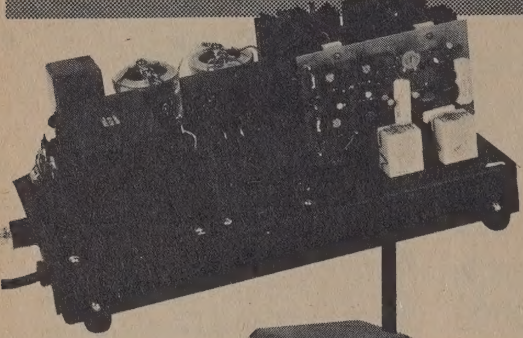
INVERTERS, D-C TO A-C—ROTARY

INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV OGLESBY ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PLASTIC CAPACITORS INC CHICAGO ILL
Allen Aircraft Radio Inc Elk Grove Village Ill
American Electronics, Inc Fullerton .... Cal
Aviation Electric Ltd St Laurent, Montreal .... Que
Bendix Corp Electric Power Div Eatontown .... NJ
Bronson Corp, Sub Kurz & Root Co Appleton .... Wisc
Carter Motor Co Chicago Ill
Consolidated Electric Corp Seattle .... Wash
Denki Kogyo Co Ltd Tokyo .... Japan
Dowa Trading Co Ltd Kobe .... Japan
Dyna Technology, Inc Sioux City .... Iowa
Electric Indicator Co Inc Wilton .... Conn
Electric Products Co Cleveland .... Ohio
Electro-Pacific Inc Goleta .... Cal
Horlick Co Inc, William I Boston .... Mass
Indiana General Corp Electro-Mechanical Div Oglesby Ill
Inet Power A Teledyne Co Gardena .... Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Power Equipment Div Cleveland .... Ohio
Leland Airborne Products Div AMF Vandalia .... Ohio
Nippon Electric Co Ltd Tokyo .... Japan
Plastic Capacitors Inc Chicago Ill
Reflectone. Inc, Englewood Cliffs .... N J
Safety Electrical Equipment Corp New Haven .... Conn
Sola Electric Div Sola Basic Industries Elk Grove Village Ill
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Sunbeam Electronics Fort Lauderdale .... Fla
Task Corp Anaheim .... Cal
Thorn Automation Ltd Rugeley, Staffs .... England
T M C Systems & Power Corp Springfield .... Va
Washington Technological Assoc Inc Rockville .... Md

INVERTERS, D-C TO A-C—SOLID STATE

BELL, INC F W COLUMBUS .... OHIO
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL .... PA
C M L INC PLAINFIELD N J .... ADV PGS 438,439
ELECTRONIC MEASUREMENTS DIV ROWAN INDUSTRIES INC OCEANPORT .... N J
FORK STANDARDS INC WEST CHICAGO ILL . . . ADV PG 320
HEATH CO BENTON HARBOR .... MICH
INTERELECTRONICS CORP CONGERS .... N Y
KINELOGIC CORP PASADENA .... CAL
KINTRON A DICTAPHONE CO PASADENA .... CAL
MELCOR ELECTRONICS CORP FARMINGDALE .... N Y
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
NJE CORP KENILWORTH .... N J
NOVA ELECTRIC MFG CO SADDLE BROOK N J . ADV PG 321
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC INC ANAHEIM .... CAL
PLASTIC CAPACITORS INC CHICAGO ILL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
TOROTEL, INC GRANDVIEW .... MO
TRANSFORMER ELECTRONICS CO BOULDER COLO .... ADV PGS 2nd Cover & Facing Page
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK . . . . N J
VEGA PRECISION LABS VIENNA .... VA
WAGNER ELECTRIC CORP, TUNG-SOL DIV LIVINGSTON . N J
Abbott Transistor Labs, Inc Los Angeles .... Cal
ACR Electronics Corp New York .... N Y
ADC Electronics, Inc Harbor City .... Cal
Advanced Development Corp Gardena .... Cal
Advanced Energy Conversion Menlo Park .... Cal
Aerospace Avionics Inc Bohemia .... NY
Allen Aircraft Radio Inc Elk Grove Village Ill
Almond Instruments Co Covina .... Cal
American Geloso Electronics Inc New York .... N Y
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
AMP Incorporated Harrisburg .... Pa
Analog Technology Corp Pasadena .... Cal
Armec Corp Huntington Station .... N Y
Arnold Magnetics Corp Culver City .... Cal
Assembly-Overland Div Rucker Co Los Angeles .... Cal
Astro Lab Westminster .... Cal
Astro-Metrix Corp Burbank .... Cal
ATR Electronics, Inc St Paul .... Minn
Ault, Inc Minneapolis .... Minn
Autronics Corp Pasadena .... Cal
Aviation Electric Ltd St Laurent, Montreal .... Que
Aviation Instrument Mfg Corp Houston .... Tex
Avtel Corp Covina .... Cal
Barden Co Los Angeles .... Cal
Basler Electric Co Highland Ill
Bell, Inc F W Columbus .... Ohio
Bendix Corp Electric Power Div Eatontown .... NJ
Bergen Lab, Inc Paterson .... N J
B F Electronics Solana Beach .... Cal
Borg-Warner Controls Div Borg-Warner Corp Santa Ana . . Cal

Precise Frequency POWER INVERTERS FROM FORK STANDARDS, INC.



LINEAR AMPLIFIER SERIES

Provides frequency stable sine wave output from unregulated AC line. Output frequency or frequency accuracy may be changed by changing plug-in oscillator module. Output continuously variable from zero to maximum.

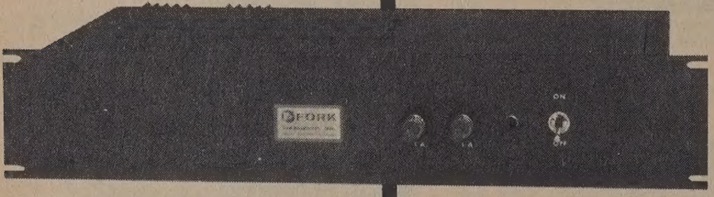
Input: 105-130/210-260 VAC, 50-1000 Hz
Output: Sine wave, 0-125 VAC, 75 VA (standard), regulated
Frequency: 50-1000 Hz, .1 to .0005% accuracy (both determined by plug-in oscillator)
Size: 14⅛ x 8¼ x 5½" high; weight 22 lbs
Price (60 Hz output): From $480.00

FORK
STANDARDS, INC
WEST CHICAGO, ILLINOIS

CLOCK MOTOR DRIVERS

Provide precise frequency drive for small synchronous motors from 12 VDC source. The Model LCD has a directly coupled 12 V push-pull output for center tapped low voltage motors, while the Model HCD delivers a 115 V output for line-operated motors.

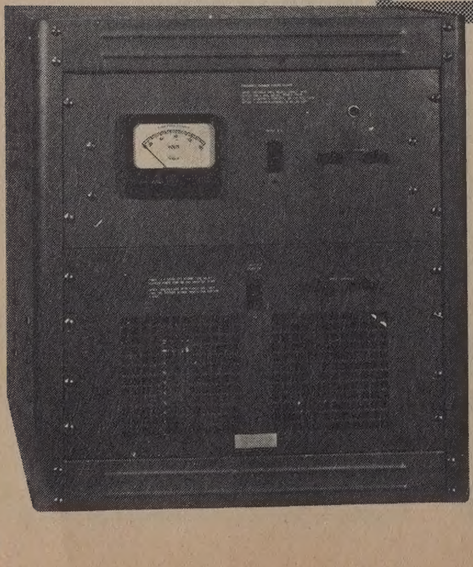
Input: 12 VDC
Output: 12 V push-pull (Model LCD) or 115 V (Model HCD), 3 VA; or 12 V push-pull (Model LMD) or 115 V (Model HMD) at 35 VA
Frequency: 60 Hz standard, 10 to 1000 Hz available, at .2 to .001% accuracy
Size: Model LCD, 1½" sq. x 3½" h; Model HCD, 2" sq. x 4" h
Price (60 Hz): Model LCD, from $134.00; Model HCD, from $149.00



TAPE DECK SUPPLY

Rack mounted supply for driving instrumentation tape recorder in remote installations. MIL Spec construction throughout.

Input: 105-125 VAC, 55-65 Hz
Output: 115 VAC, sine wave, 60 VA
Frequency: 60 Hz, ±.01%, -55° to +85°C



TWO FREQUENCY 400 VA INVERTER

Medium power inverter for laboratory testing of precision U.S. made (60 Hz) instruments on 50 Hz or European made (50 Hz) instruments on 60 Hz. Alternate output frequency selected by a switch on the plug-in oscillator and tap change on output filter.

Input: 115/230 VAC, 50-400 Hz
Output: 115/230 VAC, sine wave, regulation 5% zero to full load, 400 VA
Frequency: 50 or 60 Hz (switchable), .001% accuracy

See our full page of oscillator data under "Oscillators, Tuning Fork

FORK STANDARDS, INC

251 Main Street, West Chicago, Illinois 6018
Telephone: AREA CODE 312 231-3511

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wn Engineering-A Teledyne Co Huntsville	Ala
s Instrument Corp Brooklyn	N Y
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h Transformer Div, Gladding-Keystone Corp Oneonta	NY
Power Corp El Segundo	Cal
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L Inc Plainfield	N J
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Research & Devel Corp Huntington	N Y
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tronic Engineering Co of Cal Santa Ana	Cal
tronic Measurements Div Rowan Industries Inc ceanport	N J
tronic Research Associates Inc Cedar Grove	N J
tronic Resources Inc Tasker Indus Los Angeles	Cal
tro Products Labs Inc Power Supply Div Chicago	Ill
r Corp San Diego	Cal
Electronics Inc Erie	Pa
Electronics Inc Tempe	Ariz
Cedag Milan	Italy
child Controls Hicksville	N Y
anti, Ltd Lancashire	England
d Electronics Inc Chatham	N J
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st Electric Co Melrose Park	Ill
Standards Inc West Chicago	Ill
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el Inc East Norwalk	Conn
h Co Benton Harbor	Mich
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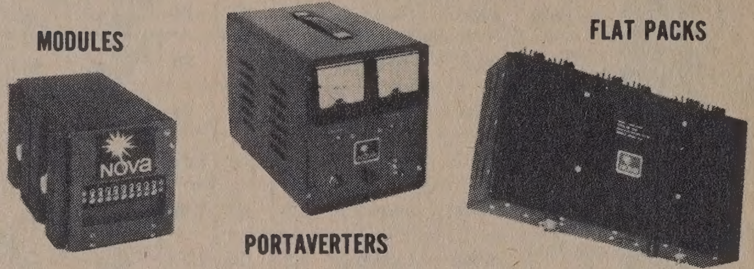
NOVA

125 VA to 6 KVA
INVERTERS
FREQUENCY
CHANGERS



Single and three phase • low distortion

HIGH EFFICIENCY! LOW COST!
SMALLEST SIZE! FASTEST DELIVERY!

Typical specifications for all models

INPUT RANGES
11-16, 11-32, 22-32, 42-54, 105-130, 105-150, 150-250, & 250-350 VDC

OUTPUT RATINGS
125, 250, 500, 1,000, 1,500, 2,000 Va 1ϕ
150, 375, 750, 1,500, 3,000, 4,500, 6 KVA 3ϕ

OUTPUT FREQUENCIES
48-440 Hz Continuously variable or 50, 60, 400 Hz — fixed

OUTPUT VOLTAGE
10-130 VAC Continuously Variable

OUTPUT REGULATION
Less than ± 1.0% for line and load

FREQUENCY REGULATION
Less than ± 0.15% for line and load

OPERATING TEMPERATURE -40 to 71°C

EFFICIENCY (except 12V types)
80% Minimum

DISTORTION 3% & 6%

FREQUENCY CHANGER INPUTS
48-440 Hz, 1ϕ, 3ϕ, 115/230 V

125Va from $245
250Va from $390
500Va from $570
1 KVA from $845

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ON SPECIAL DESIGNS

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A Subsidiary of NOVA Industries, Inc.
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Put your confidence in COLUMBIAN

DATA→ MAPICO PRODUCTS	COMPOSITION	PARTICLE SHAPE	PREDOMINANT PARTICLE SIZE (Microns)	SURFACE AREA	APPARENT DENSITY		TYPICAL CHEMICAL ANALYSES									
				m²/g ***	S.V.‡ GMS./CM³	TAPPED GMS./CM³	% PURITY Min. Max.	% MOISTURE (Loss at 105° C) Min. Max.	LOSS ON IGNITION Min. Max.	% WATER SOLUBLE SALTS Min. Max.	% SiO_2 Min. Max.	% TiO_2 Min. Max.	% SO_3 Min. Max.	% Al_2O_3 Min. Max.	% Cu Min. Max.	% Mn Min. Max.
Yellow Light Lemon 100	ferric oxide hydrate	acicular	0.4-0.8	22.4	.14	.35	98.8 99.2	.30 .50	11.5 12.0	.04 .08	.05 .15	.002 .004	.20 .60	.001 .002	.03 .05	.015 .025
EG-1*	magnesium ferrite	acicular	0.4-1.2	4.7	.18	.40	99.3 99.6	.10 .20	.05 .10	.35 .45	.05 .10	.002 .004	.10 .30	.001 .002	.02 .04	.015 .025
EG-2**	zinc ferrite	acicular	0.4-1.2	3.5	.27	.59	99.5 99.7	.10 .20	.05 .10	.05 .10	.10 .20	.002 .004	.02 .04	.001 .002	.02 .04	.010 .015
EG-3	gamma ferric oxide	cubical	0.3-1.2	8.7	.39	.71	98.0 99.0	.10 .20	.80 1.20	.10 .15	.03	.02 .04	.15 .20	.002 .005	.002 .004	.10 .20
Red 110-2	alpha ferric oxide	cubical	0.3-1.2	5.4	.33	.67	99.1 99.4	.05 .10	.25 .35	.10 .15	.03	.02 .04	.10 .15	.002 .005	.002 .004	.08 .15
EG-60	alpha ferric oxide	cubical	2.0-4.0	2.8	.45	1.00	99.3 99.6	.05 .10	.20 .30	.10 .15	.03	.02 .04	.10 .15	.002 .005	.002 .004	.06 .10
Red H.P.	alpha ferric oxide	cubical	2.0-4.0	2.8	.45	1.00	99.7 99.8	.02 .05	.07 .15	.02 .04	.03	.005 .02	.03 .06	.002 .005	.002 .004	.04 .06
EG-80	alpha ferric oxide	cubical	3.8-5.9	1.3	.85	1.74	99.4 99.7	.05 .10	.10 .20	.10 .15	.03	.02 .04	.05 .10	.002 .005	.002 .004	.06 .10
Red 297	alpha ferric oxide	spheroidal	0.3-0.8	8.4	.30	.59	99.3 99.6	.05 .20	.30 .60	.08 .20	.05 .15	.001 .003	.05 .25	.01 .02	.001 .003	.01 .02
Red 347	alpha ferric oxide	spheroidal	0.3-0.9	7.4	.32	.61	99.4 99.7	.05 .20	.20 .50	.05 .20	.05 .15	.001 .003	.05 .20	.01 .02	.001 .003	.01 .02
Red 387	alpha ferric oxide	spheroidal	0.3-1.1	6.5	.33	.69	99.4 99.7	.05 .20	.20 .50	.05 .20	.05 .15	.001 .003	.05 .15	.01 .02	.001 .003	.02 .03
Red 477	alpha ferric oxide	spheroidal	0.4-2.0	5.9	.36	.74	99.5 99.8	.05 .15	.15 .45	.04 .15	.05 .15	.001 .003	.05 .10	.01 .03	.001 .003	.02 .04
Red 567	alpha ferric oxide	spheroidal	0.4-2.6	4.9	.37	.74	99.5 99.8	.05 .15	.15 .45	.04 .15	.05 .15	.001 .003	.05 .10	.01 .03	.001 .003	.03 .06
Red 617	alpha ferric oxide	spheroidal	0.4-3.7	3.9	.39	.74	99.5 99.8	.05 .10	.15 .35	.04 .10	.05 .15	.001 .003	.05 .10	.01 .03	.001 .003	.03 .10
Red 516-M	alpha ferric oxide	acicular	0.3-1.0	26.4	.14	.32	97.0 98.3	.10 .30	1.0 2.2	.10 .30	.10 .20	.002 .004	.20 .40	.001 .002	.03 .05	.015 .025
Black†	synthetic magnetite	cubical	0.2-0.8	6.7	.34	.71	99.0 99.2	.05 .20	.70 .90	.05 .10	.03 .06	.02 .04	.15 .20	.002 .004	.002 .004	.20 .25

*MgO (as $MgO.Fe_2O_3$); 18.7-19.2%—U.S. Patent 2,502,130
**ZnO (as $ZnO.Fe_2O_3$) 32.6-32.8%—U.S. Patent 2,904,395
****As determined by nitrogen adsorption*
†FeO (as $FeO.Fe_2O_3$) 21-22%
‡Scott Volumeter

Samples are available on request and our trained technicians who are continually conducting ferrite research concerned with the use of Mapico Iron Oxides are at your service whenever desired.

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synthetic iron oxides for the magnetics industries

Specify Mapico pure Iron Oxides for precise uniformity in every shipment. They are produced under the most rigid controls ever devised at three Columbian plants. Compare the benefits of Mapico Iron Oxides: (1) uniform reactivity at high temperatures; (2) high purity and freedom from harmful impurities; (3) controlled shrinkage; (4) controlled electronic characteristics; (5) available in three different particle shapes and several range of particle size; (6) outstanding control of preselecte characteristics.

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United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
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Vitro Labs Div Vitro Corp of America W Orange .... N J
White Cross Labs New York .... NY
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Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
  Corp Carle Place .... N Y
Columbian Carbon Co New York .... N Y
Electronic Space Products Inc Los Angeles .... Cal
Glidden Metals, SCM Corp Cleveland .... Ohio
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Pfizer Minerals, Pigments & Metals Div New York .... NY
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Elements Inc Saxonburg .... Pa
United Mineral & Chemical Corp New York .... N Y
Xtalonix Products Div Harshaw Chemical Co Columbus ... Ohio

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Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
  Corp Carle Place .... N Y
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Glidden Metals, SCM Corp Cleveland .... Ohio
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Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Elements Inc Saxonburg .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
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***See* Tools—Soldering**

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Astrolab Inc Linden .... N J
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Sanders Assoc Inc, Microwave Div Nashua .... N H
Sedco Systems Inc Farmingdale .... N Y
Solitron/Microwave Long Island City .... N Y
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***See* Sources—Radioactive**

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JACKS

***See Also* Connectors**

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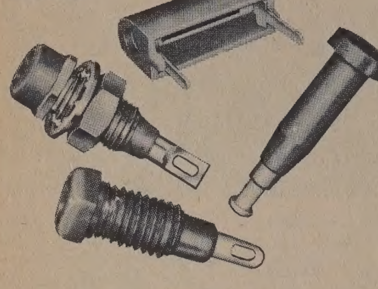

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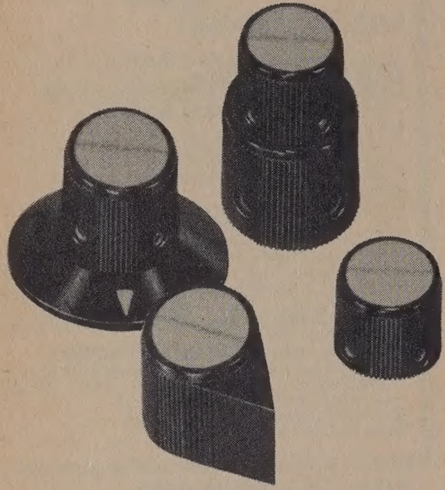

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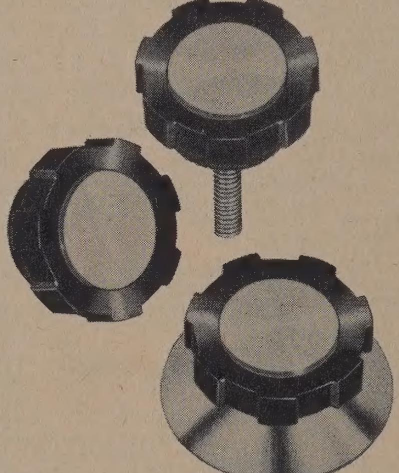

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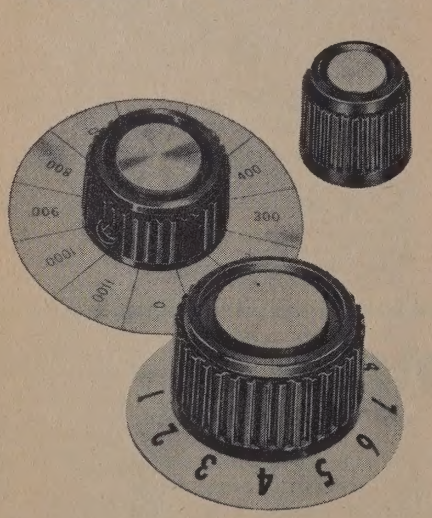

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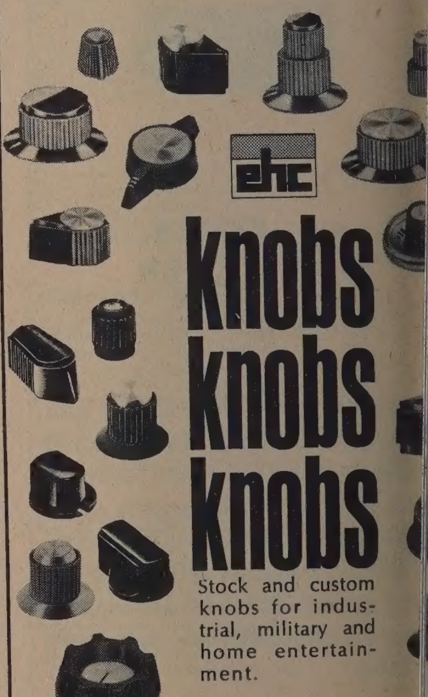

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ndustries, Inc Mamaroneck	N Y
n Name Plate Corp New Haven	Conn
ford Mfg Co Inc Brooklyn	N Y
pat Products Inc Port Washington	N Y
nco Products Inc Chicago	Ill
o Mfg Inc Gloucester	Mass
ronics Labs Inc El Segundo	Cal
nas & Betts Co Elizabeth	N J
light Corp York	Pa
oyal Chemical Div Uniroyal Inc Naugatuck	Conn
line Products Los Angeles	Cal

BELS, PRESSURE SENSITIVE—ERMINAL IDENTIFYING

DY CO, W H MILWAUKEE	**WIS**
yne, Inc N Miami Beach	Fla
op Graphics, Inc North Hollywood	Cal
y Co, W H Milwaukee	Wis
ison Mfg Co Framingham	Mass
Co, C J Providence	R I
ral Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
ral Research Inc Sparta	Mich
htex Inc Lodi	N J
strial Engravers Inc Jamaica	N Y
all Systems Div Litton Industries Belleville	N J
lon Corp Canadaigua	N Y
er Tape Printers Inc Chicago	Ill
lphoto Corp Cleveland	Ohio
Company St Paul	Minn
an Adhesives Co Stow	Ohio
onal Band & Tag Co Newport	Ky
sion Crafts La Cresenta	Cal
n Name Plate Corp New Haven	Conn
ford Mfg Co Inc Brooklyn	N Y
nco Products Inc Chicago	Ill
o Mfg Inc Gloucester	Mass
ronics Labs Inc El Segundo	Cal
nas & Betts Co Elizabeth	N J
ight Corp York	Pa

LABELS, PRESSURE SENSITIVE—WIRE MARKING

BRADY CO, W H MILWAUKEE	**WIS**
Ackerman Gould Co, Inc Oceanside	N Y
Actioncraft Products Inc Port Washington	N Y
Bishop Graphics, Inc North Hollywood	Cal
Brady Co, W H Milwaukee	Wis
Dennison Mfg Co Framingham	Mass
Fox Co, C J Providence	R I
G C Electronics Div, Hydrometals Inc Rockford	Ill
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Research Inc Sparta	Mich
Graphtex Inc Lodi	N J
Industrial Engravers Inc Jamaica	N Y
Kimball Systems Div Litton Industries Belleville	N J
Kingsley Machine Co Hollywood	Cal
Labelon Corp Canadaigua	N Y
Manger Electric Co Inc Stamford	Conn
Master Tape Printers Inc Chicago	Ill
Metalphoto Corp Cleveland	Ohio
3M Company St Paul	Minn
Morgan Adhesives Co Stow	Ohio
Precision Crafts La Cresenta	Cal
Seton Name Plate Corp New Haven	Conn
Stafford Mfg Co Inc Brooklyn	N Y
Stranco Products Inc Chicago	Ill
Teletronics Labs Inc El Segundo	Cal
Thomas & Betts Co Elizabeth	N J
Topflight Corp York	Pa

LABORATORIES—TESTING, ELECTRONIC

Associated Testing Labs, Inc Wayne	N J
Associated Testing Labs Inc, New England Div Burlington	Mass
Astatic Corp Conneaut	Ohio
Delsen Corp Glendale	Cal
Electrical Testing Labs Inc New York	N Y
Interference Measurement Lab Inc Brooklyn	N Y
U S Testing Co Inc Hoboken	N J
York Research Corp Stamford	Conn

LABORATORIES—TESTING, ENVIRONMENTAL

Associated Testing Labs, Inc Wayne	N J
Associated Testing Labs Inc, New England Div Burlington	Mass
Astatic Corp Conneaut	Ohio
Sanders Associates, Inc Nashua	N H

LACING MATERIALS

***See* Cords—Lacing**

LACQUERS

Barrett Varnish Co Cicero	Ill
Chemical Products Corp E Providence	R I
Dolph Co, John C Monmouth Junction	N J
Du Pont De Nemours & Co Inc E I Wilmington	Del
Electrolube Ltd Slough	England
Illinois Bronze Powder & Paint Co Lake Zurich	Ill
Insl-X Products Corp Yonkers	N Y
Isochem Resins Co Lincoln	RI
Lake Chemical Co Chicago	Ill
Micro-Circuits Co New Buffalo	Mich
Pierce & Stevens Chemical Corp Buffalo	N Y
PPG Industries Pittsburgh	Pa
Q-Max Corp Marlboro	NJ
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	Pa
Wornow Process Paint Co Los Angeles	Cal

LAMINATED PLASTICS

***See* Plastics—Sheet & Laminate**

LAMINATES, PRINTED CIRCUIT—COPPER CLAD

Abacus Electronics Corp Dobbs Ferry	N Y
Actioncraft Products Inc Port Washington	N Y
Aeromarine Electronics, Inc San Diego	Cal
Aikow Shoji Kaisha Ltd Osaka	Japan
Alpha Metals Inc Jersey City	NJ
American Cable Electronic Supply Inc Sacramento	Cal
American Cyanamid Co Wayne	N J
Atlantic Laminates Inc Franklin	N H
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Buckbee-Mears Co. St Paul	Minn
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Cincinnati Milling Machine Co Cimastra Div Cincinnati	Ohio
Custom Coating & Laminating Corp Worcester	Mass
Custom Materials Inc Chelmsford	Mass
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls	N Y
Electro Connective Systems Inc Brockton	Mass
Electronized Chemicals Corp Burlington	Mass
Eljay Corp Columbia	Md
Elna-Fox Electronics Co Ltd Tokyo	Japan
Etchomatic Inc Waltham	Mass
Flexible Circuits Inc Warrington	Pa
Flexible Products Inc Lakeville	Minn
Formica Corp Cincinnati	Ohio
Fortin Laminating Corp San Fernando	Cal
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Electric Co Laminated Products Dept Coshocton	Ohio
General Plastics Corp Bloomfield	N J
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
Laminated Fabricators San Bruno	Cal
Lash Labs, Inc San Diego	Cal
Leed Insulator Corp Los Angeles	Cal
Long Inc, Thomas J Carle Place	N Y
Metal Ceram Inc Mount Vernon	N Y
Mica Corp Culver City	Cal
3M Company St Paul	Minn
Morgan Adhesives Co Stow	Ohio
National Tel-Tronics Corp Yonkers	N Y
Nelco Products Inc Anaheim	Cal
New England Laminates Co Inc Stamford	Conn
NVF Co Wilmington	Del
Penn Fibre & Specialty Co Philadelphia	Pa
Port Plastics Inc Montebello	Cal
Quantum-Joclin Wallingford	Conn
Richardson Company Melrose Park	Ill
Robintech Inc Burbank	Cal
Rogers Corp Rogers	Conn
Sanyo Electric Co Ltd Osaka	Japan
Schjeldahl Co, G T Northfield	Minn
Synthane-Taylor Corp Valley Forge	Pa
Techniques, Inc Englewood	N J
Texas Instruments Incorporated Dallas	Tex
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
Tokyo Print Industrial Co Ltd Tokyo	Japan
UOP Norplex Div LaCrosse	Wis
Vector Electronic Co Inc Sylmar	Cal
Vero Electronics, Inc Farmingdale	N Y
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	Pa

LAMINATES, PRINTED CIRCUIT—EPOXY, GLASS REINFORCED

ICA LABORATORIES INC FORT LEE	**NJ**
Abacus Electronics Corp Dobbs Ferry	N Y
Aeromarine Electronics, Inc San Diego	Cal
Aikow Shoji Kaisha Ltd Osaka	Japan
American Cable Electronic Supply Inc Sacramento	Cal
American Cyanamid Co Wayne	N J
Asheville-Schoonmaker Mica Co Newport News	Va
Atlantic Laminates Inc Franklin	N H
Buckbee-Mears Co. St Paul	Minn
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Eljay Corp Columbia	Md
Elna-Fox Electronics Co Ltd Tokyo	Japan
Flexible Products Inc Lakeville	Minn
Formica Corp Cincinnati	Ohio
Fortin Laminating Corp San Fernando	Cal
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Electric Co Laminated Products Dept Coshocton	Ohio
Graphic Electronics Inc La Salle	Ill
ICA Laboratories Inc Fort Lee	NJ
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
Laminated Fabricators San Bruno	Cal
Leed Insulator Corp Los Angeles	Cal
Long Inc, Thomas J Carle Place	N Y
Mica Corp Culver City	Cal
National Tel-Tronics Corp Yonkers	N Y
Nelco Products Inc Anaheim	Cal
New England Laminates Co Inc Stamford	Conn
Norrich Plastics Corp Roosevelt	N Y
NVF Co Wilmington	Del
Penn Fibre & Specialty Co Philadelphia	Pa
Port Plastics Inc Montebello	Cal
Richardson Company Melrose Park	Ill
Robintech Inc Burbank	Cal
Rogers Corp Rogers	Conn
Schjeldahl Co, G T Northfield	Minn
Synthane-Taylor Corp Valley Forge	Pa
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
UOP Norplex Div LaCrosse	Wis
Vector Electronic Co Inc Sylmar	Cal
Vero Electronics, Inc Farmingdale	N Y
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	Pa

LAMINATES, PRINTED CIRCUIT EPOXY, KOVAR CLAD

ICA LABORATORIES INC FORT LEE	**NJ**
American Cyanamid Co Wayne	N J
Atlantic Laminates Inc Franklin	N H
Buckbee-Mears Co. St Paul	Minn
Budd Co Polychem Div Newark	Del
Elna-Fox Electronics Co Ltd Tokyo	Japan
Formica Corp Cincinnati	Ohio
Fortin Laminating Corp San Fernando	Cal
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
ICA Laboratories Inc Fort Lee	NJ
Long Inc, Thomas J Carle Place	N Y

Metal Ceram Inc Mount Vernon	N Y
Nelco Products Inc Anaheim	Cal
New England Laminates Co Inc Stamford	Conn
Schjeldahl Co, G T Northfield	Minn
Synthane-Taylor Corp Valley Forge	Pa
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J

LAMINATES, PRINTED CIRCUIT—EPOXY, PAPER REINFORCED

ICA LABORATORIES INC FORT LEE	**NJ**
Abacus Electronics Corp Dobbs Ferry	N Y
American Cyanamid Co Wayne	N J
Asheville-Schoonmaker Mica Co Newport News	Va
Buckbee-Mears Co. St Paul	Minn
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Eljay Corp Columbia	Md
Elna-Fox Electronics Co Ltd Tokyo	Japan
Flexible Products Inc Lakeville	Minn
Formica Corp Cincinnati	Ohio
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Electric Co Laminated Products Dept Coshocton	Ohio
Harva Co Inc Schoharie	N Y
ICA Laboratories Inc Fort Lee	NJ
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
Laminated Fabricators San Bruno	Cal
Leed Insulator Corp Los Angeles	Cal
Long Inc, Thomas J Carle Place	N Y
NVF Co Wilmington	Del
Penn Fibre & Specialty Co Philadelphia	Pa
Port Plastics Inc Montebello	Cal
Richardson Company Melrose Park	Ill
Robintech Inc Burbank	Cal
Synthane-Taylor Corp Valley Forge	Pa
UOP Norplex Div LaCrosse	Wis
Vector Electronic Co Inc Sylmar	Cal
Vero Electronics, Inc Farmingdale	N Y
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C

LAMINATES, PRINTED CIRCUIT—FLAME RETARDANT

ICA LABORATORIES INC FORT LEE	**NJ**
Abacus Electronics Corp Dobbs Ferry	N Y
American Cable Electronic Supply Inc Sacramento	Cal
American Cyanamid Co Wayne	N J
Atlantic Laminates Inc Franklin	N H
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Cincinnati Milling Machine Co Cimastra Div Cincinnati	Ohio
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls	N Y
Eljay Corp Columbia	Md
Flexible Circuits Inc Warrington	Pa
Flexible Products Inc Lakeville	Minn
Formica Corp Cincinnati	Ohio
Fortin Laminating Corp San Fernando	Cal
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Electric Co Laminated Products Dept Coshocton	Ohio
Harva Co Inc Schoharie	N Y
ICA Laboratories Inc Fort Lee	NJ
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
Laminated Fabricators San Bruno	Cal
Lash Labs, Inc San Diego	Cal
Leed Insulator Corp Los Angeles	Cal
Long Inc, Thomas J Carle Place	N Y
Mica Corp Culver City	Cal
3M Company St Paul	Minn
National Tel-Tronics Corp Yonkers	N Y
Nelco Products Inc Anaheim	Cal
New England Laminates Co Inc Stamford	Conn
NVF Co Wilmington	Del
Port Plastics Inc Montebello	Cal
Schjeldahl Co, G T Northfield	Minn
Synthane-Taylor Corp Valley Forge	Pa
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
UOP Norplex Div LaCrosse	Wis
Vero Electronics, Inc Farmingdale	N Y
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	Pa

LAMINATES, PRINTED CIRCUIT—MELAMINE

Atlantic Laminates Inc Franklin	N H
Auburn Mfg Co Middletown	Conn
Cadillac Plastic & Chemical Co Detroit	Mich
Eljay Corp Columbia	Md
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
Harva Co Inc Schoharie	N Y
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Long Inc, Thomas J Carle Place	N Y
National Tel-Tronics Corp Yonkers	N Y
Penn Fibre & Specialty Co Philadelphia	Pa
Synthane-Taylor Corp Valley Forge	Pa
UOP Norplex Div LaCrosse	Wis

LAMINATES, PRINTED CIRCUIT—NICKEL CLAD

Alpha Metals Inc Jersey City	NJ
Atlantic Laminates Inc Franklin	N H
Buckbee-Mears Co. St Paul	Minn
Budd Co Polychem Div Newark	Del
Custom Coating & Laminating Corp Worcester	Mass
Custom Materials Inc Chelmsford	Mass
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls	N Y
Formica Corp Cincinnati	Ohio
Fortin Laminating Corp San Fernando	Cal
General Components, Inc St Petersburg	Fla
Graphic Electronics Inc La Salle	Ill
Lash Labs, Inc San Diego	Cal
Metal Ceram Inc Mount Vernon	N Y
Mica Corp Culver City	Cal
Nelco Products Inc Anaheim	Cal
New England Laminates Co Inc Stamford	Conn
Schjeldahl Co, G T Northfield	Minn
Synthane-Taylor Corp Valley Forge	Pa
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
UOP Norplex Div LaCrosse	Wis

LAMINATES, PRINTED CIRCUIT—PHENOLIC

Abacus Electronics Corp Dobbs Ferry	N Y
Aikow Shoji Kaisha Ltd Osaka	Japan
American Cable Electronic Supply Inc Sacramento	Cal
American Cyanamid Co Wayne	N J
Auburn Mfg Co Middletown	Conn
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Eljay Corp Columbia	Md
Elna-Fox Electronics Co Ltd Tokyo	Japan
Formica Corp Cincinnati	Ohio
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Electric Co Laminated Products Dept Coshocton	Ohio
Harva Co Inc Schoharie	N Y
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Kepro Circuit Systems Inc St Louis	Mo
Lake Engineering Co Ltd Scarborough	Ont
Laminated Fabricators San Bruno	Cal
Long Inc, Thomas J Carle Place	N Y
National Tel-Tronics Corp Yonkers	N Y
NVF Co Wilmington	Del
Penn Fibre & Specialty Co Philadelphia	Pa
Port Plastics Inc Montebello	Cal
Richardson Company Melrose Park	Ill
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
UOP Norplex Div LaCrosse	Wis
Vector Electronic Co Inc Sylmar	Cal
Vero Electronics, Inc Farmingdale	N Y
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C

LAMINATES, PRINTED CIRCUIT—SILICONE

ICA LABORATORIES INC FORT LEE	**NJ**
Asheville-Schoonmaker Mica Co Newport News	Va
Auburn Mfg Co Middletown	Conn
Cadillac Plastic & Chemical Co Detroit	Mich
Custom Materials Inc Chelmsford	Mass
Eljay Corp Columbia	Md
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Electric Co Silicone Prods Dept Waterford	N Y
ICA Laboratories Inc Fort Lee	NJ
Long Inc, Thomas J Carle Place	N Y
Vector Electronic Co Inc Sylmar	Cal

LAMINATES, PRINTED CIRCUIT—TEFLON

Actioncraft Products Inc Port Washington	N Y
American Cable Electronic Supply Inc Sacramento	Cal
Atlantic Laminates Inc Franklin	N H
Auburn Mfg Co Middletown	Conn
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Custom Materials Inc Chelmsford	Mass
Dixon Corp Bristol	R I
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls	N Y
Du Pont De Nemours & Co Inc E I Wilmington	Del
Eljay Corp Columbia	Md
Elna-Fox Electronics Co Ltd Tokyo	Japan
Flexible Circuits Inc Warrington	Pa
Flexible Products Inc Lakeville	Minn
Franklin Fibre-Lamitex Corp Wilmington	Del
General Components, Inc St Petersburg	Fla
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Plastics Corp Bloomfield	N J
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Lake Engineering Co Ltd Scarborough	Ont
Port Plastics Inc Montebello	Cal
Rogers Corp Rogers	Conn
Smith Inc, Herman H Brooklyn	N Y

LAMINATIONS—MAGNETIC

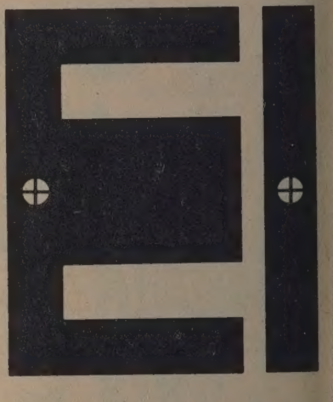
ARNOLD ENGINEERING CO MARENGO ILL	**ADV PG**
ELECTRONETICS CORP DES PLAINES	
MICHIGAN MAGNETICS VERMONTVILLE	
Allegheny Ludlum Steel Corp Pittsburgh	
American Silver Co Div Flushing	
Arnold Engineering Co Marengo	
Arnold Engineering Co Pacific Div Fullerton	
Chemical & Aerospace Products Inc Wilmington	
Chemical Micro Milling Co Pennsauken	
Electronetics Corp Des Plaines	
G-L Industries Inc, G-L Electronics Div Westville	
Haddon Tool & Mfg Co Merchantville	
Inter-Technical Group Inc Irvington-on-Hudson	
ITT Europe Inc Components Gp Brussels 1	Be
Laminated Shim Co Inc Glenbrook	
Magnetic Metals Co Camden	
Magnetics Inc Butler	
Markon Mfg Inc Englewood	
Mega Electronics Corp Gardena	
Michigan Magnetics Vermontville	
Micro Science Assoc Mountain View	
MSL Steel Co, MSL Industries Inc Chicago	
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim	
Tempel Steel Co Chicago	
Thomas & Skinner Inc Indianapolis	

LAMINATIONS—MOTOR

ARNOLD ENGINEERING CO MARENGO ILL	**ADV P**
Allegheny Ludlum Steel Corp Pittsburgh	
Arnold Engineering Co Marengo	
Arnold Engineering Co Pacific Div Fullerton	
Asheville-Schoonmaker Mica Co Newport News	
Buckbee-Mears Co. St Paul	
Chemical & Aerospace Products Inc Wilmington	
Chemical-Micro Milling Co Pennsauken	
Gasket Mfg Co Inc Carson	
Haddon Tool & Mfg Co Merchantville	
Insulating Fabricators Inc East Rutherford	
Laminated Shim Co Inc Glenbrook	
Magnetic Metals Co Camden	
Mega Electronics Corp Gardena	
Micro Science Assoc Mountain View	
Midwest Cortland Schiller Park	
MSL Steel Co, MSL Industries Inc Chicago	
Penn Fibre & Specialty Co Philadelphia	
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim	
Tempel Steel Co Chicago	

LAMINATIONS—TRANSFORMER

ARNOLD ENGINEERING CO MARENGO ILL	**ADV P**
ELECTRONETICS CORP DES PLAINES ILL	**ADV P**
Allegheny Ludlum Steel Corp Pittsburgh	



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nical & Aerospace Products Inc Wilmington .... Cal
nical Micro Milling Co Pennsauken .... N J
tronetics Corp Des Plaines Ill
ket Mfg Co Inc Carson .... Cal
eral Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
Industries Inc, G-L Electronics Div Westville .... N J
don Tool & Mfg Co Merchantville .... N J
lating Fabricators Inc East Rutherford .... N J
r-Technical Group Inc Irvington-on-Hudson .... N Y
Europe Inc Components Gp Brussels 1 .... Belgium
inated Shim Co Inc Glenbrook .... Conn
gnetic Metals Co Camden .... N J
gnetics Inc Butler .... Pa
west Cortland Schiller Park Ill
Steel Co, MSL Industries Inc Chicago Ill
n Fibre & Specialty Co Philadelphia .... Pa
form Products Co Sub Bliss & Laughlin Indus Anaheim . Cal
npel Steel Co Chicago Ill
mas & Skinner Inc Indianapolis .... Ind

MP ASSEMBLIES

CAGO SWITCH INC CHICAGO ILL
CRO SWITCH DIV, HONEYWELL FREEPORT ILL
IG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
erman Engravers, Inc Long Island City .... N Y
C Products Minneapolis .... Minn
onics Inc, Elrob Mfg Corp Verona .... N J
olite Electronics Corp Union City .... N J
onautical Electric Co Chicago Ill
ospace Controls Corp Los Angeles .... Cal
o Electronic Products, Inc Lawrence .... Mass
en Products Co, Inc Brockton .... Mass
sto Grid Lamp Products Inc Port Washington .... N Y
cago Miniature Lamp Works Chicago Ill
cago Switch Inc Chicago Ill
istie Electric Corp Los Angeles .... Cal
e-Hersee Co S Boston .... Mass
ning Glass Works Corning .... N Y
play Devices Inc Santa Monica .... Cal
uglas Div Scott & Fetzer Co Bronson .... Mich
wa Trading Co Ltd Kobe .... Japan
ake Mfg Co Harwood Heights Ill
gle Electric Mfg Co Inc Long Island City .... N Y
nac Div, Varian Associates San Carlos .... Cal
ema Div Genisco Technology Corp Compton .... Cal
ctronic Engineering Co of Cal Santa Ana .... Cal
gelhard Hanovia Inc Newark .... N J
es Engineering Co Gardena .... Cal
ost Electronics Corp Rockaway .... N J
neral Illumination Inc St Paul .... Minn
mes Mfg Co Urbana .... Ohio
dro Products Div Dillingham Corp San Diego .... Cal
lustrial Devices Inc Edgewater .... N J
ernational Electro Exchange Corp Minneapolis ...... Minn

Works in Seconds.

The '70Electronics Buyers' Guide lets you find people, places, and things in seconds. In the Directory of Manufacturers and Sales Offices, for example, more than 6,000 manufacturers are listed, including addresses, telephone numbers, sales offices, the people to call for information, the total number of engineers and employees and sales volumes. So use your EBG. It works in seconds.

Electronics Buyers' Guide

ITT Electron Tube Div Easton .... Pa
Kimura Electric Mfg Co Ltd Shinagawa Tokyo .... Japan
Kirkland Co, H R Morristown .... N J
Lake Engineering Co Ltd Scarborough .... Ont
Lear Siegler Inc Santa Monica .... Cal
Leecraft Mfg Co Inc Long Island City .... N Y
Luxo Lamp Corp Port Chester .... N Y
Master Dynamics Sunnyvale .... Cal
Microdot Inc. Troy .... Mich
Micro Switch Div, Honeywell Freeport Ill
Molex Products Co Downers Grove Ill
Mura Corp Great Neck .... N Y
Neptune Electronics Co New York .... N Y
Pek, Inc Sunnyvale .... Cal
Penn Keystone Corp Ansonia .... Conn
Permonite Mfg Co Chicago Ill
Pimlites, Inc Fairfield .... N J
Precision Lamp Engineers San Francisco .... Cal
Red Lake Labs Inc Santa Clara .... Cal
Reflectone. Inc, Englewood Cliffs .... N J
Roxter Corp Long Island City .... N Y
Schoeffel Instrument Corp Westwood .... NJ
Schurter AG, H 6002 Lucerne .... Switzerland
Shelly Associates, Inc El Segundo .... Cal
Shigoto Industries Ltd New York .... N Y
Signet Scientific Co Burbank .... Cal
Sittler Corp Chicago Ill
Skan-A-Matic Corp Skaneateles .... N Y
Sloan Co Sun Valley .... Cal
Smith Inc, Herman H Brooklyn .... N Y
Soderberg Mfg Co Inc Alhambra .... Cal
Strong Electric Corp Toledo .... Ohio
Swingolite Inc Hackensack .... N J
Sylvania Electric Prods Inc, Coml Elctns Div Waltham ... Mass
Symbolic Displays Inc Orange .... Cal
Tokyo Electric Co Ltd Tokyo .... Japan
Transistor Electronics Corp Minneapolis .... Minn
Tung-Sol Div Wagner Electric Corp Newark .... N J
Ucinite Co Div United-Carr Newtonville .... Mass
Ushio Electric Inc. Tokyo .... Japan
Vemaline Products Co, Inc Wycoff .... N J
Waber Electronics Inc Philadelphia .... Pa

LAMPS—GLOW

CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
SIGNALITE INC NEPTUNE N J .... ADV PG 330
Aerolite Electronics Corp Union City .... N J
Aerolux Light Co Inc Div Duro Test Corp New York ...... N Y
Alco Electronic Products, Inc Lawrence .... Mass
American Cable Electronic Supply Inc Sacramento ...... Cal
Amglo Corp Chicago Ill
Aristo-Craft Distinctive Miniatures New York .... N Y
Chicago Miniature Lamp Works Chicago Ill
Circon Component Corp Goleta .... Cal
Dialight Corp Brooklyn .... N Y
Dowa Trading Co Ltd Kobe .... Japan
Drake Mfg Co Harwood Heights Ill
Eldema Div Genisco Technology Corp Compton .... Cal
Elesta Ltd Electronics Bad Ragaz .... Switzerland
Engelhard Hanovia Inc Newark .... N J
Ferranti Electric Inc Plainview .... N Y
General Electric Co Miniature Lamp Dept Cleveland ..... Ohio
Hudson Lamp Co Kearny .... N J
Illumination Industries Inc Sunnyvale .... Cal
Impectron Inc New York .... N Y
Industrial Devices Inc Edgewater .... N J
Lake Engineering Co Ltd Scarborough .... Ont
Leecraft Mfg Co Inc Long Island City .... N Y
Mackay Inc, A D New York .... N Y
Matsushita Electric Industrial Co Ltd Osaka .... Japan
3M Company St Paul .... Minn
Mura Corp Great Neck .... N Y
Okaya Electric Industries Co Ltd Tokyo .... Japan
Pinlites, Inc Fairfield .... N J
Shelly Associates, Inc El Segundo .... Cal
Signalite Inc Neptune .... N J
Sloan Co Sun Valley .... Cal
Sylvania Electric Prods Inc, Electronic Tube Div
  Seneca Falls .... N Y
Sylvania Elec Prods Inc Special Prod Div Danvers ...... Mass
Tokyo Electric Co Ltd Tokyo .... Japan
Toyo Musen Co Ltd Tokyo .... Japan
Ultra-Violet Products Inc San Gabriel .... Cal
Ushio Electric Inc. Tokyo .... Japan
Waldom Electronics Inc Chicago Ill
Western Indicator Co Div DuPree Inc South El Monte .... Cal
Westinghouse Electric Corp, Lamp Div Bloomfield .... N J

LAMPS—INFRARED

***See* Infrared Equipment**

LAMPS—PANEL, PILOT & DIAL, INCANDESCENT

CHICAGO SWITCH INC CHICAGO ILL
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
ADC Products Minneapolis .... Minn
Aerolite Electronics Corp Union City .... N J
Aeronautical Electric Co Chicago Ill
Alco Electronic Products, Inc Lawrence .... Mass
Alden Products Co, Inc Brockton .... Mass
Allen-Bradley Co Milwaukee .... Wis
AMP Incorporated Harrisburg .... Pa
Aristo-Craft Distinctive Miniatures New York .... N Y
Bodnar Products Corp New Rochelle .... N Y
Carling Electric Inc West Hartford .... Conn
Chicago Miniature Lamp Works Chicago Ill
Chicago Switch Inc Chicago Ill
Circon Component Corp Goleta .... Cal
Cole-Hersee Co S Boston .... Mass
Control Switch Div Controls Co of America Folcroft ...... Pa
Co-Ord Div LVC Industries Inc Corona .... NY
Dialight Corp Brooklyn .... N Y
Display Devices Inc Santa Monica .... Cal
Dowa Trading Co Ltd Kobe .... Japan
Drake Mfg Co Harwood Heights Ill
Eldema Div Genisco Technology Corp Compton .... Cal
Federal Screw Products Inc Chicago Ill
Fidelity Amplifier Co Chicago Ill
Furnas Electric Co Batavia Ill
General Electric Co Miniature Lamp Dept Cleveland ..... Ohio
General Illumination Inc St Paul .... Minn
Genisco Technology Corp Compton .... Cal
Grimes Mfg Co Urbana .... Ohio
Hayakawa Electric Co Ltd Osaka .... Japan
Hudson Lamp Co Kearny .... N J
Impectron Inc New York .... N Y
Industrial Devices Inc Edgewater .... N J
Industrial Electronic Engineers Inc Van Nuys .... Cal
Industrial Electronic Hardware Corp New York .... N Y
International Electro Exchange Corp Minneapolis ...... Minn
Kameco Electronics Ltd. Montreal .... Que
Kimura Electric Mfg Co Ltd Shinagawa Tokyo .... Japan
Kirkland Co, H R Morristown .... N J
Lake Engineering Co Ltd Scarborough .... Ont
Lear Siegler Inc Santa Monica .... Cal
Leecraft Mfg Co Inc Long Island City .... N Y
Master Dynamics Sunnyvale .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Molex Products Co Downers Grove Ill
Mura Corp Great Neck .... N Y
NPC Electronics Canoga Park .... Cal
Okaya Electric Industries Co Ltd Tokyo .... Japan
Oxford Electric Corp Chicago Ill
Penn Keystone Corp Ansonia .... Conn
Permonite Mfg Co Chicago Ill
Philmore Mfg Co Inc Richmond Hill .... N Y
Pinlites, Inc Fairfield .... N J
Plessey Co Ltd Ilford Essex .... England
Precision Lamp Engineers San Francisco .... Cal
Schurter AG, H 6002 Lucerne .... Switzerland
Shelly Associates, Inc El Segundo .... Cal
Shigoto Industries Ltd New York .... N Y
Sierra Electric Div Sola Basic Ind Gardena .... Cal
Sloan Co Sun Valley .... Cal
Soderberg Mfg Co Inc Alhambra .... Cal
Sorenson Lighted Controls Inc West Hartford .... Conn
Standard Telephones & Cables Ltd London WC 2 .... England
Swingolite Inc Hackensack .... N J
Sylvania Electric Prods Inc Lamp Div Danvers .... Mass
Sylvania Elec Prods Inc Special Prod Div Danvers ...... Mass
Tokyo Electric Co Ltd Tokyo .... Japan
Tung-Sol Div Wagner Electric Corp Newark .... N J
United Mineral & Chemical Corp New York .... N Y
Vemaline Products Co, Inc Wycoff .... N J
Western Indicator Co Div DuPree Inc South El Monte .... Cal
Westinghouse Electric Corp, Lamp Div Bloomfield ...... N J

LAMPS—PHOTOFLASH

TECHNICAL APPARATUS BUILDERS DIV POWER
ALTERNATING DIRECT CORP BROOKLYN .... N Y
Abtronics, Inc Livermore .... Cal
Aerolux Light Co Inc Div Duro Test Corp New York ...... N Y
Amglo Corp Chicago Ill
Aristo Grid Lamp Products Inc Port Washington .... N Y
E G & G Inc, Electronic Prods Div Boston .... Mass
Electro Powerpacs Corp Cambridge .... Mass
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Illumination Industries Inc Sunnyvale .... Cal
Kemlite Labs Inc Chicago Ill
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Pek, Inc Sunnyvale .... Cal
Sylvania Photolamp Div New York .... N Y
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn .... N Y
Ushio Electric Inc. Tokyo .... Japan
West Coast Research Corp Los Angeles .... Cal
Westinghouse Electric Corp, Lamp Div Bloomfield .... N J
Xenon Co Medford .... Mass

LAMPS—PRINTED CIRCUIT, FLARE MOUNT

CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
Aerolite Electronics Corp Union City .... N J
Alco Electronic Products, Inc Lawrence .... Mass
Aristo Grid Lamp Products Inc Port Washington .... N Y
Berkey Technical Div Berkey Photo Inc Woodside .... N Y
Circon Component Corp Goleta .... Cal
Display Devices Inc Santa Monica .... Cal
Drake Mfg Co Harwood Heights Ill
General Electric Co Miniature Lamp Dept Cleveland ..... Ohio
Grimes Mfg Co Urbana .... Ohio
Industrial Electronic Engineers Inc Van Nuys .... Cal
Lake Engineering Co Ltd Scarborough .... Ont
Leecraft Mfg Co Inc Long Island City .... N Y
NPC Electronics Canoga Park .... Cal
Penn Keystone Corp Ansonia .... Conn
Pinlites, Inc Fairfield .... N J
Precision Lamp Engineers San Francisco .... Cal
Schurter AG, H 6002 Lucerne .... Switzerland
Shelly Associates, Inc El Segundo .... Cal
Sloan Co Sun Valley .... Cal
Soderberg Mfg Co Inc Alhambra .... Cal
Ushio Electric Inc. Tokyo .... Japan
Westinghouse Electric Corp, Lamp Div Bloomfield .... N J

LAMPS—PROJECTION

Aristo Grid Lamp Products Inc Port Washington .... N Y
Chicago Miniature Lamp Works Chicago Ill
Christie Electric Corp Los Angeles .... Cal

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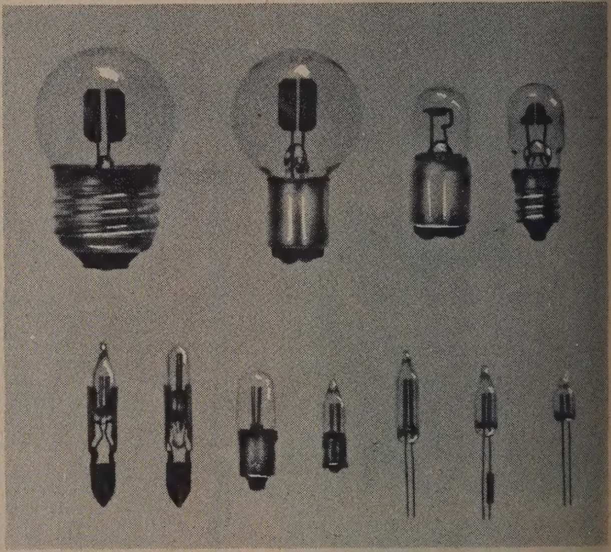

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Electron Tube Div Easton	Pa
Engineering Co Ltd Scarborough	Ont
raft Mfg Co Inc Long Island City	N Y
ra Labs Inc Div Kriser Corp College Point	N Y
Company St Paul	Minn
-Optics Corp Stamford	Conn
Inc Sunnyvale	Cal
effel Instrument Corp Westwood	NJ
y Associates, Inc El Segundo	Cal
oto Industries Ltd New York	N Y
ng Electric Corp Toledo	Ohio
ania Photolamp Div New York	N Y
o Electric Inc. Tokyo	Japan
tinghouse Electric Corp, Lamp Div Bloomfield	N J
n Co Medford	Mass

MPS—STROBOSCOPIC SOURCE

L INC PLAINFIELD	**N J**
onics, Inc Livermore	Cal
lux Light Co Inc Div Duro Test Corp New York	N Y
lo Corp Chicago	Ill
nce Technology Inc Ann Arbor	Michigan
ey Technical Div Berkey Photo Inc Woodside	N Y
ral Scientific Co Chicago	Ill
L Inc Plainfield	N J
& G Inc, Electronic Prods Div Boston	Mass
tronic Brazing Co Montclair	N J
tron-Radar Products Chicago	Ill
tro Powerpacs Corp Cambridge	Mass
anti, Ltd Lancashire	England
eral Radio Co West Concord	Mass
nann GMBH 62 Wiesbaden-Dotzheim	Germany
nination Industries Inc Sunnyvale	Cal
lite Labs Inc Chicago	Ill
a Corp Great Neck	N Y
Inc Sunnyvale	Cal
er Instruments Inc Skokie	Ill
ania Photolamp Div New York	N Y
V Instruments El Segundo	Cal
Scientific Instruments Inc Watertown	Mass
o Electric Inc. Tokyo	Japan
t Coast Research Corp Los Angeles	Cal
on Co Medford	Mass

MPS—SUBMINIATURE

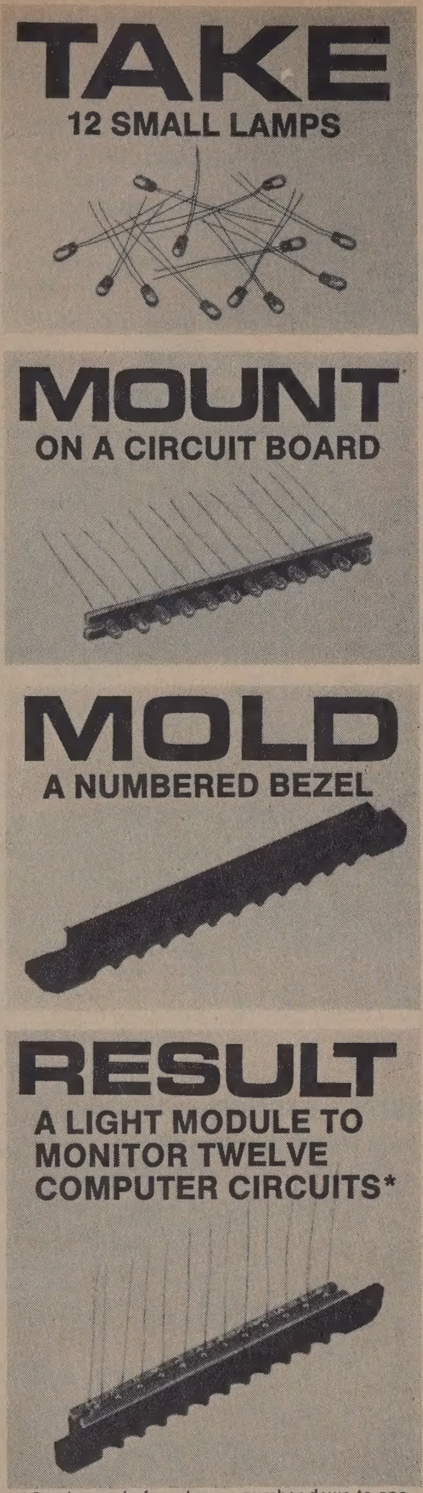
CON COMPONENT CORP GOLETA CAL	**ADV PG 292**
IG-SOL DIV WAGNER ELECTRIC CORP NEWARK J	**ADV PG 331**
olite Electronics Corp Union City	N J
o Electronic Products, Inc Lawrence	Mass
sto-Craft Distinctive Miniatures New York	N Y
cago Miniature Lamp Works Chicago	Ill
con Component Corp Goleta	Cal
trol Switch Div Controls Co of America Folcroft	Pa
light Corp Brooklyn	N Y
ke Mfg Co Harwood Heights	Ill
ema Div Genisco Technology Corp Compton	Cal
sta Ltd Electronics Bad Ragaz	Switzerland
eral Electric Co Miniature Lamp Dept Cleveland	Ohio
eral Instrument Europe SPA Milano	Italy
isco Technology Corp Compton	Cal
mes Mfg Co Urbana	Ohio
dson Lamp Co Kearny	N J
ectron Inc New York	N Y
ustrial Devices Inc Edgewater	N J
ustrial Electronic Engineers Inc Van Nuys	Cal
er-Market Inc Glenview	Ill
meco Electronics Ltd. Montreal	Que
ura Electric Mfg Co Ltd Shinagawa Tokyo	Japan
ke Engineering Co Ltd Scarborough	Ont
ecraft Mfg Co Inc Long Island City	N Y
ra Corp Great Neck	N Y
ford Electric Corp Chicago	Ill
, Inc Sunnyvale	Cal
lites, Inc Fairfield	N J
ecision Lamp Engineers San Francisco	Cal
kter Corp Long Island City	N Y
elly Associates, Inc El Segundo	Cal
goto Industries Ltd New York	N Y
an Co Sun Valley	Cal
ingolite Inc Hackensack	N J
vania Electric Prods Inc Lamp Div Danvers	Mass
vania Elec Prods Inc Special Prod Div Danvers	Mass
ng-Sol Div Wagner Electric Corp Newark	N J
ted Mineral & Chemical Corp New York	N Y
hio Electric Inc. Tokyo	Japan
maline Products Co, Inc Wycoff	N J
estern Indicator Co Div DuPree Inc South El Monte	Cal
estinghouse Electric Corp, Lamp Div Bloomfield	N J
non Co Medford	Mass
Ednalite Corp Peekskill	N Y
Eimac Div, Varian Associates San Carlos	Cal
Electro Powerpacs Corp Cambridge	Mass
EMR Div Weston Instruments Inc Princeton	N J
Engelhard Hanovia Inc Newark	N J
Engis Equipment Co Morton Grove	Ill
Gaertner Scientific Corp Chicago	Ill
Gardner Lab Inc Bethesda	Md
Gates & Co, George W Franklin Square	N Y
GCA Technology Div GCA Corp Bedford	Mass
Giannini-Voltex-Radex-Irvine Whittier	Cal
Gilardoni S p A Mandello Lario Como	Italy
Ikor, Inc Burlington	Mass
Illumination Industries Inc Sunnyvale	Cal
Jarrell-Ash Co Waltham	Mass
Kemlite Labs Inc Chicago	Ill
Kressilk Products Inc Elmsford	N Y
Lake Engineering Co Ltd Scarborough	Ont
Lear Siegler Inc Santa Monica	Cal
Magnaflux Corp Chicago	Ill
McPherson Instrument Corp Sub GCA Corp Acton	Mass
New York Testing Labs Inc Westbury	N Y
Optronics Labs Div Columbia Scientific Corp Waltham	Mass
Oriel-Optics Corp Stamford	Conn
Pek, Inc Sunnyvale	Cal
Quartz Radiation Corp Fairfield	N J
Schoeffel Instrument Corp Westwood	NJ
Scientific Cell Co Inc Forest Hills	N Y
Shannon Luminous Materials Co Hollywood	Cal
Space Rays Inc Burlington	Mass
Stroblite Co Inc New York	N Y
Strong Electric Corp Toledo	Ohio
Sylvania Electric Prods Inc Lamp Div Danvers	Mass
Sylvania Elec Prods Inc Special Prod Div Danvers	Mass
Syncor Products Co, Inc Malden	Mass
Technical Operations Inc Burlington	Mass
Thermal American Fused Quartz Co Montville	N J
Ultra-Violet Products Inc San Gabriel	Cal
Ushio Electric Inc. Tokyo	Japan
Vitro Labs Div Sub Automation Ind Inc Silver Spring	Md
Vitro Labs Div Vitro Corp of America W Orange	N J
Westinghouse Electric Corp, Lamp Div Bloomfield	N J
Xenon Co Medford	Mass

MPS—ULTRAVIOLET

ESSILK PRODUCTS INC ELMSFORD	**N Y**
vanced Purification System Co Inc Great Neck	N Y
rolux Light Co Inc Div Duro Test Corp New York	N Y
rospace Controls Corp Los Angeles	Cal
erican Instrument Co, Inc Silver Spring	Md
erican Ultraviolet Co Chatham	NJ
glo Corp Chicago	Ill
sto Grid Lamp Products Inc Port Washington	N Y
antic Ultraviolet Corp Long Island City	N Y
ack Light Corp of America San Gabriel	Cal
ack Light Eastern Div Spectronics Corp Westbury	N Y
ack Light Products Chicago	Ill
ristie Electric Corp Los Angeles	Cal
an Room Products Inc Farmingdale	N Y
le-Parmer Instrument Co Chicago	Ill

LAMPS—XENON FLASH

Aerolux Light Co Inc Div Duro Test Corp New York	N Y
Aerospace Controls Corp Los Angeles	Cal
American Instrument Co, Inc Silver Spring	Md
Amglo Corp Chicago	Ill
Aquadyne Inc East Falmouth	Mass
Aristo Grid Lamp Products Inc Port Washington	N Y
Beckman & Whitley Mountain View	Cal
Berkey Technical Div Berkey Photo Inc Woodside	N Y
Cetron Electronic Corp Geneva	Ill
Delta Products Inc Grand Junction	Colo
E G & G Inc, Electronic Prods Div Boston	Mass
E G & G Int'l Inc Geodyne Div Waltham	Mass
Eimac Div, Varian Associates San Carlos	Cal
Electron-Radar Products Chicago	Ill
Electro Powerpacs Corp Cambridge	Mass
English Electric Valve Co, Ltd Essex	England
Epic Inc New York	N Y
Geodyne Div EG&G Int'l Waltham	Mass
Giannini-Voltex-Radex-Irvine Whittier	Cal
Heimann GMBH 62 Wiesbaden-Dotzheim	Germany
Ikor, Inc Burlington	Mass
Illumination Industries Inc Sunnyvale	Cal
ITT Electron Tube Div Easton	Pa
Kemlite Labs Inc Chicago	Ill
Mura Corp Great Neck	N Y
Pek, Inc Sunnyvale	Cal
Power Instruments Inc Skokie	Ill
Quartz Radiation Corp Fairfield	N J
Schoeffel Instrument Corp Westwood	NJ
Soderberg Mfg Co Inc Alhambra	Cal
Strong Electric Corp Toledo	Ohio
Sylvania Elec Prods Inc Special Prod Div Danvers	Mass
Sylvania Photolamp Div New York	N Y
Thermal American Fused Quartz Co Montville	N J
TRW Systems Group Redondo Beach	Cal



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LAPPING & HONING SERVICES—INFRARED PARTS

Acroscope Engineering Inc Los Angeles . . . . Cal
Barnes Engineering Co Def & Space Div Stamford . . . . . Conn
Bausch & Lomb Inc Rochester . . . . N Y
Geoscience Instruments Corp Mt Vernon . . . . N Y
Jones Optical Works Inc A D Burlington . . . . Mass
Meller Co, Adolf Providence . . . . R I
O & S Research Inc Riverton . . . . N J
Ransom Labs, John H Los Angeles . . . . Cal
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Spectrum Systems, Inc Waltham . . . . Mass
Speedfam Corp Des Plaines Ill
Syncor Products Co, Inc Malden . . . . Mass

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Astro-Space Labs Inc Huntsville . . . . Ala
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Canoga Industries Los Angeles . . . . Cal
Ceramic Magnetics Inc Fairfield . . . . N J
Geoscience Instruments Corp Mt Vernon . . . . N Y
Goerz Optical Co Inc Inwood . . . . N Y
Hoffman Co PR Div Aiken Industries Carlisle . . . . Pa
Jones Optical Works Inc A D Burlington . . . . Mass
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Micro Parts Inc Los Angeles . . . . Cal
Norton Co Worcester . . . . Mass
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Bausch & Lomb Inc Rochester . . . . N Y

Borders Electronics Co Inc Medford . . . . NJ
Crystalab Products Corp Rochelle Park . . . . N J
Fish-Schurman Corp New Rochelle . . . . N Y
General Laser Corp Natick . . . . Mass
General Optics Inc Bloomfield . . . . N J
Geoscience Instruments Corp Mt Vernon . . . . N Y
Goerz Optical Co Inc Inwood . . . . N Y
Mati Elgeet Div Rochester . . . . NY
Meller Co, Adolf Providence . . . . R I
Optical Products A Teledyne Co Monrovia . . . . Cal
Oriel-Optics Corp Stamford . . . . Conn
O & S Research Inc Riverton . . . . N J
Precision Optics Div Penna Optical Co Reading . . . . Pa
Ransom Labs, John H Los Angeles . . . . Cal
Sanders Assoc Inc Diffraction Ltd Div Bedford . . . . Mass
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Spectrum Systems, Inc Waltham . . . . Mass
Speedfam Corp Des Plaines Ill
Syncor Products Co, Inc Malden . . . . Mass
Xtalonix Products Div Harshaw Chemical Co Columbus . . . Ohio

LARGE SCALE INTEGRATION

***See* Circuits—Integrated**

LASERS—CRYSTALS

SIEMENS AMERICA INC NEW YORK . . . . N Y
Airtron, Div of Litton Industries, Inc Morris Plains . . . . N J
American Optical Corp Tech Prods Gr Laser Prods Dept
  Southbridge . . . . Mass
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . Cal
Borders Electronics Co Inc Medford . . . . NJ
Control Data Corp Melville Space & Def Sys Div Melville . . N Y
Electronic Space Products Inc Los Angeles . . . . Cal
General Laser Corp Natick . . . . Mass
General Optics Inc Bloomfield . . . . N J
Industrial Optics Div Yardney Razdow Labs Newark . . . . . . N J
International Laser Systems Inc Orlando . . . . Fla
Isomet Corp Palisades Park . . . . N J
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis . . . . France
Laser Nucleonics Inc Waltham . . . . Mass
Lear Siegler Inc, Instrument Div Grand Rapids . . . . Mich
Meller Co, Adolf Providence . . . . R I
Microtek Electronics Inc Cambridge . . . . Mass
Monsanto-Electronic Special Products Cupertino . . . . Cal
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Resalab Scientific Div Resalab Inc Menlo Park . . . . Cal
Semi-Elements Inc Saxonburg . . . . Pa
Siemens America Inc New York . . . . N Y
Spectrum Systems, Inc Waltham . . . . Mass
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
Sylvania - Electro-Optics Organization Mountain View . . . . Cal
Var-Lac-Oid Chemical Co Elizabeth . . . . N J
Wacker Chemical Corp New York . . . . N Y
Xtalonix Products Div Harshaw Chemical Co Columbus . . . Ohio

LASERS—GASEOUS

SIEMENS AMERICA INC NEW YORK . . . . N Y
American Optical Corp Tech Prods Gr Laser Prods Dept
  Southbridge . . . . Mass
A O K Tool Corp Ozone Park . . . . N Y
Atomic Labs, Div Cenco Instr Corp Chicago Ill
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Avco-Everett Resch Lab Div Avco Corp Everett . . . . Mass
Bausch & Lomb Inc Rochester . . . . N Y
Broomer Research Corp Plainview . . . . N Y
Coherent Radiation Labs Palo Alto . . . . Cal
Edmund Scientific Co Barrington . . . . N J
Electro-Nuclear Lab Inc Menlo Park . . . . Cal
Electro Optics Assoc Palo Alto . . . . Cal
Electro Powerpacs Corp Cambridge . . . . Mass
English Electric Valve Co, Ltd Essex . . . . England
Executive Electronics Inc. Denver . . . . Colo
Ferranti Electric Inc Plainview . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Gaertner Scientific Corp Chicago Ill
General Dynamics, Electronics Div Rochester . . . . N Y
General Laser Corp Natick . . . . Mass
Hadron, Inc. Westbury . . . . N Y
Hughes Aircraft Co, Electron Dynamics Div Torrance . . . . . Cal
Jodon Engineering Assoc Ann Arbor . . . . Mich
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis . . . . France
Laser Nucleonics Inc Waltham . . . . Mass
Optics Technology Inc Palo Alto . . . . Cal
Perkin-Elmer Corp Norwalk . . . . Conn
Perkin-Elmer Corp Laser Dept Wilton . . . . Conn
Perkin-Elmer Corp, Optical Group Norwalk . . . . Conn
Philco-Ford Corp Washington . . . . D C
Radio Corp of America, Electronic Components Harrison . . N J
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Resalab Scientific Div Resalab Inc Menlo Park . . . . Cal
Seed Electronics Corp Lexington . . . . Mass
Siemens America Inc New York . . . . N Y
Space Rays Inc Burlington . . . . Mass
Spectra-Mat Inc Watsonville . . . . Cal
Spectra-Physics Mountain View . . . . Cal
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
Sylvania Electronic Systems Waltham . . . . Mass
Sylvania - Electro-Optics Organization Mountain View . . . . Cal
Thermal American Fused Quartz Co Montville . . . . N J
Thomson-CSF 78 Versailles . . . . France
TRW Instruments El Segundo . . . . Cal
TRW Systems Group Redondo Beach . . . . Cal
University Labs Inc Berkeley . . . . Cal
Ushio Electric Inc. Tokyo . . . . Japan
Vari Tech Co Grand Rapids . . . . Mich

LASERS—GLASS

American Optical Corp Tech Prods Gr Laser Prods Dept
  Southbridge . . . . Ma
Autonetics Div North American Rockwell Corp Anaheim . . C
Executive Electronics Inc. Denver . . . . Co
General Laser Corp Natick . . . . Ma
Hadron, Inc. Westbury . . . . N
Hi-Shear Corp Torrance C
International Laser Systems Inc Orlando . . . . F
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis . . . . Fran
Laser Nucleonics Inc Waltham . . . . Ma
Laser Tool Corp. Framingham . . . . Ma
O & S Research Inc Riverton . . . . N
Produits Chimiques Pechiney St Gobain
  92 Neuilly Iseine . . . . Fran

LASERS—INJECTION DIODES

NIPPON ELECTRIC CO LTD TOKYO JAPAN . . . . ADV PG 3
SIEMENS AMERICA INC NEW YORK . . . . N
Advanced Kinetics, Inc Costa Mesa C
General Laser Corp Natick . . . . Ma
Infrared Industries Inc Santa Barbara C
La Radiotechnique Compelec Paris 11e . . . . Fran
Laser Nucleonics Inc Waltham . . . . Ma
Mitsubishi Electric Corp Tokyo . . . . Jap
Monsanto-Electronic Special Products Cupertino C
Nippon Electric Co Ltd Tokyo . . . . Jap
Philco-Ford Corp Washington . . . . D
Radio Corp of America, Electronic Components Harrison . . N
Seed Electronics Corp Lexington . . . . Ma
Semi-Elements Inc Saxonburg . . . .
Siemens America Inc New York . . . . N
Space & Systems Div General Time Corp Stamford . . . . . Co

LASERS—OPTICAL COMPONENTS

SIEMENS AMERICA INC NEW YORK . . . .
Aerospace Controls Corp Los Angeles . . . .
American Optical Corp Tech Prods Gr Laser Prods Dept
  Southbridge . . . . M
American Time Products, Elctns Div Bulova Watch Co Inc
  Woodside . . . .
Autonetics Div North American Rockwell Corp Anaheim . . .
Avco-Everett Resch Lab Div Avco Corp Everett . . . . M
Baird-Atomic, Inc Cambridge . . . . M
Beckman & Whitley Mountain View . . . .
Borders Electronics Co Inc Medford . . . .
Broomer Research Corp Plainview . . . .
Coherent Radiation Labs Palo Alto . . . .
Control Data Corp Melville Space & Def Sys Div Melville . .
Crystalab Products Corp Rochelle Park . . . .
Davidson Optronics Inc West Covina . . . .
Dynasciences Corp Blue Bell . . . .
Eastman Kodak Co Rochester . . . .
E G & G Inc, Electronic Prods Div Boston . . . . M
Electro Optics Assoc Palo Alto . . . .
Electro Powerpacs Corp Cambridge . . . . M
Executive Electronics Inc. Denver . . . .
Fish-Schurman Corp New Rochelle . . . .
General Dynamics, Electronics Div Rochester . . . .
General Electric Co, Lamp Glass Dept Willoughby . . . . . .
General Electrodynamics Corp Garland . . . .
General Laser Corp Natick . . . . M
General Optics Inc Bloomfield . . . .
Hadron, Inc. Westbury . . . .
Hi-Shear Corp Torrance . . . .
Hughes Aircraft Co, Electron Dynamics Div Torrance . . . .
Industrial Optics Div Yardney Razdow Labs Newark . . . . .
Infrared Industries Inc Santa Barbara . . . .
International Laser Systems Inc Orlando . . . .
Isomet Corp Palisades Park . . . .
Jodon Engineering Assoc Ann Arbor . . . .
Jones Optical Works Inc A D Burlington . . . .
Kappa Scientific Corp Goleta . . . .
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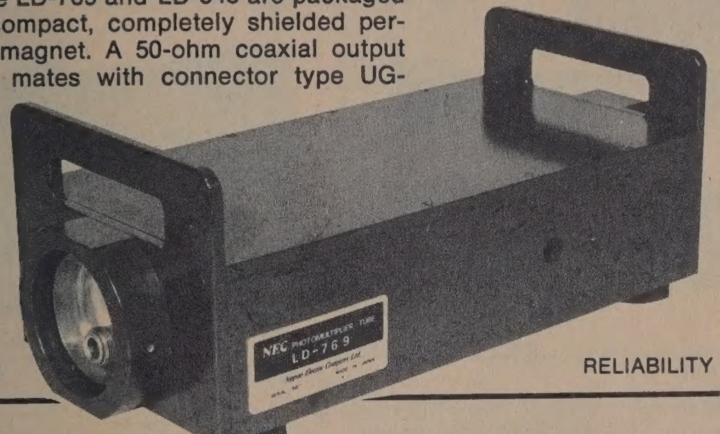
Laser Nucleonics Inc Waltham . . . .
Laser Optics Inc Danbury . . . .
Laser Tool Corp. Framingham . . . .
Leitz Canada Ltd, Ernst Midland . . . .
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge .
Litton Industries, Guidance & Controls Sys Div
  Woodland Hills . . . .
Meller Co, Adolf Providence . . . .
National Beryllia Corp Haskell . . . .
Optical Coating Lab Inc Santa Rosa . . . .
Optical Products A Teledyne Co Monrovia . . . .
Optics Technology Inc Palo Alto . . . .
Oriel-Optics Corp Stamford . . . .
O & S Research Inc Riverton . . . .
Perkin-Elmer Corp Norwalk . . . .
Perkin-Elmer Corp Laser Dept Wilton . . . .
Perkin-Elmer Corp, Optical Group Norwalk . . . .
Radio Corp of America, Electronic Components Harrison .
Raytheon Co, Microwave & Power Tube Div Waltham . . .
Razdow Labs Inc Newark . . . .
Resalab Scientific Div Resalab Inc Menlo Park . . . .
Semi-Elements Inc Saxonburg . . . .
Siemens America Inc New York . . . .
Space Rays Inc Burlington . . . .
Spectra-Physics Mountain View . . . .
Spectrum Systems, Inc Waltham . . . .
Sperry Gyroscope Div Sperry Rand Corp Great Neck . . .
Sylvania Electronic Systems Waltham . . . .
Sylvania - Electro-Optics Organization Mountain View . .
Syncor Products Co, Inc Malden . . . .
Te Company Santa Barbara . . . .
Thermal American Fused Quartz Co Montville . . . .
Tropel Inc Fairport . . . .
TRW Instruments El Segundo . . . .
University Labs Inc Berkeley . . . .
Ushio Electric Inc. Tokyo . . . .
Xenon Co Medford . . . .

NEC LASER DETECTOR—TYPE LD-769 and LD-848

This static crossed-field photomultiplier detects low-level laser light, modulated by a signal frequency which switches from DC to microwave. In the static crossed electric and magnetic fields (produced by suitable arrangements of electrodes) and cycloidal electron motion has very small transit-time dispersion. Thus, the photomultiplier delivers flatter and wider frequency response (extending to the microwave region) than the conventional tube. The LD-769 and LD-848 are packaged with a compact, completely shielded permanent magnet. A 50-ohm coaxial output terminal mates with connector type UG-21D/U.



QUALITY RELIABILITY

For further information write:

Nippon Electric NEW YORK INC.
PAN AM BUILDING 200 PARK AVE. NEW YORK, N.Y. 10017 (212) 661-3420

Nippon Electric Company, Limited
P.O. BOX 1, TAKANAWA TOKYO, JAPAN

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AVA

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am Metallurgical Chemical Co Philadelphia .... Pa

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Gardiner Solder Co Chicago Ill
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Nuclear Equipment Chemical Corp Farmingdale .... N Y
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Don Mar Products Inc Denver .... Colo
Dowa Trading Co Ltd Kobe .... Japan
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Empire Electronics Co Inc Paterson .... N J
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See **Detectors—Leak**

LENSES—INFRARED

See **Infrared Equipment**

LENSES—MICROWAVE

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Edmund Scientific Co Barrington .... N J
Ednalite Corp Peekskill .... N Y
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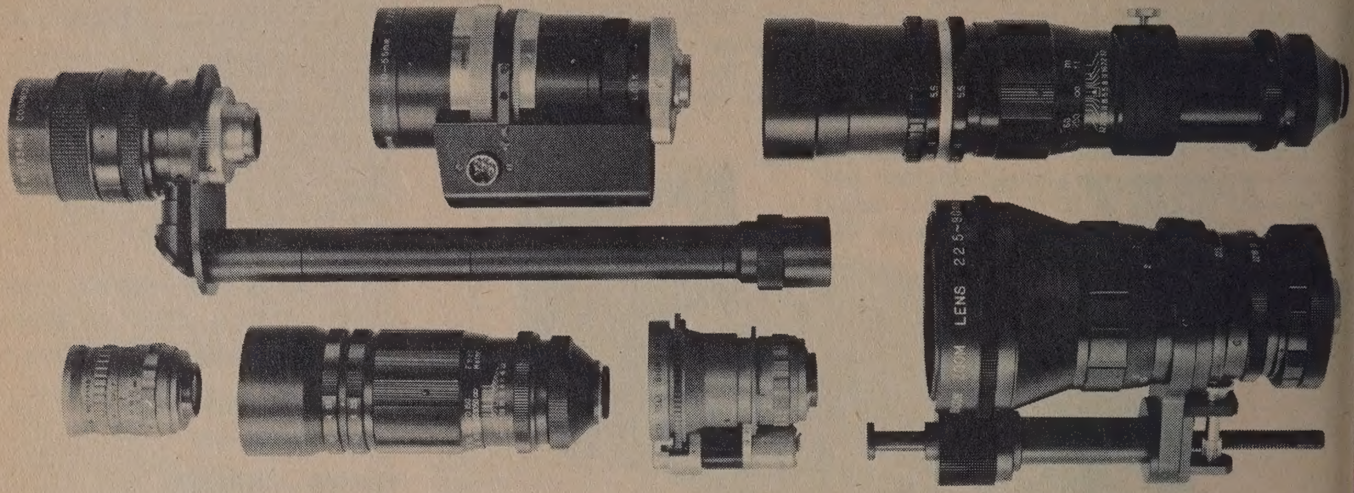
Perfect your CCTV system with COSMICAR® lenses



Article Number	Lens description	Focal length	Number of lens element	Maximum image format covered			f-stop aperture engraved	Focusing range	Maximum outside diameter	Overall length*	Mounting type of the lens	Filter size	Net weight
				Total (diagonal) angular coverage	Horizontal	Vertical							
# 503	12.5mm 1:1.4	12.5mm	8, hard-coated	64°50′	53°52′	41°43′	1.4~22 with click-stop settings (evenly spaced)	10 inches or 0.3 meters to infinity	48.0mm	64.0mm	C-mount	Filter of 46.0mm dia., P=0.75mm	210 grams
# 2514	25mm 1:1.4	25mm	6, hard-coated	35°14′	28°30′	21°34′	1.4~22 with click-stop settings (evenly spaced)	2 feet or 0.6 meters to infinity	42.0mm	42.5mm	C-mount	Filter of 35.5mm dia., P=0.5mm	105 grams
# 218	50mm 1:1.4	50mm	6, hard-coated	18° 2′	14°29′	10°53′	1.4~22 with click-stop settings (evenly spaced)	3.5 feet or 1 meter to infinity	45.8mm	65.0mm	C-mount	Filter of 40.5mm dia., P=0.5mm	260 grams
# 504	75mm 1:1.4	75mm	5, hard-coated	12° 5′	9°41′	7°16′	1.4~22 with click-stop settings (evenly spaced)	4 feet or 1.2 meters to infinity	60.0mm	100.5mm	C-mount	Filter of 58mm dia., P=0.75mm	525 grams
# 1219	12.5mm 1:1.9	12.5mm	8, hard-coated	64°50′	53°52′	41°43′	1.9~22 with click-stop settings (evenly spaced)	10 inches or 0.3 meters to infinity	45.0mm	64.0mm	C-mount	Filter of 43.0mm dia., P=0.75mm	200 grams
# 2519	25mm 1:1.9	25mm	4, hard-coated	35°14′	28°30′	21°34′	1.9~22 with click-stop settings (evenly spaced)	2 feet or 0.6 meters to infinity	42.0mm	47.0mm	C-mount	Filter of 40.5mm dia., P=0.5mm	100 grams
# 5019	50mm 1:1.9	50mm	6, hard-coated	18° 2′	14°29′	10°53′	1.9~22 with click-stop settings (evenly spaced)	3.5 feet or 1 meter to infinity	42.0mm	68.0mm	C-mount	Filter of 40.5mm dia., P=0.5mm	200 grams
# 214 Popular type	75mm 1:1.9	75mm	4, hard-coated	12° 5′	9°41′	7°16′	1.9~22 with click-stop settings (evenly spaced)	4 feet or 1.2 meters to infinity	46.5mm	106.0mm	C-mount	Filter of 43.0mm dia., P=0.75mm	280 grams
# 7519 High quality	75mm 1:1.9	75mm	5, hard-coated	12° 5′	9°41′	7°16′	1.9~22 with click-stop settings (evenly spaced)	4 feet or 1.2 meters to infinity	50.3mm	73.5mm	C-mount	Filter of 46.0mm dia., P=0.75mm	270 grams
# 1358 COSMICAR	135mm 1:2.8	135mm	5, hard-coated	6°44′	5°23′	4° 3′	2.8~16	6 feet or 2 meters to infinity	62.0mm	114.0mm	C-mount	Filter of 55.0mm dia., P=0.75mm	500 grams
# Z-6618 COSMICAR ZOOM	22~66mm 1:1.8	22~66mm	11, hard-coated	39°41′ ~ 13°43′	32°12′ ~ 11° 0′	24°26′ ~ 8°15′	1.8~16	5 feet or 1.5 meters to infinity	77.0mm	146.0mm	C-mount	Filter of 72.0mm dia., P=0.75mm	1,100 grams
# Z-9015 COSMICAR ZOOM	22.5~90mm 1:1.5	22.5~90mm	15, hard-coated	38°18′ ~ 10° 2′	31°12′ ~ 8° 2′	23°19′ ~ 6° 0′	1.5~22 with click-stop settings	5 feet or 1.5 meters to infinity	85.0mm	170.0mm	C-mount	Filter of 82.0mm dia., P=0.75mm	1,280 grams

*Maximum projection of the lens from lens seating face

LENS FOR 2/3″ VIDICON CAMERAS (MINI-COSMICAR)

#815-EX:8.5mm 1:1.5 Element, 8pcs. Coverage angle, 65°48′. Weight, 80g.
#815-FM: —ditto— except without Iris Diaphragm.
#1616-EX:16mm 1:1.6 Element, 5pcs. Coverage angle, 37°56′. Weight, 100g.
#1616-FM: —ditto— except without Iris Diaphragm.
#3818-EX:38mm 1:1.8 Element, 4pcs. Coverage angle, 16°28′. Weight, 100g.
#3818-FM: —ditto— except without Iris Diaphragm.
#519-EX:50mm 1:1.9 Element, 4pcs. Coverage angle, 12°33′. Weight, 200g.
#Z-4518:Zoom Lens. 15~45mm 1:1.8 Element, 11pcs. Coverage angle, 40°16′~13°56′. Weight, 520g.

OTHER LENSES & ACCESSORIES

#EX-2035:200mm 1:3.5 Element, 5pcs. Coverage angle, 4°33′. Weight, 700g.
#EX-3056:300mm 1:5.6 Element, 5pcs. Coverage angle, 3°02′. Weight, 1100g.
#EX-4056:400mm 1:5.6 Element, 5pcs. Coverage angle, 2°12′. Weight, 2100g.
#EX-5063:500mm 1:6.3 Element, 4pcs. Coverage angle, 1°49′. Weight, 1700g.

Rear Operated (Gear Drive) Zoom Lenses
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Filters: UV and infrared types for all COSMICAR lenses
Stand for the vidicon camera: Manually operated and installable on the wall.
Dust caps and flange mounts

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lwest Molding & Mfg Co Gurnee Ill
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NSES, OPTICAL—TV CAMERA

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ion Optical Co Inc West Nyack . . . . N Y
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ati Elgeet Div Rochester . . . . NY
M Company St Paul . . . . Minn
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Te Company Santa Barbara . . . . Cal
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***See* Tubes—Planar**

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LIGHTS

***See* Lamps**

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Tapeswitch Corp of America Farmingdale . . . . N Y

LINEAR AMPLIFIERS

***See* Amplifiers**

LINE PRINTERS

***See* Printers—Line**

LINES—DELAY

***See* Delay Lines**

LINES—SLOTTED

***See* Slotted Lines**

LINES—TRANSMISSION

***See* Cables—Unshielded**

LIQUID DIELECTRICS

***See* Dielectrics—Liquid**

LITHIUM COMPOUNDS (FOR CATHODE-RAY SCREENS)

Aceto Chemical Co, Inc Flushing . . . . NY
Acheson Colloids Co Port Huron . . . . Mich
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
Corp Carle Place . . . . N Y
Barium and Chemicals, Inc Steubenville . . . . Ohio
Bram Metallurgical Chemical Co Philadelphia . . . . Pa
Electronic Space Products Inc Los Angeles . . . . Cal
Foote Mineral Co Exton . . . . Pa
Kawecki Berylco Industries Inc New York . . . . N Y
King Laboratories Inc Syracuse . . . . N Y
Koch Light Labs Ltd Colnbrook, Bucks . . . . England
Mackay Inc, A D New York . . . . N Y
Mallinckrodt Chemical Works St Louis . . . . Mo
Metal Ceram Inc Mount Vernon . . . . N Y
Semi-Alloys Inc Mt Vernon . . . . N Y
United Mineral & Chemical Corp New York . . . . N Y
Var-Lac-Oid Chemical Co Elizabeth . . . . N J

LITZ WIRE

***See* Wire—Litz**

LOAD CELLS

***See* Standards**

LOADS—DUMMY

***See* Terminations—Load**

LOCATORS—CABLE FAULT & LINE FAULT

ASSOCIATED RESEARCH, INC CHICAGO ILL
HEWLETT-PACKARD PALO ALTO . . . . CAL
Associated Research, Inc Chicago Ill

Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Biddle Co, James G Plymouth Meeting .... Pa
Canadian Research Institute Don Mills .... Ont
Clinton Instrument Co Clinton .... Conn
Electrospace Corp Westbury .... NY
Excel Electric Service Co Inc Chicago Ill
Ferranti, Ltd Lancashire .... England
FRL Inc Fisher Research Div Palo Alto .... Cal
General Equipment & Mfg Co Louisville .... Ky
Hewlett-Packard Palo Alto .... Cal
Hipotronics Inc Brewster .... N Y
Instrument Labs Corp Chicago Ill
Jerrold Electronics Corp Philadelphia .... Pa
Lab Electro-Acoustique 92 Rueil-Malmaison .... France
Lear Siegler Inc Santa Monica .... Cal
Leeds & Northrup Co North Wales .... Pa
Muirhead Instruments Inc Mountainside .... N J
Northeast Electronics Corp Concord .... N H
Plessey Co Ltd Ilford Essex .... England
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Slaughter Co Ardmore .... Okla
Superior Continental Corp Hickory .... N C
Winslow Tele-Tronics Inc Eatontown .... N J

LOCK NUTS

See **Nuts**

LOCKS—DIAL

DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT . IOWA
ELECTRONIC HARDWARE CORP JAMAICA .... NY
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
Amatom Electronic Hardware New Rochelle .... N Y
Cambridge Thermionic Corp Cambridge .... Mass
Daburn Electronics & Cable Corp Bronx .... N Y
Eagle Signal A Gulf & Western Co Davenport .... Iowa
Electronic Hardware Corp Jamaica .... NY
Federal Screw Products Inc Chicago Ill
Millen Mfg Co Inc, James Malden .... Mass
PIC Design Corp East Rockaway .... N Y
Smith Inc, Herman H Brooklyn .... N Y
Sterling Instrument Div, Designatronics Inc Mineola ..... N Y
Unican Security Systems Plattsburgh .... NY
USECO Div, Litton Industries Van Nuys .... Cal
Vemaline Products Co, Inc Wycoff .... N J

LOCKWASHERS

See **Washers**

LOGIC MODULES

See **Modules—Active**

LORAN RECEIVERS

See **Receivers—Radio Navigation**

LOUDSPEAKERS

See **Speakers**

LOUVERS—CHASSIS-VENTILATING

Boston Precision Parts Co Inc Hyde Park .... Mass
California Chassis Co Lynwood .... Cal
Churchill Corp Melrose .... Mass
Cutler Metal Products Co Camden .... N J
Donnelly Mfg Co Waltham .... Mass
Falstrom Co Passaic .... N J
Hammond Mfg Co Ltd Guelph .... Ont
Hoffman Engineering Co, Div Fed Cartridge Corp Anoka . Minn
Kirk & Blum Mfg Co Cincinnati .... Ohio
Metex Corp Edison .... N J
Midget Louver Co Norwalk .... Conn
S K G Associates Inc Boston .... Mass
Smith Inc, Herman H Brooklyn .... N Y
Stafford Mfg Co Inc Brooklyn .... N Y
Strandberg Engineering Labs Inc Greensboro .... N C
Taffet Electronics Inc Woodside .... N Y
Technical Wire Products Inc Cranford .... N J
Zero Mfg Co Burbank .... Cal

LUBRICANTS

See Also **Silicones**

BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON .... CAL
CAIG LABS INC WESTBURY .... N Y
GRAPHITE METALLIZING CORP YONKERS N Y . . ADV PG 65
Acheson Colloids Co Port Huron .... Mich
Allaco Products Braintree .... Mass
Armite Laboratories Los Angeles .... Cal
Ball Brothers Research Corp Boulder .... Colo
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Bel-Ray Co, Inc Farmingdale .... N J
Bemol Corp Newton .... Mass
Bendix Scientific Instr & Equip Div Rochester .... N Y
Borden Chemical Div Borden Inc New York .... N Y
Caig Labs Inc Westbury .... N Y
Camie Co Inc St Louis .... Mo
Cerac Inc Butler .... Wis
Chemplast Inc Wayne .... N J
Connecticut Hard Rubber Co New Haven .... Conn
CRC Chemicals Dresher .... Pa
Devcon Corp Danvers .... Mass
Dixon Corp Bristol .... R I
Dow Chemical Co Midland .... Mich
Dow Corning Corp Midland .... Mich
Electrofilm, Inc North Hollywood .... Cal
Electrolube Ltd Slough .... England
Electronic Chemical Corp Jersey City .... N J
Emerson & Cuming Inc Canton .... Mass
Everlube Corp of America North Hollywood .... Cal
G C Electronics Div, Hydrometals Inc Rockford Ill
General Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
General Electric Co Silicone Prods Dept Waterford ...... N Y
Grafo Colloids Corp Sharon .... Pa
Graphite Metallizing Corp Yonkers .... N Y
Humble Oil & Refining Co Houston .... Tex
Huron Industries Port Huron .... Mich
Ideal-Hellerman Canada Ltd Ajax .... Ontario
Kano Labs, Inc Nashville .... Tenn
Leybold-Heraeus, Inc. Monroeville .... Pa
LNP Corp Malvern .... Pa
Loctite Corp Newington .... Conn
Miller-Stephenson Chemical Co Inc Danbury .... Conn
3M Company St Paul .... Minn
MPB Corp Keene .... N H
Nye, Inc, William F New Bedford .... Mass
Octagon Process Inc Edgewater .... NJ
Poxylube Inc Indianapolis .... Ind
Pro-Chem Inc Cleveland .... Ohio
Product Techniques, Inc Downey .... Cal
Quietrole Co Spartanburg .... S C
Sealectro Corp Mamaroneck .... N Y
Sherwin Inc Los Angeles .... Cal
Sperex Corp Los Angeles .... Cal
Sprayon Products Inc Bedford Heights .... Ohio
Stauffer Wacker Silicone Corp New York .... N Y

LUGS

See **Terminals**

LUMINESCENT CHEMICALS

See **Chemicals—Luminescent**

LUMINOUS FINISHES

See **Paints—Luminous**

LUMINOUS MARKERS

See **Markers—Luminous**

MACHINES—ABRADING & POLISHING (CRYSTAL & FERRITE)

HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE . . . PA
TABER INSTRUMENTS A TELEDYNE CO NORTH TONAWANDA .... N Y
Custom Scientific Instruments Inc Whippany .... N J
Geoscience Instruments Corp Mt Vernon .... N Y
Hoffman Co PR Div Aiken Industries Carlisle .... Pa
Jarrell-Ash Co Waltham .... Mass
K Square Corp Pittsburgh .... Pa
L & R Mfg Co Kearny .... N J
Murray Way Corp Birmingham .... Mich
Norton Co Worcester .... Mass
Phoenix Materials Corp Forbes Road .... Pa
Semimetals Inc, Western Div Mountain View .... Cal
Speedfam Corp Des Plaines Ill
Taber Instruments A Teledyne Co North Tonawanda ..... N Y
Tizon Chemical Corp Flemington .... N J
Universal Shellac & Supply Co Inc Brooklyn .... N Y
Vibraslide Inc Binghamton .... N Y

MACHINES—AUTOMATIC ASSEMBLY

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE N J .... ADV PG 336
GAGNE ASSOCIATES INC BINGHAMTON .... N Y
Adamatic Inc Greendale .... Wis
Affiliated Manufacturers Inc Whitehouse .... N J
Aikow Shoji Kaisha Ltd Osaka .... Japan
Alch Instrument Co, Inc Westbury .... N Y
Alessi Industries El Segundo .... Cal
Applied Electro Mechanics Inc Alexandria .... Va
Axion Corp Danbury .... Conn
Beckman Instruments Inc Fullerton, ... Cal
Berg Electronics, Inc New Cumberland .... Pa
Black & Webster Inc Waltham .... Mass
Century Automation, Inc. Los Angeles .... Cal
Conrac Corp New York .... N Y
Digital Systems Inc Covina .... Cal
Energy Beams Inc Haskell .... N J
Eyelet Tool Co Cambridge .... Mass
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N J
Gagne Associates Inc Binghamton .... N Y
General Staple Co. Connectrol Div New York .... N Y
Gluco Monroeville .... Pa
Halm Instrument Co Inc Glen Head .... N Y
Heller Industries Inc E Orange .... NJ
High Speed Hammer Co Inc Rochester .... N Y
Hugle Industries Sunnyvale .... Cal
Industra Products Inc Fort Wayne .... Ind
Kahle Engineering Co Union City .... N J
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Micro Metrics Inc Paterson .... N J
Murphy Industries G W Cleco Pneumatic Div Houston .... Tex
New Jersey Machine Corp Hoboken .... N J
Plessey Co Ltd Ilford Essex .... England
Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
Product Improvement Corp Santa Ana .... Cal

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Sensor Corp Greenwich ....
Standard Tool & Mfg Co Lyndhurst ....
Syntron Div FMC Corp Homer City ....
Taylor-Winfield Corp Warren ....
Timedal Mfg Lab Inc Scotia ....
Townsend Co, TRS Div Braintree ....
Trought Associates Inc Belleville ....
Universal Instruments Corp Binghamton ....
Vestal Modern Design Corp Vestal ....
Wells Electronics Inc, Weltek Div South Bend ....

MACHINES—AUTOMATIC FEED, SMALL PARTS

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE ....
GAGNE ASSOCIATES INC BINGHAMTON ....
PORTESCAP U S NEW YORK ....
Affiliated Manufacturers Inc Whitehouse ....
Air-Vac Engineering Co Milford ....
Alch Instrument Co, Inc Westbury ....
Berg Electronics, Inc New Cumberland ....
Black & Webster Inc Waltham ....
Burgess & Associates Inc Cleveland ....
Cambridge Thermionic Corp Cambridge ....
Century Automation, Inc. Los Angeles ....
Eyelet Tool Co Cambridge ....
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . .
Gagne Associates Inc Binghamton ....
Halm Instrument Co Inc Glen Head ....
Kahle Engineering Co Union City ....
KSM Welding Sys Div Omark Indus Inc Moorestown ....
New Jersey Machine Corp Hoboken ....
Plessey Co Ltd Ilford Essex .... En
Portescap U S New York ....
Precision-Cincinnati Inc A Teledyne Co Cincinnati .....
Radio Corp of America, Comml Elctn Prods Div Camden .
Ragen Precision Industries Inc North Arlington ....
Segal Inc, Edward New York ....
Seneca Falls Machine Co Seneca Falls ....
Sensor Corp Greenwich ....
Sossner Steel Stamps Inc Long Island City ....
Syntron Div FMC Corp Homer City ....
Timedal Mfg Lab Inc Scotia ....
Transistor Automation A Teledyne Co Woburn ....
Trought Associates Inc Belleville ....
Vestal Modern Design Corp Vestal ....

MACHINES—BALANCING, DYNAMI

Annis Co, R B Indianapolis ....

nce Technology Inc Ann Arbor	Michigan
eral Laser Corp Natick	Mass
ron, Inc. Westbury	N Y
rnational Research & Development Corp Worthington	Ohio
en Bosch, Inc Pleasantville	N Y
enck Trebel Corp Farmingdale	N Y
d Electronics Corp Lexington	Mass
us Olsen Testing Machine Co Willow Grove	Pa
arton Unitools Moosup	Conn

ACHINES—BENDING

ow Shoji Kaisha Ltd Osaka	Japan
rac Corp New York	N Y
Acro Div, Houdaille Industries Inc Lake City	Minn
o A Bangor Punta Co Cleveland	Ohio
er Industries Inc E Orange	NJ
le Engineering Co Union City	N J
gara Machine & Tool Works Buffalo	N Y
k Stow & Wilcox Co Southington	Conn
Crimping Tools Co Santa Fe Springs	Cal
rson & Son Inc, J T Chicago	Ill
onds Machine Co Inc Southbridge	Mass
eck Inc, W Whitney Old Saybrook	Conn
lor-Winfield Corp Warren	Ohio

ACHINES—BLUEPRINT

***ee* Machines—Copying**

ACHINES, CAPACITOR MANUFACTURING—ASSEMBLY

ERAL TOOL ENGINEERING CO DIV ARVIN INDS EDAR GROVE	**N J**
iliated Manufacturers Inc Whitehouse	N J
ow Shoji Kaisha Ltd Osaka	Japan
kman Instruments Inc Fullerton,	Cal
deral Tool Engineering Co Div Arvin Inds Cedar Grove	N J
m Instrument Co Inc Glen Head	N Y
hle Engineering Co Union City	N J
ssey Co Ltd Ilford Essex	England
cision-Cincinnati Inc A Teledyne Co Cincinnati	Ohio
pican Corp, Ind Prods Div Mattapoisett	Mass
versal Instruments Corp Binghamton	N Y
lls Electronics Inc, Weltek Div South Bend	Ind

ACHINES, CAPACITOR MANUFACTURING—SORTING

vanced Technology & Systems Corp Riverside	Conn
filiated Manufacturers Inc Whitehouse	N J
ow Shoji Kaisha Ltd Osaka	Japan
ckman Instruments Inc Fullerton,	Cal
ckman Instruments Intl SA 1207 Geneva	Switzerland
ntury Automation, Inc. Los Angeles	Cal
vidson Electronic Development Co Erie	Pa
ymarc Corp Waltham	Mass
M Research Corp Lakewood	Ohio
ller Industries Inc E Orange	NJ
dustrial Control Co Farmingdale	N Y
cro Instrument Co Hawthorne	Cal
essey Co Ltd Ilford Essex	England
ansistor Automation A Teledyne Co Woburn	Mass
iversal Instruments Corp Binghamton	N Y

ACHINES, CAPACITOR MANUFACTURING—WINDING

kow Shoji Kaisha Ltd Osaka	Japan
ssociated American (Amacoil) Winding Machinery Inc New Rochelle	N Y
eckman Instruments Intl SA 1207 Geneva	Switzerland
oil Winding Equipment Co Oyster Bay	N Y
lton Inc, H H Glens Falls	N Y
dustra Products Inc Fort Wayne	Ind
icro Instrument Co Hawthorne	Cal
essey Co Ltd Ilford Essex	England
tevens Mfg Co Inc, Geo Chicago	Ill
medal Mfg Lab Inc Scotia	N Y

ACHINES—CLEANING

***See Also* Ultrasonic Equipment**

RESSILK PRODUCTS INC ELMSFORD	**N Y**
erometrics Div Aerojet-General Corp San Ramon	Cal
lcatel Paris 8eme	France
arrett Co, Leon J Worcester	Mass
earing Inspection, Inc Santa Fe Springs	Cal
ranson Equipment Div Clark	N J
lean Room Products Inc Farmingdale	N Y
obehn Inc Fairfield	N J
espatch Oven Co Minneapolis	Minn
e Vilbiss Co Toledo	Ohio
lectrovert Inc Mt Vernon	N Y
nvirco Div Becton, Dickinson & Co Albuquerque	N M
tchomatic Inc Waltham	Mass
eneral Kinetics Inc Reston	Va
eneral Research Inc Sparta	Mich
eoscience Instruments Corp Mt Vernon	N Y
nland Industrial Products Div Inland Mfg Co Omaha	Neb
nterlab Inc Pleasantville	N Y
ressilk Products Inc Elmsford	N Y
ulicke & Soffa Industries Inc Fort Washington	Pa
ewis Corp Woodbury	Conn

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Oakite Products Inc Berkeley Heights	N J
Pangborn Div Carborundum Co Hagerstown	Md
Phoenix Materials Corp Forbes Road	Pa
Ramyr Mfg Co Buena Park	Cal
Sel-Rex Corp & Sub The Meaker Co Nutley	N J
Simco Co Inc Lansdale	Pa
Techni-Tool Inc Philadelphia	Pa
Tronic Corp Belmont	Cal
Ultra Sonic Cleaner Mfg Co N Amityville	N Y
Vapor Blast Mfg Co Milwaukee	Wis
Vibraslide Inc Binghamton	N Y
Wells Electronics Inc Dynablast Div South Bend	Ind
Westinghouse Electric Corp Indus Equip Div Baltimore	Md
Wheelabrator Corp Wheelabrator Div Mishawaka	Ind

MACHINES, COIL WINDING—LATHE TYPE

Adamatic Inc Greendale	Wis
Aikow Shoji Kaisha Ltd Osaka	Japan
Associated American (Amacoil) Winding Machinery Inc New Rochelle	N Y
Avo Ltd Dover Kent	England
Coil Winding Equipment Co Oyster Bay	N Y
Eubanks Engineering Co Monrovia	Cal
Gorman Machine Corp Randolph	Mass
Halm Instrument Co Inc Glen Head	N Y
Industra Products Inc Fort Wayne	Ind
Industrial Winding Machinery Corp River Edge	N J
Innes Instruments Pasadena	Cal
Kahle Engineering Co Union City	N J
La Cesa Engineering Corp Franklin Park	Ill
Mann Co, Henry Cornwell Heights	Pa
Micafil Ltd c/o Universal Irvington	N J
Nichols Co Ltd, R H Downsview	Ont
Parker-Shelly Mfg. Inc Fort Lauderdale	Fla
Plessey Co Ltd Ilford Essex	England
Rea Magnet Wire Co Inc Fort Wayne	Ind
Slocum Industries Reseda	Cal
Stevens Mfg Co Inc, Geo Chicago	Ill

MACHINES, COIL WINDING—TOROID TYPE

Aikow Shoji Kaisha Ltd Osaka	Japan
Arnold Magnetics Corp Culver City	Cal
Avo Ltd Dover Kent	England
Coil Winding Equipment Co Oyster Bay	N Y
Dinion Coil Co Inc Caledonia	N Y
Eubanks Engineering Co Monrovia	Cal
Gorman Machine Corp Randolph	Mass
Industra Products Inc Fort Wayne	Ind
Industrial Winding Machinery Corp River Edge	N J
Jovil Mfg Co Inc Danbury	Conn
Martindale Electric Co Cleveland	Ohio
Park Lane Research Labs New Milford	Conn
Universal Mfg Co Inc Irvington	N J

MACHINES, COIL WINDING—WOUND FOIL

Driver-Harris Co Harrison	N J
Hilton Inc, H H Glens Falls	N Y
La Cesa Engineering Corp Franklin Park	Ill
Micafil Ltd c/o Universal Irvington	N J
Plessey Co Ltd Ilford Essex	England
Universal Mfg Co Inc Irvington	N J

MACHINES—COMPONENT PACKAGING

Affiliated Manufacturers Inc Whitehouse	N J
Anchor Specialty Mfg Co Inc Teterboro	N J
Century Automation, Inc. Los Angeles	Cal
Ewing Products Inc Burbank	Cal
GTI Corp Meadville	Pa
Kulicke & Soffa Industries Inc Fort Washington	Pa
New Jersey Machine Corp Hoboken	N J
Plessey Co Ltd Ilford Essex	England
Possis Machine Corp Minneapolis	Minn
Ragen Precision Industries Inc North Arlington	N J
Research Instrument Co Inc Westbury	N Y
Solid State Equipment Corp Philadelphia	Pa
Timedal Mfg Lab Inc Scotia	N Y
Universal Instruments Corp Binghamton	N Y

MACHINES—COPYING

ROTOLITE A TELEDYNE CO STIRLING N J	**ADV PG 338**
Andrew Engineering Co Minneapolis	Minn
Dennison Mfg Co Framingham	Mass
GAF Corp New York	NY
Itek Corp Lexington	Mass
3M Company St Paul	Minn
Optomechanisms Inc Plainview	N Y
Pacific Copy Corp El Segundo	Cal
Rotolite A Teledyne Co Stirling	N J
Sossner Steel Stamps Inc Long Island City	N Y
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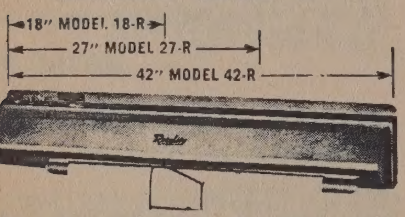

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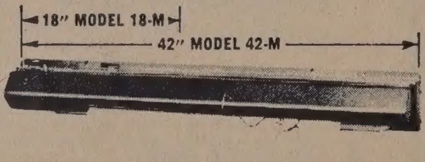

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Henley & Co Inc New York
Jarrell-Ash Co Waltham
Materials Research Corp Orangeburg
Micromech Mfg Corp Union
Norton Co Worcester
Norton Co Vacuum Equip Div Newton
REM Sales Inc West Hartford
Toyo Communication Equipment Co Ltd
  Minato-ku Tokyo
Universal Shellac & Supply Co Inc Brooklyn

MACHINES—CRYSTAL-FINISHING

HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE
Crane Packing Co Morton Grove
General Diode Corp Framingham
Geoscience Instruments Corp Mt Vernon
Hoffman Co PR Div Aiken Industries Carlisle
K Square Corp Pittsburgh
L & R Mfg Co Kearny
Norton Co Worcester
Ransom Labs, John H Los Angeles
Simonds Machine Co Inc Southbridge
Speedfam Corp Des Plaines
Universal Shellac & Supply Co Inc Brooklyn

MACHINES, CRYSTAL GROWING—ELECTRON BEAM

Atomergic Chemetals Co Div Gallard-Schlesinger Chemical
  Corp Carle Place
Energy Beams Inc Haskell
Kokusai Electric Co Ltd Tokyo-105
Materials Research Corp Orangeburg
Nuclide Corp, AGV Div Acton
Thermatron Div Wilcox & Gibbs Inc New York

MACHINES, CRYSTAL GROWING—HORIZONTAL

Aremco Products Inc Briarcliff Manor
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical
  Corp Carle Place
General Diode Corp Framingham
Hugle Industries Sunnyvale
Kahle Engineering Co Union City
Kokusai Electric Co Ltd Tokyo-105
Lepel High Frequency Labs, Inc Maspeth
Little Inc, Arthur D Cambridge
Materials Research Corp Orangeburg
Research Instrument Co Inc Westbury
Semimetals Inc, Western Div Mountain View
Thermatron Div Wilcox & Gibbs Inc New York

MACHINES, CRYSTAL GROWING—VERTICAL

Aremco Products Inc Briarcliff Manor
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical
  Corp Carle Place
Centorr Associates Inc Suncook
C M Mfg Co Bloomfield
Futurecraft Corp City of Industry
General Diode Corp Framingham
Hugle Industries Sunnyvale
Kahle Engineering Co Union City
Kokusai Electric Co Ltd Tokyo-105
Lepel High Frequency Labs, Inc Maspeth
Little Inc, Arthur D Cambridge
Materials Research Corp Orangeburg
Norton Co Vacuum Equip Div Newton
Research Instrument Co Inc Westbury
Semi-Elements Inc Saxonburg
Semimetals Inc, Western Div Mountain View
Taylor-Winfield Corp Warren
Thermatron Div Wilcox & Gibbs Inc New York

MACHINES—CRYSTAL SORTING & SIZING

Affiliated Manufacturers Inc Whitehouse
Century Automation, Inc. Los Angeles

MACHINES—DEGREASING VAPOR

KRESSILK PRODUCTS INC ELMSFORD
Acoustica Associates Inc Los Angeles
Acra Electric Corp Schiller Park
Branson Equipment Div Clark
Clean Room Products Inc Farmingdale
Conrac Corp New York
Crest Ultrasonics Corp Trenton
Cyclo-Tronics, Inc Chicago
Etchomatic Inc Waltham
General Research Inc Sparta
Geoscience Instruments Corp Mt Vernon
Headway Research Inc Garland
Interlab Inc Pleasantville
Kressilk Products Inc Elmsford

cke & Soffa Industries Inc Fort Washington .... Pa
is Corp Woodbury .... Conn
I- Mechanical Technology Inc Latham .... NY
tisonic Cleaning Systems Cleveland .... Ohio
lips Mfg Co Chicago Ill
omet Industries San Carlos .... Cal
nyr Mfg Co Buena Park .... Cal
-Rex Corp & Sub The Meaker Co Nutley .... N J
nic Corp Belmont .... Cal
ber Electronics Inc Philadelphia .... Pa

ACHINES—DIODE & TRANSISTOR MANUFACTURING

ERAL TOOL ENGINEERING CO DIV ARVIN INDS EDAR GROVE .... N J
iliated Manufacturers Inc Whitehouse .... N J
ssi Industries El Segundo .... Cal
on Corp Danbury .... Conn
tury Automation, Inc. Los Angeles .... Cal
I Mfg Co Bloomfield .... N J
ctroglas Inc Menlo Park .... Cal
deral Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
science Instruments Corp Mt Vernon .... N Y
i Corp Meadville .... Pa
hle Engineering Co Union City .... N J
kusai Electric Co Ltd Tokyo-105 .... Japan
Square Corp Pittsburgh .... Pa
licke & Soffa Industries Inc Fort Washington .... Pa
dberg Hevi-Duty Div Sola Basic Industries Chicago Ill
cronetics Inc Semiconductor Tool Div Palo Alto .... Cal
nn Co, David W, Div GCA Corp Burlington .... Mass
chanization Assocs Mountain View .... Cal
ecision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
eve Electronics Inc Chicago Ill
search Instrument Co Inc Westbury .... N Y
conix Inc Sunnyvale .... Cal
eedfam Corp Des Plaines Ill
ft-Peirce Mfg Co Woonsocket .... R I
ansistor Automation A Teledyne Co Woburn .... Mass
iversal Instruments Corp Binghamton .... N Y
iversal Shellac & Supply Co Inc Brooklyn .... N Y
eco Andar Sub Veeco Palo Alto .... Cal
on Corp Mt Vernon .... N Y

MACHINES—DIP SOLDERING

ESSILK PRODUCTS INC ELMSFORD .... N Y
rrett Co, Leon J Worcester .... Mass
ectrovert Inc Mt Vernon .... N Y
chomatic Inc Waltham .... Mass
le Systems Inc North Reading .... Mass
llis Engineering Inc Nashua .... N H
essilk Products Inc Elmsford .... N Y
ann Co, Henry Cornwell Heights .... Pa
echanization Assocs Mountain View .... Cal
TI- Mechanical Technology Inc Latham .... NY
mweve Co Inc West Hartford .... Conn
oduct Improvement Corp Santa Ana .... Cal
myr Mfg Co Buena Park .... Cal
enesco Inc Chicago Ill
va Electric Corp Hanover .... N J

MACHINES—DRILLING, ULTRASONIC

***See* Ultrasonic Equipment**

MACHINES—DRILL PRESSES PRECISION

etna Mfg Co Bensenville Ill
lden Systems, Inc Brockton .... Mass
eutronics Labs Inc Kenilworth .... N J
imron Div Lear Siegler, Inc San Diego .... Cal
tchomatic Inc Waltham .... Mass
xcellon Industries Inc Torrance .... Cal
xtrudonics Inc New Brunswick .... N J
ineisen Co A R Westwood .... NJ
igh Speed Hammer Co Inc Rochester .... N Y
estler Electronics Rosemead .... Cal
lann Co, Henry Cornwell Heights .... Pa
lico Instrument Co Cambridge .... Mass
ptomechanisms Inc Plainview .... N Y
amyr Mfg Co Buena Park .... Cal
yerson & Son Inc, J T Chicago Ill
tandard Tool & Mfg Co Lyndhurst .... N J
elstar Electronics Corp Southold .... N Y
Varmus Associates Anaheim .... Cal

MACHINES—DROP TEST

arry Controls Div Barry Wright Corp Watertown .... Mass
ustom Scientific Instruments Inc Whippany .... N J
. A B Corp Div Redford Corp Skaneateles .... N Y
lechanization Assocs Mountain View .... Cal
inius Olsen Testing Machine Co Willow Grove .... Pa

MACHINES—ENCAPSULATING

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onforming Matrix Corp Toledo .... Ohio
ryplex Industries Inc Flushing .... N Y
wing Products Inc Burbank .... Cal
urane Plastics Inc Los Angeles .... Cal
lluco Monroeville .... Pa
ruenberg Electric Co Inc Garden City .... N Y
TI Corp, Dix Engineering Div Costa Mesa .... Cal

Hardman Incorporated Belleville .... N J
Hull Corp Hatboro .... Pa
Industra Products Inc Fort Wayne .... Ind
Kahle Engineering Co Union City .... N J
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Mann Co, Henry Cornwell Heights .... Pa
Mateer Co, G Diehl Wayne .... Pa
Norton Co Worcester .... Mass
Pasadena Hydraulics Inc So El Monte .... Cal
Plessey Co Ltd Ilford Essex .... England
Possis Machine Corp Minneapolis .... Minn
RCK, Inc Sunnyvale .... Cal
Red Point Corp Burbank .... Cal
Research Instrument Co Inc Westbury .... N Y
Solarex Mfg Co Inc Deer Park .... N Y
Solid State Equipment Corp Philadelphia .... Pa
Taylor-Winfield Corp Warren .... Ohio
Zicon Corp Mt Vernon .... N Y

MACHINES—ENGRAVING & PROFILING

Andrew Engineering Co Minneapolis .... Minn
Electro-Stylus Mfg Co Colorado Springs .... Colo
Gorton Machine Corp Racine .... Wis
Green Instrument Co Inc Cambridge .... Mass
Hammel, Riglander & Co Inc New York .... N Y
Hermes Plastics Inc New York .... N Y
Kuhlmann-Impex, Inc Houston .... Tex
Mico Instrument Co Cambridge .... Mass
New Hermes Engraving Machine Corp New York .... N Y
Precision International Corp Bloomfield .... Conn
Preis Engraving Machine Co, H P Hillside .... N J
Scripta Machine Tool Corp Linden .... N J
Sossner Steel Stamps Inc Long Island City .... N Y
Warmus Associates Anaheim .... Cal
Wharton Unitools Moosup .... Conn

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SUPERIOR ELECTRIC CO THE BRISTOL .... CONN
ZIERICK MFG CORP MOUNT KISCO .... N Y
Cimron Div Lear Siegler, Inc San Diego .... Cal
Etchomatic Inc Waltham .... Mass
Eyelet Tool Co Cambridge .... Mass
Federal Screw Products Inc Chicago Ill
High Speed Hammer Co Inc Rochester .... N Y
Kepro Circuit Systems Inc St Louis .... Mo
Lear Siegler Inc Santa Monica .... Cal
Mark Eyelet & Stamping Inc Wolcott .... Conn
Segal Inc, Edward New York .... N Y
Stamptronics Inc Azusa .... Cal
Stimpson Co Inc, Edwin B Brooklyn .... N Y
Superior Electric Co The Bristol .... Conn
Townsend Co, TRS Div Braintree .... Mass
USM Corp, Fastener Div Shelton .... Conn
Zierick Mfg Corp Mount Kisco .... N Y

MACHINES—FORMING

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Alch Instrument Co, Inc Westbury .... N Y
Associated Engineering & Mfg Corp Glen Ridge .... N J
Bell-Mark Corp Bloomfield .... N J
Conrac Corp New York .... N Y
Di-Acro Div, Houdaille Industries Inc Lake City .... Minn
Eisler Engineering Co Newark .... N J
Feco A Bangor Punta Co Cleveland .... Ohio
General Staple Co. Connectrol Div New York .... N Y
Heller Industries Inc E Orange .... NJ
Kahle Engineering Co Union City .... N J
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Timedal Mfg Lab Inc Scotia .... N Y

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Eisler Engineering Co Newark .... N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
Geoscience Instruments Corp Mt Vernon .... N Y
Haydu Products Inc Opa Locka .... Fla
Henes Mfg Co Phoenix .... Ariz
Kahle Engineering Co Union City .... N J
Litton Engineering Labs Grass Valley .... Cal
Ransom Labs, John H Los Angeles .... Cal
Speedfam Corp Des Plaines Ill
Standard Tool & Mfg Co Lyndhurst .... N J
Trought Associates Inc Belleville .... N J
Universal Shellac & Supply Co Inc Brooklyn .... N Y

MACHINES—GRID WINDING

Kahle Engineering Co Union City .... N J

MACHINES—HERMETIC-SEALING

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Eisler Engineering Co Newark .... N J

GTI Corp Meadville .... Pa
GTI Corp, Dix Engineering Div Costa Mesa .... Cal
Kahle Engineering Co Union City .... N J
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto .... Japan
Precision Arc Co Stratford .... Conn
Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
RCK, Inc Sunnyvale .... Cal
Research Instrument Co Inc Westbury .... N Y
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
Solid State Equipment Corp Philadelphia .... Pa
Sphere Co Inc Little Falls .... N J
Zicon Corp Mt Vernon .... N Y

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Ackerman Gould Co, Inc Oceanside .... N Y
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Apex Machine Co Fort Lauderdale .... Fla
Kingsley Machine Co Hollywood .... Cal
Manger Electric Co Inc Stamford .... Conn
Markem Corp Keene .... NH
Matthews & Co Jas H Pittsburgh .... Pa
Noble & Westbrook Div, Bristol Brass Corp East Hartford .... Conn
Sossner Steel Stamps Inc Long Island City .... N Y
Trought Associates Inc Belleville .... N J

MACHINES—IMPREGNATING

Adamatic Inc Greendale .... Wis
Barrett Co, Leon J Worcester .... Mass
Cooke Vacuum Products Inc South Norwalk .... Conn
Hardman Incorporated Belleville .... N J
High Vacuum Equipment Corp Hingham .... Mass
Hull Corp Hatboro .... Pa
Industrial Refrigeration Co Inc Los Angeles .... Cal
Micafil Ltd c/o Universal Irvington .... N J
Possis Machine Corp Minneapolis .... Minn
Red Point Corp Burbank .... Cal
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Ulvac Corp Tokyo .... Japan
Universal Mfg Co Inc Irvington .... N J
Vactronic Lab Equipment Inc East Northport .... N Y
Zicon Corp Mt Vernon .... N Y

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Barnes Corp Lansdowne .... Pa
D-Vel Research Labs Inc Bedford Hills .... N Y
Ewing Products Inc Burbank .... Cal
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
Harwil Co Santa Monica .... Cal
Heller Industries Inc E Orange .... NJ
Macronetics Inc Semiconductor Tool Div Palo Alto .... Cal
Manger Electric Co Inc Stamford .... Conn
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Monarch Industries Inc El Segundo .... Cal
Pico Crimping Tools Co Santa Fe Springs .... Cal
Product Improvement Corp Santa Ana .... Cal
REM Sales Inc West Hartford .... Conn
Simonds Machine Co Inc Southbridge .... Mass
Technical Devices Co Culver City .... Cal
Western Electronic Products Co San Clemente .... Cal
Wybar Electronics Inc Syracuse .... N Y

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Acromark Co Berkeley Heights .... N J
Apex Machine Co Fort Lauderdale .... Fla
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Black & Webster Inc Waltham .... Mass
Brady Co, W H Milwaukee .... Wis
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Dymo Products Co Berkeley .... Cal
Eastern Marking Machine Corp Island Park .... N Y
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Formulabs Industrial Inks Inc Escondido .... Cal
Gillies Co Inc, Duncan M West Boylston .... Mass
Gorton Machine Corp Racine .... Wis
Halm Instrument Co Inc Glen Head .... N Y
Kimball Systems Div Litton Industries Belleville .... N J
Kingsley Machine Co Hollywood .... Cal
Kuhlmann-Impex, Inc Houston .... Tex
Manger Electric Co Inc Stamford .... Conn
Markem Corp Keene .... NH
Matthews & Co Jas H Pittsburgh .... Pa
Metalphoto Corp Cleveland .... Ohio
New Hermes Engraving Machine Corp New York .... N Y
New Jersey Machine Corp Hoboken .... N J
Noble & Westbrook Div, Bristol Brass Corp East Hartford .... Conn
Numberall Stamp & Tool Co Staten Island .... N Y
Popper & Sons Inc New York .... N Y
Preis Engraving Machine Co, H P Hillside .... N J
Scripta Machine Tool Corp Linden .... N J
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Denton Vacuum Inc Cherry Hill ... N J
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Engineered Technical Products Plainfield ... N J
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GTI Corp Meadville ... Pa
Gyrex Products, Varo Inc Santa Barbara ... Cal
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Hugle Industries Sunnyvale ... Cal
Infra-Red Systems Inc Riverdale ... N J
Interlab Inc Pleasantville ... N Y
Kahle Engineering Co Union City ... N J
K Square Corp Pittsburgh ... Pa
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Leybold-Heraeus, Inc. Monroeville ... Pa
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Mann Co, Henry Cornwell Heights ... Pa
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Speedfam Corp Des Plaines ... Ill
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Timedal Mfg Lab Inc Scotia ... N Y
Transistor Automation A Teledyne Co Woburn ... Mass
Veeco Andar Sub Veeco Palo Alto ... Cal
Veeco Instruments Inc Plainview ... N Y
Vitta Corp Wilton ... Conn
Weldmatic Div Unitek Corp Monrovia ... Cal
Wells Electronics Inc, Weltek Div South Bend ... Ind
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Zicon Corp Mt Vernon ... N Y

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Kimball Systems Div Litton Industries Belleville ... N J
Koppers Co Inc Pittsburgh ... Pa
Kulicke & Soffa Industries Inc Fort Washington ... Pa
Mann Co, Henry Cornwell Heights ... Pa
New Jersey Machine Corp Hoboken ... N J
Schjeldahl Co, G T Northfield ... Minn
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Weldotron Corp Newark ... N J

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Helm Instrument Co Inc Toledo ... Ohio
Hull Corp Hatboro ... Pa
Kerrco Inc Lincoln ... Nebr
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Pasadena Hydraulics Inc So El Monte ... Cal
Polymer Machinery Corp Berlin ... Conn
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Sensi-Tronics Inc Williamsville ... N Y
Slocum Industries Reseda ... Cal
Taylor-Winfield Corp Warren ... Ohio
Wabash Metal Products Co Inc Wabash ... Ind
Witco Chemical Corp Isocyanate Prods Div New Castle ... Del

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Marlane Development Co Inc New York ... N Y
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Alcatel Paris 8eme ... Fran
Barnstead Co Div Sybron Corp Boston ... Ma
Branson Equipment Div Clark ...
Cobehn Inc Fairfield ...
Conrac Corp New York ...
DEA Products Inc Tempe ... A
Dee Electric Co Chicago ...
Electrovert Inc Mt Vernon ...
Etchomatic Inc Waltham ... Ma
Flexible Products Inc Lakeville ... M
General Products Lab Nashua ...
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Interlab Inc Pleasantville ...
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Kressilk Products Inc Elmsford ...
Lear Siegler Inc Santa Monica ...
Lewis Corp Woodbury ... Co
Mann Co, Henry Cornwell Heights ...
Millipore Corp Bedford ... Ma
Multisonic Cleaning Systems Cleveland ... O
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Ramyr Mfg Co Buena Park ...
Sandefur Engineering Co, Inc Lawndale ...
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Barth Corp Cleveland ... O
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General Products Lab Nashua ...
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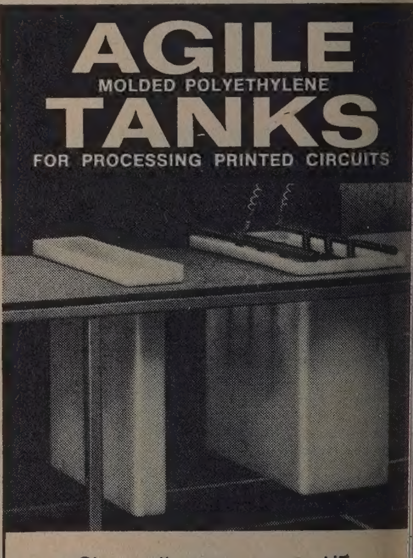
Mann Co, Henry Cornwell Heights ...
MTI- Mechanical Technology Inc Latham ...
Product Improvement Corp Santa Ana ...
Ragen Precision Industries Inc North Arlington ...



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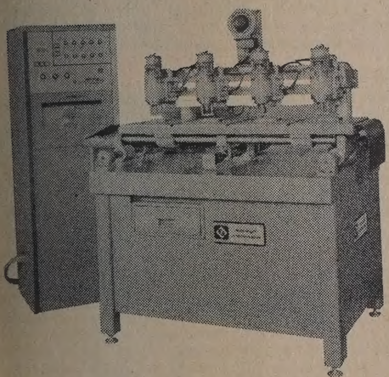

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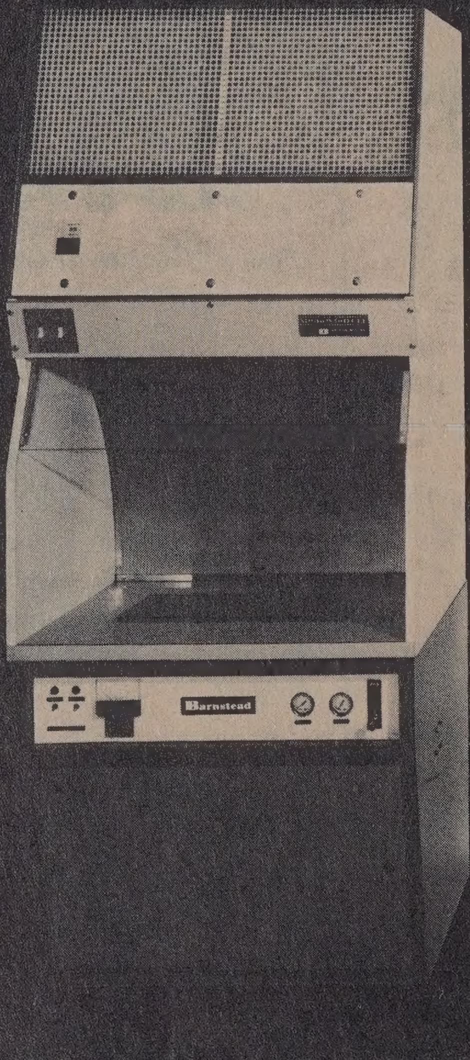

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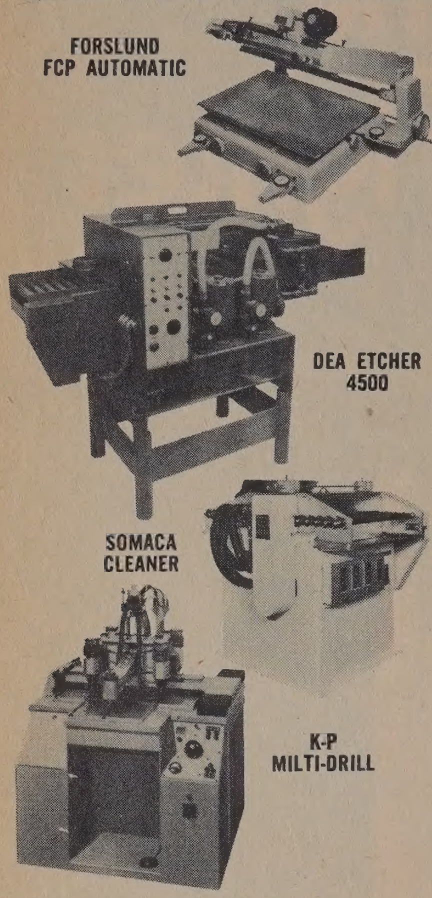

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Kepro Circuit Systems Inc St Louis	Mo
Kressilk Products Inc Elmsford	N Y
Mann Co, Henry Cornwell Heights	Pa
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Cyclo-Tronics, Inc Chicago	Ill
Eastern Marking Machine Corp Island Park	N Y
EPEC Industries Inc New Bedford	Mass
Etchomatic Inc Waltham	Mass
General Products Lab Nashua	N H
Gyrex Products, Varo Inc Santa Barbara	Cal
Infra-Red Systems Inc Riverdale	N J
Kressilk Products Inc Elmsford	N Y
Optomechanisms Inc Plainview	N Y
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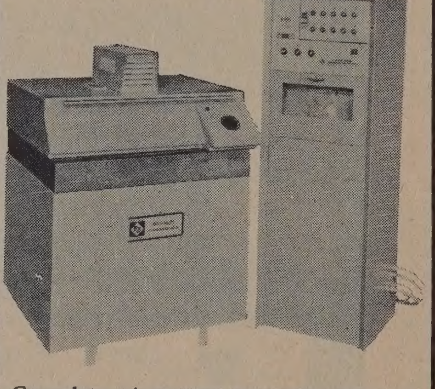

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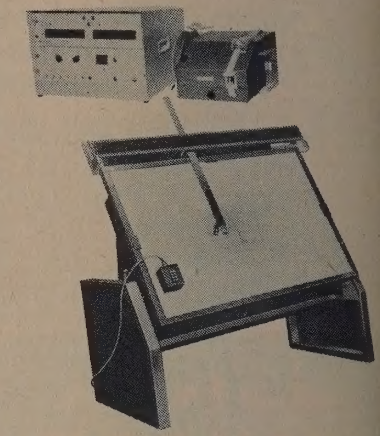

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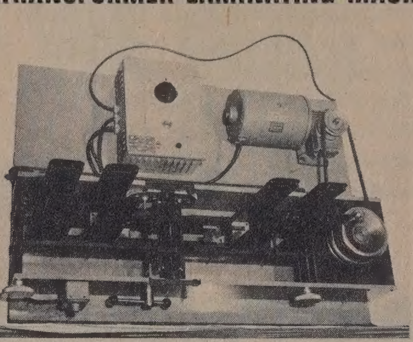

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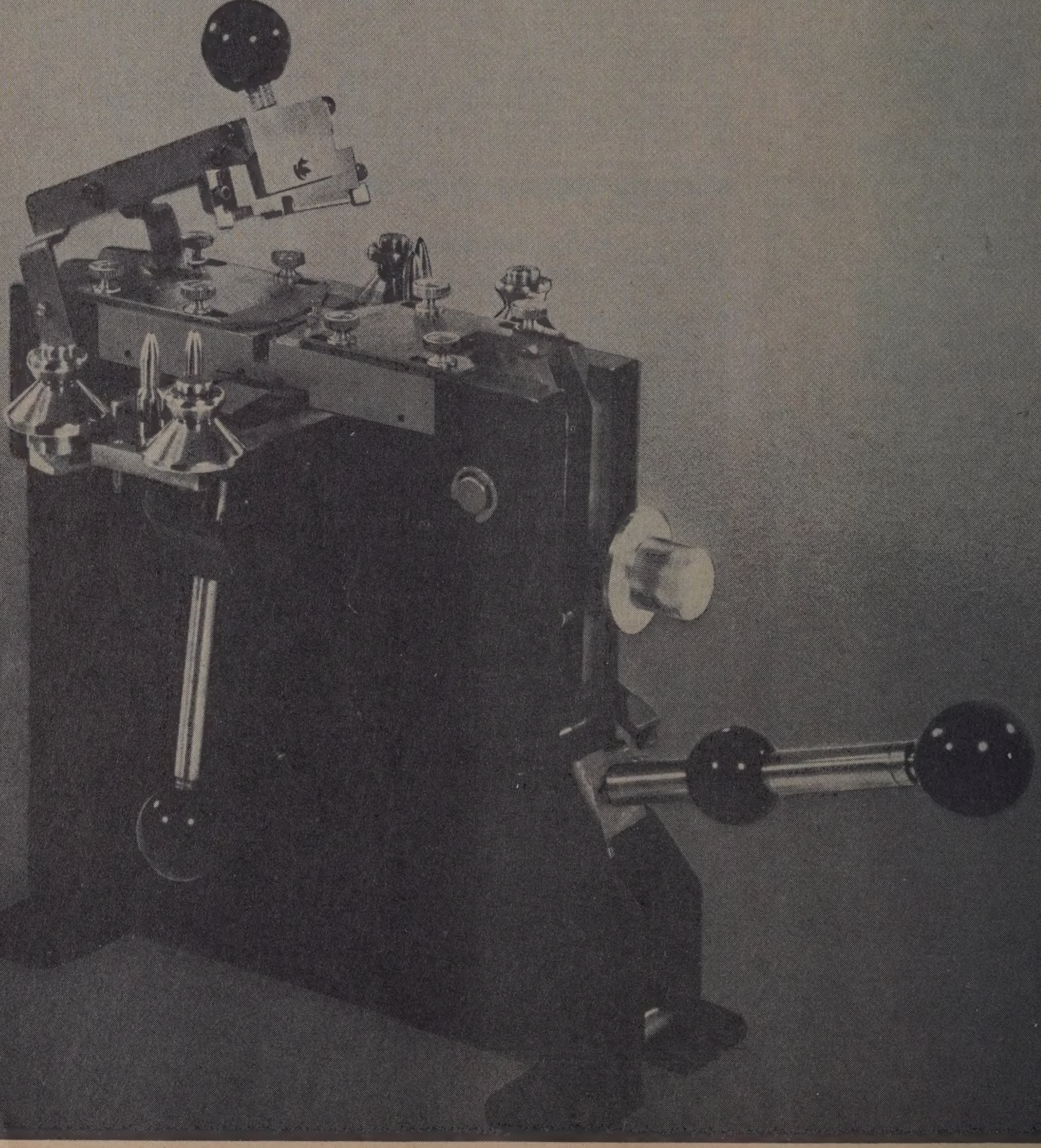

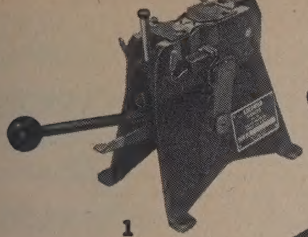
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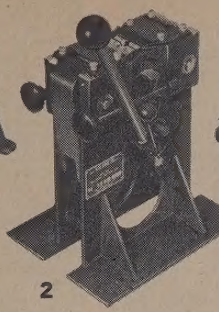
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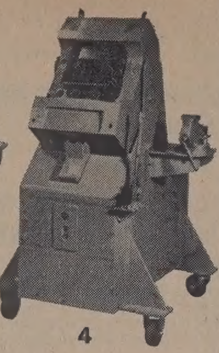
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Kahle Engineering Co Union City	N J
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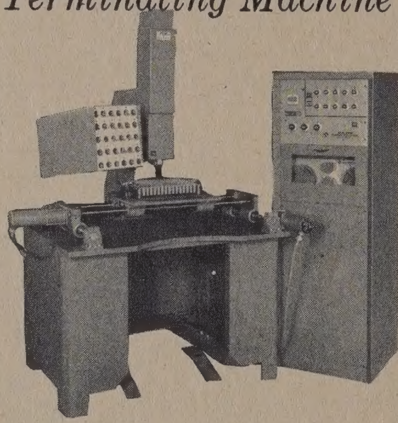

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Mackay Inc, A D New York	N
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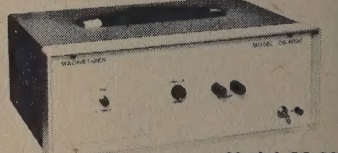

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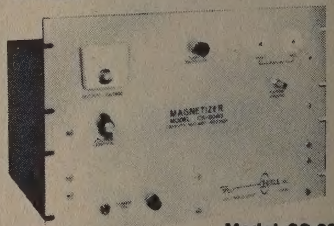

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RFL Industries Inc, Instrumentation Div Boonton ....N J
Shester Engineering Co Inc Culver City ....Cal
Skyway Magnetics Inglewood ....Cal
Thomas & Skinner Inc Indianapolis ....Ind

MAGNETOMETERS

BELL, INC F W COLUMBUS ....OHIO
HEWLETT-PACKARD PALO ALTO ....CAL
American Astrionics Inc Palo Alto ....Cal
Annis Co, R B Indianapolis ....Ind
Automation Industries Inc Matls Evaluation Grp Danbury ....Conn
Barringer Research Ltd Rexdale 605 ....Ont
Bell, Inc F W Columbus ....Ohio
Burroughs Corp, Defense, Space & Spec Sys Group Paoli ..Pa
California Electronic Mfg Co Inc Alamo ....Cal
Central Scientific Co Chicago Ill
Dinsmore Instrument Co Flint ....Mich
Drusch & Co 92 Rueil Malmaison ....France
Electro-Mechanics Co Austin ....Tex
Gammatronix Inc Dublin ....Ohio
Hewlett-Packard Palo Alto ....Cal
Ikor, Inc Burlington ....Mass
Irwin Labs Inc Los Angeles ....Cal
Ohio Semitronics Inc Columbus ....Ohio
Oki Electric Industry Co Ltd Tokyo ....Japan
Philco-Ford Corp Washington ....D C
Princeton Applied Research Corp Princeton ....N J
Rawson-Lush Instrument Co Inc Acton ....Mass
Research Associates Inc Linden ....N J
RFL Industries Inc, Instrumentation Div Boonton ....N J
Schonstedt Instrument Co Reston ....Va
Sharpe Instruments Div Scintrex Inc Tonawanda ....N Y
Sparton Electronics, Div Sparton Corp Jackson ....Mich
States Electronics Corp, Bludworth Marine Div Linden ....N J
Texas Instruments Incorporated Dallas ....Tex
Thomson-CSF 78 Versailles ....France
Varian Palo Alto ....Cal

MAGNETOSTRICTIVE TRANSDUCERS

See **Ultrasonic Equipment**

MAGNETRONS

See **Tubes—Microwave**

MAGNETS—ELECTRO

ARNOLD ENGINEERING CO MARENGO ILL ....ADV PG 196
INDIANA GENERAL CORP MAGNET DIV VALPARAISO ..IND
SYSTRON-DONNER CORP CONCORD ....CAL
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPAN
Ace Coil & Electronics Corp. Metuchen ....N J
Advanced Kinetics, Inc Costa Mesa ....Cal
Alpha Scientific Labs Inc Oakland ....Cal
Arnold Engineering Co Marengo Ill
Atomic Labs, Div Cenco Instr Corp Chicago Ill
Automatic Equipment Corp Cincinnati ....Ohio
Brys Instrument Corp Brooklyn ....N Y
Central Scientific Co Chicago Ill
Coil Co of America Inc Northvale ....N J
Component Specialties Corp Temple City ....Cal
Daylen Co South Gate ....Cal
Drusch & Co 92 Rueil Malmaison ....France
Fleishman Elec Co Div of Signal Trans Co, Inc Brooklyn ...NY
High Voltage Engineering Corp Burlington ....Mass
Houlihan Co, T J Chicago Ill
Indiana General Corp Magnet Div Valparaiso ....Ind
Litton Industries, Electron Tube Div San Carlos ....Cal
Nuclide Corp, AGV Div Acton ....Mass
Ogallala Electronics Mfg Inc Ogallala ....Nebr
Pacific Electric Motor Co Oakland ....Cal
Permanent Magnet Co Inc Indianapolis ....Ind
Physicon Corp Boston ....Mass
Plessey Co Ltd Ilford Essex ....England
Renco Electronics Inc Hicksville ....N Y
Shester Engineering Co Inc Culver City ....Cal
S K G Associates Inc Boston ....Mass
Sunshine Scientific Instruments Inc Philadelphia ....Pa
Systron-Donner Corp Concord ....Cal
Tekelec-Airtronic SA Sevres 92 ....France
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo ....Japan
Universal Toroid Coil Winding Inc Irvington ....NJ
Varian Palo Alto ....Cal
Ventron Instruments Corp Magnion Div Burlington ....Mass
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh ...Pa

Fast acting.

The Electronics Buyers' Guide can get you on the right frequency in a hurry. For example, there are 14 different kinds of oscillators listed. Everything from AF oscillators to voltage controlled crystal oscillators. There are three sections in your EBG, devoted to products, manufacturers and trade names. So see your fast-acting EBG.

Electronics Buyers' Guide

MAGNETS, PERMANENT—ALNICO POWDER

ARNOLD ENGINEERING CO MARENGO ILL ....ADV PG 196
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV PG 7
INDIANA GENERAL CORP MAGNET DIV VALPARAISO ..IND
PERMAG CORP JAMAICA ....N Y
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPAN
Arnold Engineering Co Marengo Ill
Automatic Equipment Corp Cincinnati ....Ohio
Bram Metallurgical Chemical Co Philadelphia ....Pa
Colt Industries Inc, Crucible Inc Pittsburgh ....Pa
Dura Magnetics, Inc Sylvania ....Ohio
General Electric Co, ECSO Schenectady ....N Y
Hitachi Metals Ltd Tokyo ....Japan
Indiana General Corp Magnet Div Valparaiso ....Ind
Mullard Ltd London, WC 1 ....Eng
Nuclide Corp, AGV Div Acton ....Mass
Permag Corp Jamaica ....N Y
Permanent Magnet Co Inc Indianapolis ....Ind
Plessey Co Ltd Ilford Essex ....England
Roxter Corp Long Island City ....N Y
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo ....Japan

MAGNETS, PERMANENT—ALLOYS (EXCEPT ALNICO)

ARNOLD ENGINEERING CO MARENGO ILL ....ADV PG 196
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV PG 7
INDIANA GENERAL CORP MAGNET DIV VALPARAISO ..IND
PERMAG CORP JAMAICA ....N Y
SUMITOMO SPECIAL METALS CO LTD OSAKA JAPAN ....ADV PG 348
Aristo-Craft Distinctive Miniatures New York ....N Y
Arnold Engineering Co Marengo Ill
Automatic Equipment Corp Cincinnati ....Ohio
Barker Sales Co Ridgefield ....NJ
Bram Metallurgical Chemical Co Philadelphia ....Pa
Colt Industries Inc, Crucible Inc Pittsburgh ....Pa
Dura Magnetics, Inc Sylvania ....Ohio
Electronic Applications Co Pine Brook ....N J
Ferricore Div Natl Moldite Co Inc Newark ....N J
General Electric Co, ECSO Schenectady ....N Y
General Electric Co Magnetic Matls Bus Sect Edmore ...Mich
Hitachi Metals Ltd Tokyo ....Japan
Hoskins Mfg Co Detroit ....Mich
Indiana General Corp Magnet Div Valparaiso ....Ind
Magno-Ceram Co Plainfield ....N J
Mullard Ltd London, WC 1 ....Eng
National Moldite Co Inc Newark ....N J
Nuclide Corp, AGV Div Acton ....Mass

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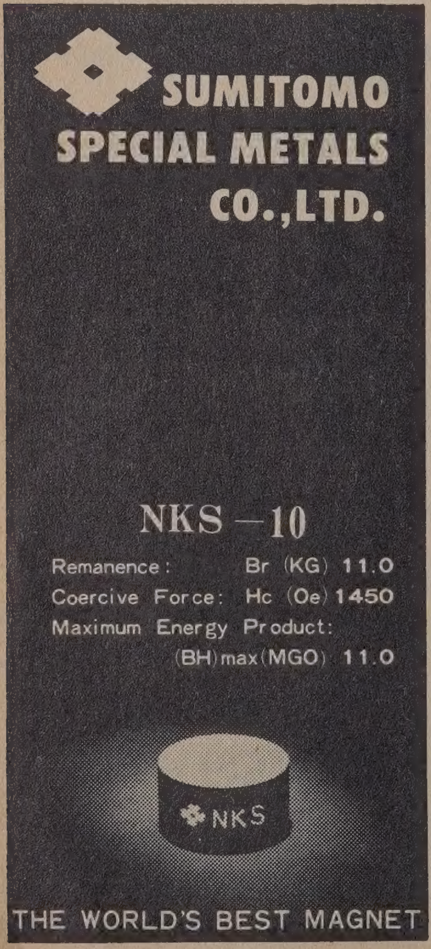
PERMAG CENTRAL CORP. 1213 ESTES AVE., ELK GROVE VILLAGE, ILL. 60007 • (312) 956-1140
PERMAG MAGNETICS CORP. (formerly EMPIRE MAGNETICS) 3130 SOUTH AVE., TOLEDO, OHIO 43609 • (419) 385-4621
PERMAG NORTHEAST CORP. 50 THAYER ROAD, WALTHAM, MASSACHUSETTS 02154 • (617) 484-0550
PERMAG CORP. 88-06 VAN WYCK EXPRESSWAY, JAMAICA, N.Y. 11418 • (212) 657-1818 • TWX [710] 582-2952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Remanence: Br (KG) 11.0
Coercive Force: Hc (Oe) 1450
Maximum Energy Product: (BH)max (MGO) 11.0

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Permag Corp Jamaica . . . . N Y
Permanent Magnet Co Inc Indianapolis . . . . Ind
Sumitomo Special Metals Co Ltd Osaka . . . . Japan
Thomas & Skinner Inc Indianapolis . . . . Ind

MAGNETS, PERMANENT—BARIUM FERRITE POWDER

ARNOLD ENGINEERING CO MARENGO ILL . . . . ADV PG 196
INDIANA GENERAL CORP MAGNET DIV VALPARAISO . . IND
PERMAG CORP JAMAICA . . . . N Y
STACKPOLE CARBON CO, ELECTRONIC COMPONENTS DIV ST MARYS . . . . PA
SUMITOMO SPECIAL METALS CO LTD OSAKA . . . . JAPAN
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPAN
Aristo-Craft Distinctive Miniatures New York . . . . N Y
Arnold Engineering Co Marengo Ill
Automatic Equipment Corp Cincinnati . . . . Ohio
Colt Industries Inc, Crucible Inc Pittsburgh . . . . Pa
Commander Labs Inc Escondido . . . . Cal
Dura Magnetics, Inc Sylvania . . . . Ohio
Electro-Mechanics Co Austin . . . . Tex
Ferricore Div Natl Moldite Co Inc Newark . . . . N J
Ferroxcube Corp Saugerties . . . . N Y
General Magnetic Corp Detroit . . . . Mich
General Tire & Rubber Co Akron . . . . Ohio
Hitachi Metals Ltd Tokyo . . . . Japan
Indiana General Corp Magnet Div Valparaiso . . . . Ind
La Radiotechnique Compelec Paris 11e . . . . France
Magno-Ceram Co Plainfield . . . . N J
3 M Co DM&S Div Cincinnati . . . . Ohio
Mullard Ltd London, WC 1 . . . . Eng
National Moldite Co Inc Newark . . . . N J
Nippon Ferrite Industrial Co Ltd Tokyo . . . . Japan
Permag Corp Jamaica . . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Stackpole Carbon Co, Electronic Components Div St Marys . . . . Pa
Sumitomo Special Metals Co Ltd Osaka . . . . Japan
Taiyo Yuden Co Ltd Chiyoda-ku, Tokyo . . . . Japan
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo . . . . Japan

MAGNETS, PERMANENT—CERAMIC (FERRITE)

ARNOLD ENGINEERING CO MARENGO ILL . . . . ADV PG 196
INDIANA GENERAL CORP MAGNET DIV VALPARAISO IND . . . . ADV PG 348
PERMAG CORP JAMAICA . . . . N Y
STACKPOLE CARBON CO, ELECTRONIC COMPONENTS DIV ST MARYS . . . . PA
SUMITOMO SPECIAL METALS CO LTD OSAKA . . . . JAPAN
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO . . . JAPAN
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPAN

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Ceramic:
Indox® 1, 2, 3, 4, 5, 6, 7

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INDIANA GENERAL

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n-Bradley Co Milwaukee	Wis
old Engineering Co Marengo	Ill
omatic Equipment Corp Cincinnati	Ohio
amic Magnetics Inc Fairfield	N J
Industries Inc, Crucible Inc Pittsburgh	Pa
mander Labs Inc Escondido	Cal
tom Components Inc Caldwell	N J
a Magnetics, Inc Sylvania	Ohio
tro-Mechanics Co Austin	Tex
icore Div Natl Moldite Co Inc Newark	N J
roxcube Corp Saugerties	N Y
eral Electric Co Magnetic Matls Bus Sect Edmore	Mich
eral Magnetic Corp Detroit	Mich
chi Metals Ltd Tokyo	Japan
ana General Corp Magnet Div Valparaiso	Ind
e Engineering Co Ltd Scarborough	Ont
Radiotechnique Compelec Paris 11e	France
gno-Ceram Co Plainfield	N J
lard Ltd London, WC 1	Eng
ional Moldite Co Inc Newark	N J
pon Ferrite Industrial Co Ltd Tokyo	Japan
mag Corp Jamaica	N Y
manent Magnet Co Inc Indianapolis	Ind
ssey Co Ltd Ilford Essex	England
artzite Processing, Inc Malden	Mass
ckpole Carbon Co, Electronic Components Div t Marys	Pa
ward Mfg Co, D M Chattanooga	Tenn
nitomo Special Metals Co Ltd Osaka	Japan
K Electronics Co Ltd Chiyoda-ku, Tokyo	Japan
mas & Skinner Inc Indianapolis	Ind
oku Metal Industries, Ltd Chuo-Ku Tokyo	Japan

AGNETS, PERMANENT—FINISHED LNICO (INCL. FOCUS, ION TRAP, MAGNETRON, METER & SPEAKER FIELD)

NOLD ENGINEERING CO MARENGO ILL	**ADV PG 196**
NERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
DIANA GENERAL CORP MAGNET DIV VALPARAISO	**IND**
RMAG CORP JAMAICA N Y	**ADV PG 348**
MITOMO SPECIAL METALS CO LTD OSAKA	**JAPAN**
HOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO	**JAPAN**
nold Engineering Co Marengo	Ill
tomatic Equipment Corp Cincinnati	Ohio
rker Sales Co Ridgefield	NJ
t Industries Inc, Crucible Inc Pittsburgh	Pa
ra Magnetics, Inc Sylvania	Ohio
neral Electric Co, ECSO Schenectady	N Y
neral Electric Co Magnetic Matls Bus Sect Edmore	Mich
achi Metals Ltd Tokyo	Japan
diana General Corp Magnet Div Valparaiso	Ind
llard Ltd London, WC 1	Eng
rmag Corp Jamaica	N Y
rmanent Magnet Co Inc Indianapolis	Ind
hwalm Electronics Inc Highland Park	Ill
mitomo Special Metals Co Ltd Osaka	Japan
omas & Skinner Inc Indianapolis	Ind
hoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan
estinghouse Elec. Corp., Specialty Metals Div Blairsville	Pa

IAGNETS, PERMANENT—FINISHED MAGNETS, OTHER ALLOYS

RNOLD ENGINEERING CO MARENGO ILL	**ADV PG 196**
ENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
DIANA GENERAL CORP MAGNET DIV VALPARAISO	**IND**
RMAG CORP JAMAICA	**N Y**
JMITOMO SPECIAL METALS CO LTD OSAKA	**JAPAN**
HOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO	**JAPAN**
rnold Engineering Co Marengo	Ill
utomatic Equipment Corp Cincinnati	Ohio
olt Industries Inc, Crucible Inc Pittsburgh	Pa
ura Magnetics, Inc Sylvania	Ohio
ectronic Applications Co Pine Brook	N J
ngelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
erricore Div Natl Moldite Co Inc Newark	N J
eneral Electric Co, ECSO Schenectady	N Y
eneral Electric Co Magnetic Matls Bus Sect Edmore	Mich
eneral Hardware Mfg Co Inc New York	N Y
amilton Precision Metals Div Hamilton Watch Co Lancaster	Pa
itachi Metals Ltd Tokyo	Japan
oskins Mfg Co Detroit	Mich
ndiana General Corp Magnet Div Valparaiso	Ind
elco S p A Tavernerio	Italy
lagno-Ceram Co Plainfield	N J
M Co DM&S Div Cincinnati	Ohio
lullard Ltd London, WC 1	Eng
ational Moldite Co Inc Newark	N J
uclide Corp, AGV Div Acton	Mass
ermag Corp Jamaica	N Y
ermanent Magnet Co Inc Indianapolis	Ind
lessey Co Ltd Ilford Essex	England
umitomo Special Metals Co Ltd Osaka	Japan
homas & Skinner Inc Indianapolis	Ind
ohoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan

MAGNIFIERS—ILLUMINATED

brax Instrument Corp Jamaica	N Y
ausch & Lomb Inc Rochester	N Y
uhl Optical Co Pittsburgh	Pa
ole-Parmer Instrument Co Chicago	Ill
azor Mfg Corp St Louis	Mo
oAll Co Des Plaines	Ill
Edmund Scientific Co Barrington	N J
Ednalite Corp Peekskill	N Y
Edroy Products Co, Magni Focuser Div New York	N Y
Ehrenreich Photo Optical Ind Inc Instr Div Garden City	NY
General Hardware Mfg Co Inc New York	N Y
Glidelite Industries Inc Hackensack	N J
Hammel, Riglander & Co Inc New York	N Y
Janel Inc Stirling	N J
Luxo Lamp Corp Port Chester	N Y
Mann Co, Henry Cornwell Heights	Pa
Nikon Inc Instrument Div Garden City	N Y
Pike & Co Inc, E W Elizabeth	N J
Roxter Corp Long Island City	N Y
Sandefur Engineering Co, Inc Lawndale	Cal
Scherr Tumico Inc St James	Minn
Stocker & Yale Inc Beverly	Mass
Strat-O-Seal Mfg Co Chicago	Ill
White Co, O C Worcester	Mass
Zeiss Inc, Carl New York	N Y

MANGANESE

American Potash & Chemical Corp Los Angeles	Cal
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights	NY
Bram Metallurgical Chemical Co Philadelphia	Pa
Cerac Inc Butler	Wis
City Chemical Corp New York	N Y
Electronic Space Products Inc Los Angeles	Cal
Foote Mineral Co Exton	Pa
Glidden Metals, SCM Corp Cleveland	Ohio
Koch Light Labs Ltd Colnbrook, Bucks	England
Mackay Inc, A D New York	N Y
Mallinckrodt Chemical Works St Louis	Mo
Metal Ceram Inc Mount Vernon	N Y
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Shieldalloy Corp Newfield	N J
Union Carbide Corp, Mining & Metals Div New York	N Y
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J

MARINE ANTENNAS

***See* Antennas—Marine**

MARINE RADIOTELEPHONE SYSTEMS

***See* Communication Systems**

MARINE RECEIVERS

***See* Receivers—Radio Communication**

MARINE TRANSMITTERS

***See* Transmitters—Radio Communication**

MARKERS—FREQUENCY

***See* Generators—Signal**

MARKER SIGNAL GENERATORS

***See* Generators—Signal**

MARKERS—LUMINOUS

BRADY CO, W H MILWAUKEE	**WIS**
ELCO CORP WILLOW GROVE	**PA**
Bell-Mark Corp Bloomfield	N J
Brady Co, W H Milwaukee	Wis
Canrad Precision Industries Inc New York	N Y
Elco Corp Willow Grove	Pa
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
Markal Co Chicago	Ill
3M Company St Paul	Minn
Morgan Adhesives Co Stow	Ohio
Seton Name Plate Corp New Haven	Conn
Shannon Luminous Materials Co Hollywood	Cal
Stafford Mfg Co Inc Brooklyn	N Y
Ultra-Violet Products Inc San Gabriel	Cal
United States Radium Corp Morristown	N J
Westline Products Los Angeles	Cal

MARKING INKS

***See* Inks**

MARKING MACHINES

***See* Machines—Marking**

MARKING STAMPS

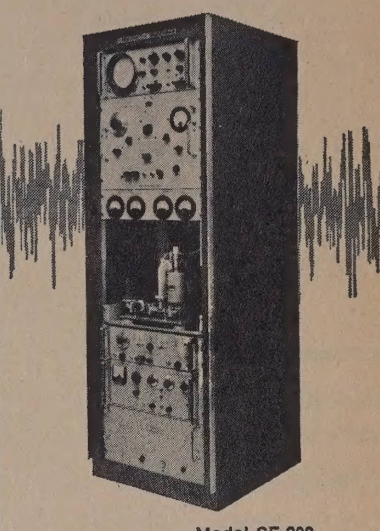
***See* Stamps—Marking**

MASERS

***See* Amplifiers—Microwave**

MASS SPECTROMETERS

***See* Spectrometers**



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MASTS—ANTENNA

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Andrew Corp Orland Park Ill
Antenna Products Co Div Communications Rsch Co Austin . Tex
Birdair Structures Inc Buffalo . . . . NY
Borders Electronics Co Inc Medford . . . . NJ
Brooks & Perkins Inc Detroit . . . . Mich
Craig Systems Corp Lawrence . . . . Mass
Dale Electronics Inc Columbus . . . . Neb
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Electro-Mechanics Co Austin . . . . Tex
Electronics Communications Div Atlantic Research Corp Alexandria . . . . Va
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
G C Electronics Div, Hydrometals Inc Rockford Ill
Goodyear Aerospace Corp Akron . . . . Ohio
Hi-Lo Mfg Corp Chicago Ill
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kidde & Co Inc, Walter Belleville . . . . N J
Marconi Co Ltd Chelmsford . . . . England
Parker Metal Goods Co Worcester . . . . Mass
R F Systems Inc Cohasset . . . . Mass
RMS Electronics Inc Bronx . . . . N Y
Rohn Mfg Co Peoria Ill
Simpson Electronics, Inc Miami . . . . Fla
Tricraft Products Corp Chicago Ill

MASTS

***See* Antenna Towers**

MATCHING NETWORKS

***See* Networks**

MATERIALS—PERFORATED

Anchor Alloys Inc Brooklyn . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Chase Metals Service Div Chase Brass & Copper Co Cleveland . . . . Ohio
Impectron Inc New York . . . . N Y
Kepro Circuit Systems Inc St Louis . . . . Mo
Metal Ceram Inc Mount Vernon . . . . N Y
Mundt & Sons, Charles Jersey City . . . . N J
Roosevelt Metal Co Inc Brooklyn . . . . N Y
Ryerson & Son Inc, J T Chicago Ill
Semi-Alloys Inc Mt Vernon . . . . N Y
Shamban & Co, W S Los Angeles . . . . Cal
United American Metals Div Brooklyn . . . . N Y
Vector Electronic Co Inc Sylmar . . . . Cal

MEASURING INSTRUMENTS—MICROWAVE, NOISE

HEWLETT-PACKARD PALO ALTO . . . . CAL
SPECTRA-ELECTRONICS INC MOUNTAIN VIEW CAL . . . . ADV PG 349
SYSTRON-DONNER CORP CONCORD . . . . CAL
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . . N Y
Electro-Metrics Corp Sub Fairchild Cam & Instr Corp Amsterdam . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Hewlett-Packard Palo Alto . . . . Cal
International Microwave Corp Cos Cob . . . . Conn
Kay Electric Co Pine Brook . . . . N J
Milletron, Inc Pittsburgh . . . . Pa
Narda Microwave Corp Plainview . . . . N Y
Northeast Electronics Corp Concord . . . . N H
Philco-Ford Corp Washington . . . . D C
Philips Electronic Instruments, Test & Measuring Inst Mount Vernon . . . . NY
Sierra Research Corp Buffalo . . . . N Y
Spectra-Electronics Inc Mountain View . . . . Cal
Systron-Donner Corp Concord . . . . Cal

MEASURING SETS—TRANSMISSION

HEWLETT-PACKARD PALO ALTO . . . . CAL
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
SIEMENS AMERICA INC NEW YORK . . . . N Y
Acton Laboratories Inc Acton . . . . Mass
Alcatel Paris 8eme . . . . France
Alford Mfg Co Winchester . . . . Mass
Daven Div McGraw-Edison Co Manchester . . . . N H
General Thermodynamics Corp North Wilmington . . . . . . Mass
Hewlett-Packard Palo Alto . . . . Cal
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Lab Electro-Acoustique 92 Rueil-Malmaison . . . . France
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . Cal
Measurement Technology Corp Canoga Park . . . . Cal
Montedoro Corp San Luis Obispo . . . . Cal
Narda Microwave Corp Plainview . . . . N Y
Northeast Electronics Corp Concord . . . . N H
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Phelps Dodge Communications Co North Haven . . . . Conn
Philco-Ford Corp Washington . . . . D C
Rantec Div Emerson Electric Co Calabasas . . . . Cal
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Siemens America Inc New York . . . . N Y
United Recording Electronics Industries North Hollywood . . Cal
Vitro Labs Div Vitro Corp of America W Orange . . . . N J
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
Waveforms North Hollywood . . . . Cal

MECHANICAL COUNTERS

***See* Counters—Mechanical**

MECHANICAL FILTERS

***See* Filters**

MECHANICAL RECORDERS

***See* Recorders—Mechanical**

MEDICAL TV

***See* TV Systems—CC**

MEGOHMMETERS

***See* Ohmmeters**

MELAMINE FORMALDEHYDE

***See* Plastics**

MELAMINE LAMINATES

***See* Laminates—Copper-Clad**

MEMORIES, COMPUTER—DELAY LINE

BEL FUSE, INC JERSEY CITY . . . . N J
MICROSONICS DIV WEYMOUTH . . . . MASS
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
American Astrionics Inc Palo Alto . . . . Cal
American Micro-Systems, Inc Santa Clara . . . . Cal
Andersen Laboratories, Inc Bloomfield . . . . Conn
Bel Fuse, Inc Jersey City . . . . N J
Bliley Electric Co Erie . . . . Pa
Computer Devices Corp Commack . . . . N Y
Control Electronics Co Inc Farmingdale . . . . N Y
Corning Glass Works Corning . . . . N Y
Ferroxcube Corp Saugerties . . . . N Y
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
General Instrument Europe SPA Milano . . . . Italy
Logic Corp Haddonfield . . . . N J
Magne-Head Div, Gen Instrument Corp Hawthorne . . . . Cal
Microsonics Div Weymouth . . . . Mass
National Semiconductor Corp Santa Clara . . . . Cal
Nippon Electric Co Ltd Tokyo . . . . Japan
Profile Electronics Inc Concord . . . . N H
Standard Memories Inc Sherman Oaks . . . . Cal
TRW Systems Group Redondo Beach . . . . Cal
Tyco Labs, Digital Devices Div. Syosset . . . . N Y
Universal Ad-Yu Electronics Inc Passaic . . . . N J

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C & K COMPONENTS INC WATERTOWN . . . . MASS
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
American Micro-Systems, Inc Santa Clara . . . . Cal
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . Pa
C & K Components Inc Watertown . . . . Mass
Di/An Controls Inc Boston . . . . Mass
Memory Technology Inc Waltham . . . . Mass
Nippon Electric Co Ltd Tokyo . . . . Japan
Standard Memories Inc Sherman Oaks . . . . Cal
Vitra Instrument & Electronics Corp Syosset . . . . N Y

MEMORIES, COMPUTER—DISK

IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK . . NY
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Acroscope Engineering Inc Los Angeles . . . . Cal
Applied Magnetics Corp, Computer Memories Div Goleta . . Cal
Bruce Industries Inc Gardena . . . . Cal
Bryant Computer Products Walled Lake . . . . Mich
Burroughs Corp Component Sales Dept Los Angeles . . . . . . Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . Pa
Burton Magnekote Culver City . . . . Cal
Caelus Memories Inc San Jose . . . . Cal
Data Disc Inc Computer Products Div Palo Alto . . . . Cal
Data Disc Inc, Display Div Palo Alto . . . . Cal
Data Memory Inc Mountain View . . . . Cal
Data Products Corp Woodland Hills . . . . Cal
Digital Development Corp San Diego . . . . Cal
Electron-Ohio Inc Cleveland . . . . Ohio
Friden Div Singer Co San Leandro . . . . Cal
Fujitsu Ltd Tokyo . . . . Japan
General Electric Co, Information Devices Dept. Oklahoma City . . . . Okla
General Electric Co Info Sys Equip Div Phoenix . . . . Ariz
Honeywell EDP Div Wellesley Hills . . . . Mass
IBM, Industrial Products Marketing New York . . . . NY
IBM Data Processing Div White Plains . . . . N Y
InformationData Systems Inc Detroit . . . . Mich
Librascope Singer-General Precision Inc Glendale . . . . Cal
MacPanel Co, Magnetic Prods Div High Point . . . . NC
Magne-Head Div, Gen Instrument Corp Hawthorne . . . . . . Cal
Memorex Corp Santa Clara . . . . Cal
Nippon Electric Co Ltd Tokyo . . . . Japan
Optimized Devices, Inc Pleasantville . . . . N Y
Potter Instrument Co, Inc Plainview . . . . N Y
Scientific Data Systems Inc El Segundo . . . . Cal
Thermionic Products Electronics Ltd Southampton . . . England
U S Magnetic Tape Co Huntley Ill

MEMORIES, COMPUTER—FERRITE, CORE PLANE

INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY . . . . N
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPA
POLY SCIENTIFIC DIV LITTON INDUSTRIES BLACKSBURG V
SIEMENS AMERICA INC NEW YORK . . . . N
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO JAPAN . . . . ADV PG 1
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPA
Ampex Corp Redwood City C
Amtron Inc Sub Republic Corp Midlothian . . . .
Analog Technology Corp Pasadena C
Borders Electronics Co Inc Medford . . . . N
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . . P
Burroughs Corp Electronic Components Div Plainfield . . . . N
Datacraft Corp Fort Lauderdale . . . . F
Data Products Corp Woodland Hills C
Data-Ram Corp Princeton . . . . N
Di/An Controls Inc Boston . . . . Ma
Digital Equipment Corp Maynard . . . . Ma
Electronic Engineering Co of Cal Santa Ana C
Electronic Memories Inc Hawthorne C
Fabri-Tek Inc Minneapolis . . . . Mi
Ferroxcube Corp Saugerties . . . . N
Fuji Electrochemical Co Ltd Tokyo . . . . Jap
General Dynamics, Electronics Div Rochester . . . . N
Goodyear Aerospace Corp Akron . . . . O
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Jap
Honeywell Inc, Computer Control Div Framingham . . . . . Ma
IBM Data Processing Div White Plains . . . . N
Indiana General Corp Electronics Div/Ferrites Keasbey . . . N
Information Control Corp El Segundo C
Kicksort, Inc Alsip . . . .
La Radiotechnique Compelec Paris 11e . . . . Fran
Litton Industries, Guidance & Controls Sys Div Woodland Hills C
Lockheed Electronics Co Plainfield . . . . N
Lockheed Electronics Co Data Prods Div Los Angeles C
Memory Technology Inc Waltham . . . . Ma
Mullard Ltd London, WC 1 . . . . E
Nippon Electric Co Ltd Tokyo . . . . Jap
Oki Electric Industry Co Ltd Tokyo . . . . Jap
Plessey Co Ltd Ilford Essex . . . . Engla
Plessey Electronics Corp Farmingdale . . . . N
Poly Scientific Div Litton Industries Blacksburg . . . .
Quartzite Processing, Inc Malden . . . . Ma
Radio Corp of America, Electronic Components Harrison . . N
Raytheon Computer Santa Ana C
RCA, Defense Electronic Products Moorestown . . . . N
Redcor Corp Canoga Park C
Siemens America Inc New York . . . . N
Space & Tactical Systems Corp Burlington . . . . Ma
Standard Memories Inc Sherman Oaks C
TDK Electronics Co Ltd Chiyoda-ku, Tokyo . . . . Jap
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo . . . . Jap
United Telecontrol Electronics Inc Asbury Park . . . . N
Varian Data Machines Irvine C

MEMORIES, COMPUTER—FERRITE, MULTI-APERTURE

INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY . . . .
NIPPON ELECTRIC CO LTD TOKYO . . . . JAP
SIEMENS AMERICA INC NEW YORK . . . .
Borders Electronics Co Inc Medford . . . .
Burroughs Corp, Defense, Space & Spec Sys Group Paoli . .
Data Products Corp Woodland Hills . . . .
Di/An Controls Inc Boston . . . . M
Electronic Memories Inc Hawthorne . . . .
Ferroxcube Corp Saugerties . . . .
Goodyear Aerospace Corp Akron . . . .
Indiana General Corp Electronics Div/Ferrites Keasbey . . .
Intertechnique Plaisir 78 . . . . Fra
Litton Industries, Guidance & Controls Sys Div Woodland Hills . . . .
Lockheed Electronics Co Plainfield . . . .
Lockheed Electronics Co Data Prods Div Los Angeles . . . .
Memory Technology Inc Waltham . . . . M
Mullard Ltd London, WC 1 . . . .
Nippon Electric Co Ltd Tokyo . . . . Ja
Quartzite Processing, Inc Malden . . . . M
Radio Corp of America, Electronic Components Harrison . .
Raytheon Computer Santa Ana . . . .
RCA, Defense Electronic Products Moorestown . . . .
Sanders Associates, Inc Nashua . . . .
Siemens America Inc New York . . . .
Standard Memories Inc Sherman Oaks . . . .

MEMORIES, COMPUTER—MAGNETIC DRUM

KENTON ENGINEERING CORP SKOKIE . . . .
NIPPON ELECTRIC CO LTD TOKYO . . . . JA
Applied Magnetics Corp, Computer Memories Div Goleta .
Autonetics Div North American Rockwell Corp Anaheim . .
Bryant Computer Products Walled Lake . . . .
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .
Burton Magnekote Culver City . . . .
Digital Development Corp San Diego . . . .
Digital Equipment Corp Maynard . . . .
Electron-Ohio Inc Cleveland . . . .
Fairchild Industries, Jerry Pasadena . . . .
Fujitsu Ltd Tokyo . . . . J
General Instrument Europe SPA Milano . . . .
Honeywell EDP Div Wellesley Hills . . . .
IBM Data Processing Div White Plains . . . .
InformationData Systems Inc Detroit . . . .
Kenton Engineering Corp Skokie . . . .

n Industries, Guidance & Controls Sys Div oodland Hills .... Cal
ie-Head Div, Gen Instrument Corp Hawthorne .... Cal
on Electric Co Ltd Tokyo .... Japan
Defense Electronic Products Moorestown .... N J
itific Data Systems Inc El Segundo .... Cal

MORIES, COMPUTER—MAGNETIC APE

LETT-PACKARD PALO ALTO .... CAL
LOGIC CORP PASADENA .... CAL
ON ELECTRIC CO LTD TOKYO .... JAPAN
nd Instruments Co Covina .... Cal
ex Corp Redwood City .... Cal
& Howell Co, Elctn Instr Grp Pasadena .... Cal
oughs Corp Component Sales Dept Los Angeles .... Cal
oughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
Products Corp Woodland Hills .... Cal
al Equipment Corp Maynard .... Mass
tron-Chio Inc Cleveland .... Ohio
su Ltd Tokyo .... Japan
ral Electric Co, Information Devices Dept. lahoma City .... Okla
ral Electric Co Info Sys Equip Div Phoenix .... Ariz
ett-Packard Palo Alto .... Cal
nelstein & Co, S Elk Grove Village Ill
ywell EDP Div Wellesley Hills .... Mass
Corp White Plains .... N Y
Data Processing Div White Plains .... N Y
nedy Co Altadena .... Cal
logic Corp Pasadena .... Cal
Panel Co, Magnetic Prods Div High Point .... NC
on Electric Co Ltd Tokyo .... Japan
er Instrument Co, Inc Plainview .... N Y
nond Engineering Inc Middletown .... Conn
, Defense Electronic Products Moorestown .... N J
rding Designs Ltd Camberley Surrey .... England
ntific Data Systems Inc El Segundo .... Cal
ania Electronic Systems Waltham .... Mass
ctro Systems Corp Corona .... N Y
rmionic Products Electronics Ltd Southampton .... England
Magnetic Tape Co Huntley Ill
ek, Inc Wilton .... Conn

EMORIES, COMPUTER—PUNCHED APER TAPE

ASCAN INC CLIFTON .... N J
PON ELECTRIC CO LTD TOKYO .... JAPAN
roughs Corp Component Sales Dept Los Angeles .... Cal
roughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
necticut Technical Corp Hartford .... Conn
ascan Inc Clifton .... N J
eral Electric Co, Information Devices Dept. klahoma City .... Okla
eral Electric Co Info Sys Equip Div Phoenix .... Ariz
eywell EDP Div Wellesley Hills .... Mass
S Ohr-Tronics Montvale .... N J
ro Metrics Inc Paterson .... N J
pon Electric Co Ltd Tokyo .... Japan
nex Electronics Hawthorne .... Cal
entific Data Systems Inc El Segundo .... Cal

EMORIES, COMPUTER—THIN FILM

PON ELECTRIC CO LTD TOKYO .... JAPAN
IOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO .... JAPAN
oscope Engineering Inc Los Angeles .... Cal
erican Astrionics Inc Palo Alto .... Cal
roughs Corp, Defense, Space & Spec Sys Group Paoli .... Pa
roughs Corp Electronic Components Div Plainfield .... N J
ton Magnekote Culver City .... Cal
ergy Conversion Devices Inc Troy .... Mich
xible Circuits Inc Warrington .... Pa
neral Dynamics, Electronics Div Rochester .... N Y
odyear Aerospace Corp Akron .... Ohio
oridyne Inc Los Angeles .... Cal
ton Industries, Guidance & Controls Sys Div Voodland Hills .... Cal
llard Ltd London, WC 1 .... Eng
pon Electric Co Ltd Tokyo .... Japan
ssey Co Ltd Ilford Essex .... England
andard Memories Inc Sherman Oaks .... Cal
xas Instruments Incorporated Dallas .... Tex
noku Metal Industries, Ltd Chuo-Ku Tokyo .... Japan
ko Inc Ohta-ku Tokyo .... Japan

EMORIES, COMPUTER—TWISTOR

HOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO .... JAPAN
andard Memories Inc Sherman Oaks .... Cal
hoku Metal Industries, Ltd Chuo-Ku Tokyo .... Japan

EMORY CORE FRAMES

***See* Frames**

EMORY CORES

***See* Cores—Molded Magnetic**

ERCURY

ILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
eto Chemical Co, Inc Flushing .... NY
Acton Associates Pittston .... Pa
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Baker Chemical Co, J T Phillipsburg .... N J
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights .... NY
Bram Metallurgical Chemical Co Philadelphia .... Pa
City Chemical Corp New York .... N Y
Eastern Smelting & Refining Corp Lynn .... Mass
Electronic Space Products Inc Los Angeles .... Cal
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
Johnson Matthey & Mallory Ltd Toronto 15 .... Ont
Kahl Scientific Instrument Corp El Cajon .... Cal
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Metal Ceram Inc Mount Vernon .... N Y
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
Simmons Refining Corp Chicago Ill
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
United Mineral & Chemical Corp New York .... N Y
United Refining & Smelting Co Franklin Park Ill
Ventron Corp. Metal Chemicals Div. Beverly .... Mass
Williams Gold Refining Co Inc Precious Metals Div Buffalo .... N Y

MERCURY BATTERIES

***See* Batteries**

METALIZED CERAMICS

***See* Ceramics**

METALIZED PLASTIC

***See* Plastics—Finished Parts; Plating**

METALIZED TUBING

***See* Tubing—Metalic**

METALLIZING SERVICE

Alberox Corp New Bedford .... Mass
Allied Research & Engineering Co Los Angeles .... Cal
Avco Bay State Abrasives Div Indus Prods Sub Div Westboro .... Mass
Avionics Ltd Niagara-on-the-Lake .... Ont
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Broomer Research Corp Plainview .... N Y
Cambridge Plating Co Inc Belmont .... Mass
Canoga Industries Los Angeles .... Cal
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center .... N Y
Ceramics International Corp Mahwah .... NJ
C M Mfg Co Bloomfield .... N J
Consolidated Ceramics & Metalizing Corp Flemington .... N J
Coors Porcelain Co Golden .... Colo
Denton Vacuum Inc Cherry Hill .... N J
Device Seals Inc Sun Valley .... Cal
Dynatex Div Republic Corp Redwood City .... Cal
Eimac Div, Varian Associates San Carlos .... Cal
Electro Science Labs Inc Philadelphia .... Pa
Falstrom Co Passaic .... N J
Glass Beads Co Latrobe .... Pa
Hi-G Inc Windsor Locks .... Conn
Hi-Shear Corp Torrance .... Cal
Hopwood Retinning Corp Malden .... Mass
Kawecki Berylco Industries Inc New York .... N Y
Kinney Vacuum Co Boston .... Mass
Latronics Corp Latrobe .... Pa
Lek-Trol, Inc Grapevine .... Tex
Litton Industries, Electron Tube Div San Carlos .... Cal
Materials Research Corp Orangeburg .... N Y
Merit Plating Co Inc Bronx .... N Y
Metal Ceram Inc Mount Vernon .... N Y
Metalized Ceramics Corp Providence .... R I
Mitronics Inc Murray Hill .... N J
MTI- Mechanical Technology Inc Latham .... NY
National Beryllia Corp Haskell .... N J
Norton Co Chemical Process Prods Div Orrville .... Ohio
Nuclear Materials & Equipment Corp Apollo .... Pa
Pacific Universal Products Corp Pasadena .... Cal
Pyromet Industries San Carlos .... Cal
Quantum Devices Bergenfield .... NJ
Quantum-Joclin Wallingford .... Conn
Reon Resistor Corp Yonkers .... N Y
Spectra-Mat Inc Watsonville .... Cal
Spectrum Systems, Inc Waltham .... Mass
Spruce Pine Mica Co Inc Spruce Pine .... N C
Syncor Products Co, Inc Malden .... Mass
Tafa Div Humphreys Corp Concord .... N H
Tescom Corp Minneapolis .... Minn
Thermionics Lab Inc Hayward .... Cal
Transene Co Inc Rowley .... Mass
Varian Palo Alto .... Cal
Vitta Corp Wilton .... Conn
Voltronics Corp Hanover .... N J
Zenith Optical Laboratory Dobbs Ferry .... N Y

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Your marketplace for products

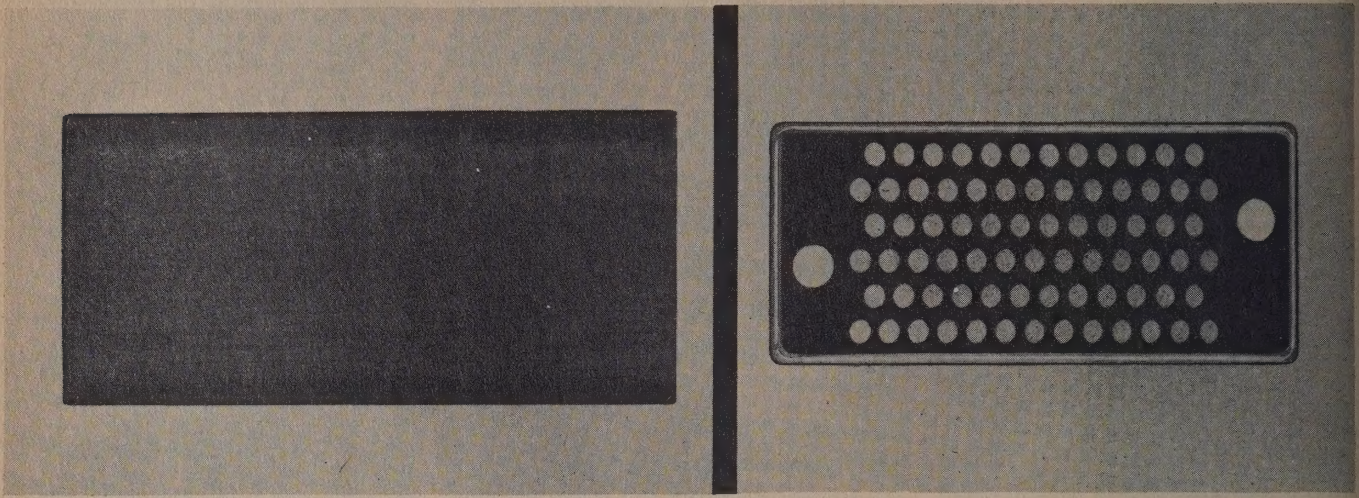
METAL PARTS—COINED

RICHFIELD COINED PRODUCTS CO CLIFTON N J .... ADV PG 352
VOLKERT STAMPINGS INC SUB STANLEY WORKS QUEENS VILLAGE .... N Y
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
ZIERICK MFG CORP MOUNT KISCO .... N Y
Acme Model Engineering Co Ridgefield .... N J
All Star Products Inc Defiance .... Ohio
Alpha Metals Inc Jersey City .... NJ
American Silver Co Div Flushing .... N Y
Associated Engineering & Mfg Corp Glen Ridge .... N J
Atomite Electronics Corp Roosevelt .... N Y
Auto-Swage Products, Inc Shelton .... Conn
Bemol Corp Newton .... Mass
Bennett Mfg Co, Inc Alden .... N Y
Bigelow Components Corp Newark .... N J
Brainin Corp Mt Vernon .... NY
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon .... Ohio
Connecticut Coil Corp Bridgeport .... Conn
Connor Spring Mfg Co Div Sloss & Britain San Jose .... Cal
Device Seals Inc Sun Valley .... Cal
Division Lead Co Summit Ill
Doran Mfg Co Cincinnati .... Ohio
Do-Rite Mfg Co East Paterson .... N J
Emporium Specialties Co Inc Chagrin Falls .... Ohio
Emtec Inc, Empire Spring Div Elyria .... Ohio
Eugene Engineering Co Inc Rockland .... Mass
Eyelematic Mfg Co Inc Watertown .... Conn
Falstrom Co Passaic .... N J
Fansteel Inc North Chicago Ill
Fastex Div Illinois Tool Works Des Plaines Ill
Gasket Mfg Co Inc Carson .... Cal
General Findings Co Industrial Div Attleboro .... Mass
Gibson Electric-Talon Div Textron Delmont .... Pa
Haydu Products Inc Opa Locka .... Fla
Janney Cylinder Co Sub Edgewater Corp Philadelphia .... Pa
Metal Ceram Inc Mount Vernon .... N Y
Micro Contacts, Inc Hicksville .... N Y
Nippert Electric Products Co Delaware .... Ohio
Pix Mfg Co Murray Hill .... N J
Premium Allied Tool Inc Owensboro .... Ky
Revere Copper & Brass, Inc New York .... N Y
Richards Metal Products Inc Wolcott .... Conn
Richfield Coined Products Co Clifton .... N J
Romac Electronics Inc Long Island City .... N Y
Seastrom Mfg Co Inc Glendale .... Cal
Semi-Alloys Inc Mt Vernon .... N Y
Staver Co Inc Bay Shore .... N Y
Steel Industries Div Keystone Consol Ind Inc Crawfordsville .... Ind
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Taffet Electronics Inc Woodside .... N Y
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim .... Cal
Victor Metal Products Corp Harrisonburg .... Va
Volkert Stampings Inc Sub Stanley Works Queens Village .... N Y
Waterbury Pressed Metal Co Waterbury .... Conn
Williams Gold Refining Co Inc Precious Metals Div Buffalo .... N Y
Youngwood Electronic Metals Inc Youngwood .... Pa
Zierick Mfg Corp Mount Kisco .... N Y

METAL PARTS—COLD HEADED

ART WIRE & STAMPING CO NEWARK .... N J
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
STAR STAINLESS SCREW CO PATERSON .... N J
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Abscoa Industries Inglewood .... Cal
Aikow Shoji Kaisha Ltd Osaka .... Japan
Allmetal Screw Products Co Inc Garden City .... N Y
Aluminum Co of America Pittsburgh .... Pa
Anti-Corrosive Metal Products Co, Inc Albany .... N Y
Art Wire & Stamping Co Newark .... N J
Atomite Electronics Corp Roosevelt .... N Y
Auto-Swage Products, Inc Shelton .... Conn
Bead Chain Mfg Co Bridgeport .... Conn
Bigelow Components Corp Newark .... N J
Brainin Corp Mt Vernon .... NY
Cerro Corp New York .... NY
Demby Rod & Fastener Mfg Inc Berea .... Ohio
Deringer Metallurgical Corp Mundelein Ill
Division Lead Co Summit Ill
Do-Rite Mfg Co East Paterson .... N J
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Elco Tool & Screw Corp Rockford Ill
Emporium Specialties Co Inc Chagrin Falls .... Ohio
Eugene Engineering Co Inc Rockland .... Mass
Fansteel Inc North Chicago Ill
Federal Screw Products Inc Chicago Ill
General Findings Co Industrial Div Attleboro .... Mass
Gibson Electric-Talon Div Textron Delmont .... Pa
GTI Corp Meadville .... Pa
Harper Co, H M Morton Grove Ill
Haydu Products Inc Opa Locka .... Fla
Henes Mfg Co Phoenix .... Ariz
Kentucky Electronics Inc Owensboro .... Ky
Kling Metal Spinning & Stpg Corp New York .... N Y
Mercury Div Whittaker Corp Los Angeles .... Cal
Metal Ceram Inc Mount Vernon .... N Y
Microdot Inc. Troy .... Mich
Nippert Electric Products Co Delaware .... Ohio
Premium Allied Tool Inc Owensboro .... Ky
Republic Steel Corp Cleveland .... Ohio
Revere Copper & Brass, Inc New York .... N Y
Richards Metal Products Inc Wolcott .... Conn
Romac Electronics Inc Long Island City .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Stanley Industrial Hardware Div Stanley Works New Britain .... Conn
Star Stainless Screw Co Paterson .... N J
Steel Industries Div Keystone Consol Ind Inc Crawfordsville .... Ind

IN .9 OF A SECOND, RICHFIELD CAN TRANSFORM A SOLID METAL MASS INTO A PRECISION PART

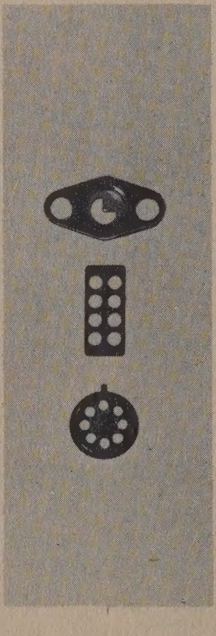


How coining can upgrade your product and lower your costs

The process of coining — the forming of metal by impact and cold displacement — is not a new development in industry. **But** the application of coining to mass production of **close tolerance** components **is radically new** — and Richfield research is responsible.

Today, Richfield's capability in coining offers unlimited design opportunities to engineers and manufacturers of coined bodies and transistor bases for compression hermetic seals and other applications in the electronics field.

Three of the thousands of parts that Richfield has custom designed and produced are illustrated in the center panel. (1. Copper Heat Sink. 2. Micro-miniature .100 grid relay base. 3. 8-hole TO-5 matched or compression seal.) They are coined from cold metal in fractions of a second, yet they offer advantages that are clearly visible: Complex, intricate designs; absolute conformity to close tolerances; extremely flat and parallel body surfaces with shaved holes — prime requisites for superior glass to metal hermetic seals. Only slow and painstaking machining could duplicate these parts — and only at prohibitive cost.



When you need a new component, rely on Richfield to produce it — with greater precision, at lower cost.

Richfield

COINED PRODUCTS COMPANY

720 BROAD ST. CLIFTON, N. J. Area Code 201-473-4381

WRITE FOR ILLUSTRATED CATALOG

rbury Pressed Metal Co Waterbury	Conn
ms Gold Refining Co Inc Precious Metals Div Buffalo	N Y
Mfg Co Irvington	N J

TAL PARTS—DEEP DRAWN

STAINLESS SCREW CO PATERSON	**N J**
ERT STAMPINGS INC SUB STANLEY WORKS EENS VILLAGE	**N Y**
IAMS GOLD REFINING CO INC PRECIOUS METALS DIV FFALO	**N Y**
o Corp Bloomfield	N J
Model Engineering Co Ridgefield	N J
nce Stamping Co Detroit	Mich
Metals Inc Jersey City	NJ
Products, Inc Chicago	Ill
num Co of America Pittsburgh	Pa
ican Aluminium Co Mountainside	N J
onda American Brass Co Waterbury	Conn
ciated Engineering & Mfg Corp Glen Ridge	N J
Swage Products, Inc Shelton	Conn
Aerostructures Div Nashville	Tenn
ett Mfg Co, Inc Alden	N Y
on Mfg Div E C I Inc Kansas City	Mo
& Betts Corp Southbury	Conn
ert Mfg Co Utica	NY
ks & Perkins Inc Detroit	Mich
Industries Inc Gardena	Cal
eye Stamping Co Columbus	Ohio
-Monadnock City of Industry	Cal
r Co Inc F G Rockaway	N J
el Mfg Co Waterbury	Conn
or Spring Mfg Co Div Sloss & Britain San Jose	Cal
r Metal Products Co Camden	N J
e Seals Inc Sun Valley	Cal
ite Mfg Co East Paterson	N J
con Co Inc Westboro	Mass
c Div, Varian Associates San Carlos	Cal
ne Engineering Co Inc Rockland	Mass
matic Mfg Co Inc Watertown	Conn
teel Inc North Chicago	Ill
ex Div Illinois Tool Works Des Plaines	Ill
ral Findings Co Industrial Div Attleboro	Mass
u Products Inc Opa Locka	Fla
son & Hoffman Mfg Corp Carle Place	N Y
ucky Electronics Inc Owensboro	Ky
& Co Inc, Walter Belleville	N J
Laboratories Inc Syracuse	N Y
Metal Spinning & Stpg Corp New York	N Y
netic Metals Co Camden	N J
n Mfg. Co. East Providence	R I
l Ceram Inc Mount Vernon	N Y
Contacts, Inc Hicksville	N Y
odot Inc. Troy	Mich
arch Industries Inc El Segundo	Cal
neg Screw Machine Products Co Waterbury	Conn
ra Metal Products Co San Francisco	Cal
iglide Mfg Corp Santa Monica	Cal
nium Allied Tool Inc Owensboro	Ky
Corp of America, Electronic Components Harrison	N J
blic Steel Corp Cleveland	Ohio
re Copper & Brass, Inc New York	N Y
ards Metal Products Inc Wolcott	Conn
ac Electronics Inc Long Island City	N Y
-Alloys Inc Mt Vernon	N Y
um Industries Reseda	Cal
ley Industrial Hardware Div Stanley Works w Britain	Conn
Stainless Screw Co Paterson	N J
er Co Inc Bay Shore	N Y
ania Electric Prods Inc, Parts Div Warren	Pa
et Electronics Inc Woodside	N Y
er Co Inc, Roland Everett	Mass
orm Products Co Sub Bliss & Laughlin Indus Anaheim	Cal
or Metal Products Corp Harrisonburg	Va
ert Stampings Inc Sub Stanley Works Queens Village	N Y
erbury Pressed Metal Co Waterbury	Conn
ams Gold Refining Co Inc Precious Metals Div Buffalo	N Y
Mfg Co Burbank	Cal

TAL PARTS—ELECTROFORMED

e *Also* Electroforming Services

w Shoji Kaisha Ltd Osaka	Japan
d Research & Engineering Co Los Angeles	Cal
kbee-Mears Co. St Paul	Minn
atex Div Republic Corp Redwood City	Cal
troforms Inc Gardena	Cal
ene Engineering Co Inc Rockland	Mass
Metal Spinning & Stpg Corp New York	N Y
al Ceram Inc Mount Vernon	N Y
i-Alloys Inc Mt Vernon	N Y
n-Etch, Inc Hingham	Mass
nson-CSF 78 Versailles	France
ne Labs Inc Somerville	N J

TAL PARTS—FLATPACK

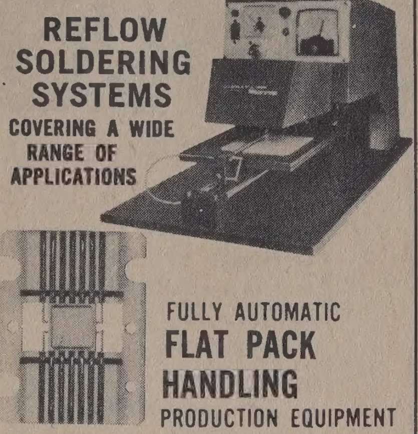
ERAL TOOL ENGINEERING CO DIV ARVIN INDS EDAR GROVE N J	**ADV PG 353**
rican Silver Co Div Flushing	N Y
by Rod & Fastener Mfg Inc Berea	Ohio
steel Inc North Chicago	Ill
eral Tool Engineering Co Div Arvin Inds Cedar Grove	N J
Corp Meadville	Pa
netics Inc Butler	Pa
kle Mfg Co Owatonna	Minn
ne Labs Inc Somerville	N J

tweezer it weld

INFRARED

REFLOW SOLDERING SYSTEMS

COVERING A WIDE RANGE OF APPLICATIONS



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FLAT PACK HANDLING
PRODUCTION EQUIPMENT

removes flat pack from carrier, fluxes and tins all leads, cleans and reloads the flat pack into the plastic carrier and then reloads the carrier into the magazine automatically, at up to 400 units per hour.

Write for technical bulletins

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1384 POMPTON AVE.,
CEDAR GROVE, N. J.07009
PHONE (201) 256-5300

METAL PARTS—FORMED WIRE;

***See* Wire Parts**

METAL PARTS—LAMINATED

WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO N Y	**ADV PG 353**
Aikow Shoji Kaisha Ltd Osaka	Japan
All Star Products Inc Defiance	Ohio
Alpha Metals Inc Jersey City	NJ
American Silver Co Div Flushing	N Y
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Bennett Mfg Co, Inc Alden	N Y
Brainin Corp Mt Vernon	NY
Cominco American Inc Electronic Matls Div Spokane	Wash
Dentronics, Inc Hackensack	N J
Do-Rite Mfg Co East Paterson	N J
Duplicon Co Inc Westboro	Mass
Eljay Corp Columbia	Md
Emporium Specialties Co Inc Chagrin Falls	Ohio
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Eugene Engineering Co Inc Rockland	Mass
Flexible Products Inc Lakeville	Minn
General Findings Co Industrial Div Attleboro	Mass
Goodyear Aerospace Corp Akron	Ohio
Haddon Tool & Mfg Co Merchantville	N J
Haydu Products Inc Opa Locka	Fla
Improved Seamless Wire Co Providence	R I
Laminated Shim Co Inc Glenbrook	Conn
Magnetic Metals Co Camden	N J
McNally Bros Machine & Gear Inc Minneapolis	Minn
Mega Electronics Corp Gardena	Cal
Metal Ceram Inc Mount Vernon	N Y
Micro Contacts, Inc Hicksville	N Y
Mid-West Metal Products Inc Kansas City	Kans
Norrich Plastics Corp Roosevelt	N Y
O'Hara Metal Products Co San Francisco	Cal
Pyromet Industries San Carlos	Cal
Roosevelt Metal Co Inc Brooklyn	N Y
Seastrom Mfg Co Inc Glendale	Cal
Semi-Alloys Inc Mt Vernon	N Y
S K G Associates Inc Boston	Mass
United American Metals Div Brooklyn	N Y
Universal Instruments Corp Binghamton	N Y
Williams Gold Refining Co Inc Precious Metals Div Buffalo	N Y

Au!
Ag!
Pt!
Pd!

...And other precious metal alloys for microelectronic design!

PARTIAL LIST OF AVAILABLE ALLOYS & SOLDER PREFORMS

88% Gold 12% Germanium (Eutectic Alloy)
Strip and solder preforms in all sizes

80% Gold 20% Tin (Eutectic Alloy)
Strip, wire and solder preforms in all sizes

Gold with .1 to 1.2% Antimony
Wire, strip and solder preforms all sizes

Gold—.05% Min. Phosphorous
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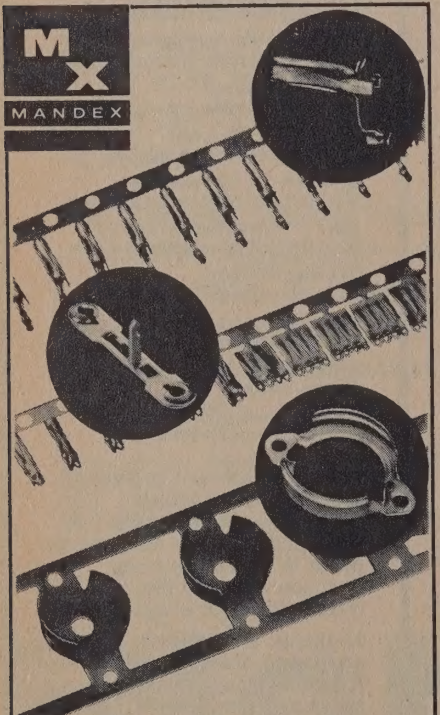
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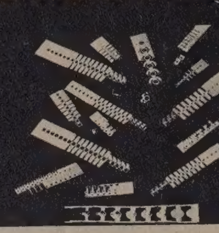
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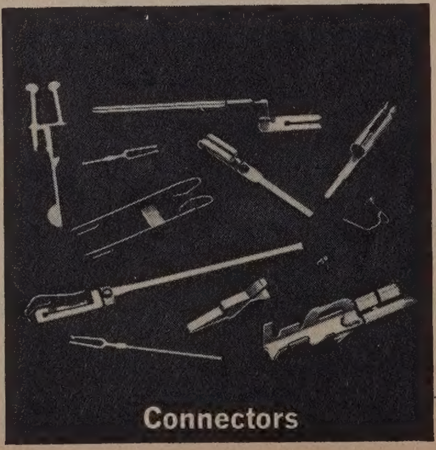

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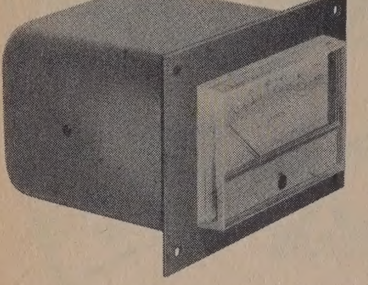

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General Radio Co West Concord . . . . Mass
Guide Industries Inc Sun Valley . . . . Cal
Harris-Intertype Corp Cleveland . . . . Ohio
Hewlett-Packard Palo Alto . . . . Cal
International Electronics Corp Melville . . . . NY
Marconi Instruments Div, English Electric Corp
  Englewood . . . . N J
Maury Microwave Corp Cucamonga . . . . Cal
Narda Microwave Corp Plainview . . . . N Y
Pacific Measurements Inc Palo Alto . . . . Cal
Rantec Div Emerson Electric Co Calabasas . . . . Cal
Siemens America Inc New York . . . . N Y
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
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METERS—CAPACITANCE

See Also **Bridges**

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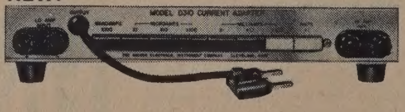

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Canadian Research Institute Don Mills . . . . Ont
Canberra Industries Meriden . . . . Conn
CMC/Rutherford San Fernando . . . . Cal
Components Corp Denville . . . . NJ
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Engler Instrument Co Jersey City . . . . N J
E N M Co Chicago Ill
EON Corp Brooklyn . . . . N Y
Fisher-Akin Co Manhattan Beach . . . . Cal
General Electric Co, ECSO Schenectady . . . . N Y
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
Materials Research Corp Orangeburg . . . . N Y
Milletron, Inc Pittsburgh . . . . Pa
Nuclear-Chicago Des Plaines Ill
Nuclear Enterprises Ltd Edinburgh . . . . Scotland
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Pennwood Numechron Co Tymeter Electronics Pittsburgh . . Pa
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Power Instruments Inc Skokie Ill
Racal Electronics Ltd Bracknell Berks . . . . England
Richard Lee Co New Providence . . . . N J
Sensor Corp Greenwich . . . . Conn
Systron-Donner Corp Concord . . . . Cal
Takeda Riken Industry Co Ltd Tokyo . . . . Japan
The Nucleus, Inc Oak Ridge . . . . Tenn
Troxler Electronic Labs Inc Raleigh . . . . N C
Tyco Instrument Div Waltham . . . . Mass
Victoreen Instrument Div Cleveland . . . . Ohio
Wer Industrial Corp Grand Island . . . . N Y
Zehntel, Inc Berkeley . . . . Cal

METERS—DB

ELECTRO-MECHANICAL INSTRUMENT CO, INC PERKASIE . . . . PA
HEATH CO BENTON HARBOR . . . . MICH
IDEAL PRECISION METER CO INC BROOKLYN . . . . N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . N Y
Acton Laboratories Inc Acton . . . . Mass
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Amstro Corp Fairfield . . . . N J
Bartlett-Emery Instrument Co Fort Madison . . . . Iowa
Beede Electrical Instrument Co, Inc Penacook . . . . N H
Bitronics Inc Bethlehem . . . . Pa
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Colorado Hickok Corp Grand Junction . . . . Colo
Data Measurements Corp Palo Alto . . . . Cal
Digital Instruments Co Inc Shawnee-Mission . . . . Kans
Dixson Inc Meter Div Grand Junction . . . . Colo
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Honeywell Precision Meter Div Manchester . . . . N H
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Phaostron Instrument & Electronic Co South Pasadena . . . Cal
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Q V S Inc East Orange . . . . N J
Scott Inc, H H Maynard . . . . Mass
Shigoto Industries Ltd New York . . . . N Y
Sigma Instruments Inc Braintree . . . . Mass
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Singer Co Instrumentation Div Bridgeport . . . . Conn
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Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
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Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
Western Reserve Electronics, Inc Cleveland . . . . Ohio
Weston Instruments Div Weston Instr Inc Newark . . . . N J

METERS—ELAPSED TIME

See **Indicators—Elapsed Time**

METERS—FIELD STRENGTH

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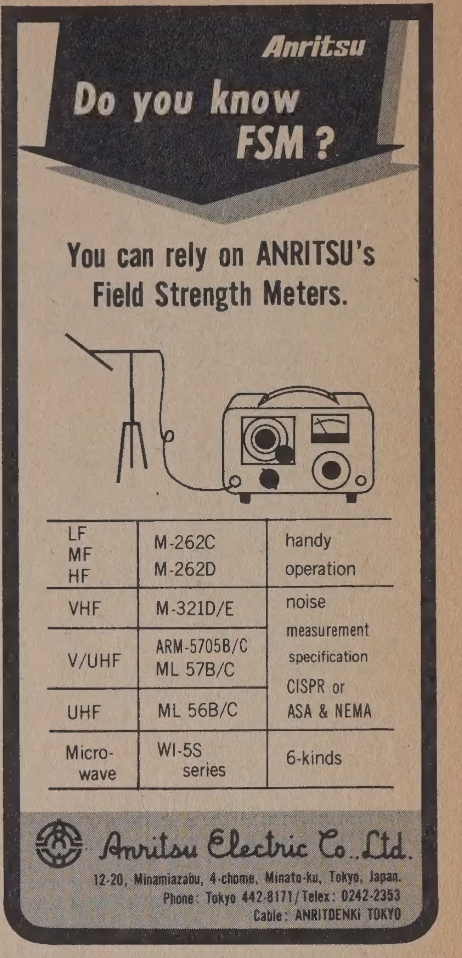

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METERS—FLOW

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METERS, FREQUENCY—A-F

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NOVA ELECTRIC MFG CO SADDLE BROOK . . . . N J
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Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
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Conn Corp Elkhart	Ind
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Dixson Inc Meter Div Grand Junction	Colo
E & L Instruments Inc Derby	Conn
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Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
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Nova Electric Mfg Co Saddle Brook	N J
Parker Instrument Corp Stamford	Conn
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Philco-Ford Corp Washington	D C
PMF Electronics Inc Dayton	Ohio
Q V S Inc East Orange	N J
Racal Electronics Ltd Bracknell Berks	England
Richard Lee Co New Providence	N J
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Rotamec Inc Los Angeles	Cal
Schlumberger Overseas Messgerate 8000 Munich	W Germany
Sell-Tronic Products Co Inc Flushing	N Y
Semiconductor Circuits, Inc Woburn	Mass
Shigoto Industries Ltd New York	N Y
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Singer Co Instrumentation Div Bridgeport	Conn
Solid State Electronics Corp Sepulveda	Cal
Standard Telephones & Cables Ltd London WC 2	England
Sun Electric Corp Chicago	Ill
Taffet Electronics Inc Woodside	N Y
Takeda Riken Industry Co Ltd Tokyo	Japan
Telstar Electronics Corp Southold	N Y
Tyco Instrument Div Waltham	Mass
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Waveforms North Hollywood	Cal
Wavetek San Diego	Cal
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METERS, FREQUENCY—CRYSTAL CONTROL

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INTERNATIONAL CRYSTAL MFG CO INC OKLAHOMA CITY	**OKLA**
A & M Instruments Inc Great Neck	N Y
Anadex Instruments, Inc Van Nuys	Cal
Barker & Williamson Div Sunshine Mining Co Bristol	Pa
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Cushman Electronics Inc Sunnyvale	Cal
Digital Instruments Co Inc Shawnee-Mission	Kans
E F Assoc Inc Scotch Plains	N J
E & L Instruments Inc Derby	Conn
Fairchild Instrumentation Sunnyvale	Cal
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Hickok Electrical Instrument Co Cleveland	Ohio
International Crystal Mfg Co Inc Oklahoma City	Okla
International Electronics Corp Melville	NY
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Materials Research Corp Orangeburg	N Y
Motorola Communications & Electronics Inc Chicago	Ill
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Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
PMF Electronics Inc Dayton	Ohio
Racal Electronics Ltd Bracknell Berks	England
Schlumberger Overseas Messgerate 8000 Munich	W Germany
Standard Telephones & Cables Ltd London WC 2	England
Time Systems Corp Mountain View	Cal
Tyco Instrument Div Waltham	Mass

METERS, FREQUENCY—R-F

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Barker & Williamson Div Sunshine Mining Co Bristol	Pa
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Cushman Electronics Inc Sunnyvale	Cal
Diamond Antenna & Microwave Corp Winchester	Mass
E F Assoc Inc Scotch Plains	N J
Eldorado Electronics Concord	Cal
Engineering Associates Dayton	Ohio
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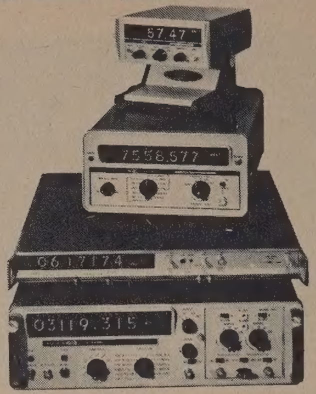
Frequency Engineering Labs Farmingdale	N J
General Radio Co West Concord	Mass
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Harris-Intertype Corp Cleveland	Ohio

Electronic counters



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Electronics Buyers' Guide

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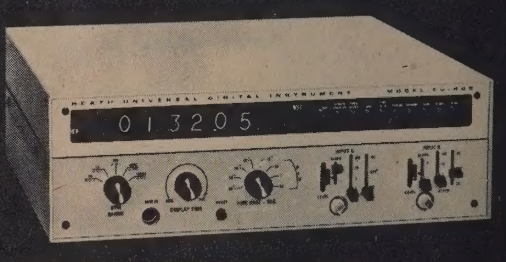

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Motorola Communications & Electronics Inc Chicago	Ill
Narda Microwave Corp Plainview	N Y
National Radio Co Inc Melrose	Mass
Oki Electronics of America, Inc Fort Lauderdale	Fla
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
Philco-Ford Corp Washington	D C
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Premier Microwave Corp Port Chester	NY
Racal Electronics Ltd Bracknell Berks	England
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Rohde & Schwarz Sales Co USA Inc Passaic	N J
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Simpson Electric Co Chicago	Ill
Singer Co Instrumentation Div Bridgeport	Conn
Singer Co Instru Div Gertsch Oper Los Angeles	Cal
Standard Telephones & Cables Ltd London WC 2	England
Sterling Mfg Co Cleveland	Ohio
Sun Electric Corp Chicago	Ill
Sunshine Scientific Instruments Inc Philadelphia	Pa
Systron-Donner Corp Concord	Cal
Taffet Electronics Inc Woodside	N Y
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Waveline Inc West Caldwell	N J
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Weston Instruments Div Weston Instr Inc Newark	N J

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Cosmos Industries Inc Brooklyn	N Y
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En-Cer Inc South Holland	Ill
Fuji Electric Co Ltd Tokyo	Japan
Hallmark Standards Inc Mount Vernon	N Y
J-B-T Instruments Inc New Haven	Conn
Metermaster, Inc Los Angeles	Cal
Microlab/F X R Livingston	N J
Rotamec Inc Los Angeles	Cal
Sticht Co Inc, Herman H New York	N Y
Sunshine Scientific Instruments Inc Philadelphia	Pa
Takeda Riken Industry Co Ltd Tokyo	Japan
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METERS—GRID DIP

HEATH CO BENTON HARBOR	**MICH**
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON	**N J**
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EICO Electronic Instrument Co Inc Brooklyn	NY
Heath Co Benton Harbor	Mich
Kyoritsu Electrical Instruments Works Ltd Tokyo	Japan
Lafayette Radio Electronics Syosset	NY
Measurements A McGraw-Edison Div Boonton	N J
Millen Mfg Co Inc, James Malden	Mass
Philmore Mfg Co Inc Richmond Hill	N Y
Taffet Electronics Inc Woodside	N Y

METER SHUNTS

***See* Shunts**

METERS—LIGHT

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American Ultraviolet Co Chatham	NJ
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Berkey Technical Div Berkey Photo Inc Woodside	N Y
Black Light Corp of America San Gabriel	Cal
Canadian Research Institute Don Mills	Ont
Coherent Radiation Labs Palo Alto	Cal
E G & G Inc, Electronic Prods Div Boston	Mass
Eldorado Electronics Concord	Cal
Gamma Scientific Inc San Diego	Cal
Grace Electronics Inc Cleveland	Ohio
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International Light Inc Newburyport	Mass
Kahl Scientific Instrument Corp El Cajon	Cal
Laser Tool Corp. Framingham	Mass
Lektra Labs Inc Div Kriser Corp College Point	N Y
Montedoro Corp San Luis Obispo	Cal
Nelson Electronic Labs Inc Plano	Tex
Oriel-Optics Corp Stamford	Conn
Perkin-Elmer Corp Laser Dept Wilton	Conn
Red Lake Labs Inc Santa Clara	Cal
Rockwell Engineering Co Indianapolis	Ind
Sage Instruments Inc White Plains	N Y
Shurite Meters New Haven	Conn
Spectra-Physics Mountain View	Cal
Sticht Co Inc, Herman H New York	N Y
Tipptronic Inc Chagrin Falls	Ohio
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Western Indicator Co Div DuPree Inc South El Monte	Cal
Weston Instruments Div Weston Instr Inc Newark	N J

Works
in
Seconds.

The '70 Electronics Buyers' Guide lets you find people, places, and things in seconds. In the Directory of Manufacturers and Sales Offices, for example, more than 6,000 manufacturers are listed, including addresses, telephone numbers, sales offices, the people to call for information, the total number of engineers and employees and sales volumes. So use your EBG. It works in seconds.

Electronics Buyers' Guide

METERS—MAGNETIC FIELD INTENSITY

***See* Fluxmeters**

METERS—MODULATION

ANRITSU ELECTRIC CO LTD TOKYO	**JAPAN**
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON	**N J**
Advanced Measurement Instruments, Inc Somerville	Mass
Aerocom Miami	Fla
A & M Instruments Inc Great Neck	N Y
Anritsu Electric Co Ltd Tokyo	Japan
A R F Products, Inc Raton	N M
Avtron Mfg, Inc Cleveland	Ohio
Barrs Electronics Dallas	Tex
Belar Electronics Lab Inc Upper Darby	Pa
Cosmos Industries Inc Brooklyn	N Y
Cushman Electronics Inc Sunnyvale	Cal
Dixson Inc Meter Div Grand Junction	Colo
Lampkin Laboratories, Inc Bradenton	Fla
London Co Westlake	Ohio
Measurements A McGraw-Edison Div Boonton	N J
Motorola Communications & Electronics Inc Chicago	Ill
New London Instrument Co New London	Conn
New London Instr Co Div Crescent Comm Corp Newton	Mass
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
PMF Electronics Inc Dayton	Ohio
Racal Electronics Ltd Bracknell Berks	England
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Singer Co Instrumentation Div Bridgeport	Conn
Voltron Products Inc Pasadena	Cal
Wac Line Div Simmonds Precision Prods Dayton	Ohio

METERS—MULTI-PURPOSE

***See* Volt-Ohm-Milliammeters**

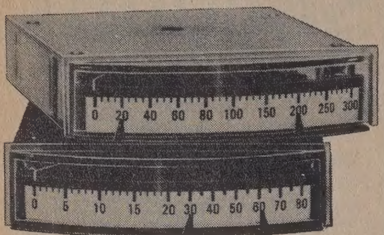
METERS—NOISE FIGURE

HEWLETT-PACKARD PALO ALTO	**CAL**
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ	U K
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
American Machine & Foundry Co Alexandria Div Alexandria	Va
Dawe Instruments Ltd London W3	England
General Microwave Corp Farmingdale	N Y
Harris-Intertype Corp Cleveland	Ohio
Hewlett-Packard Palo Alto	Cal
Kay Electric Co Pine Brook	N J

METERS—NULL

***See* Indicators—Null**

Parker Power



our tough, reliable Control Meter!!

the ER-35

Complete control functions in minimum space, at minimum cost, retaining advantages of maximum readability and reliability. Design simplicity and standard options give you total flexibility in design and application.

the E-35

Matching indicator for use with ER-35 Control Meter when read-out only is required. Same appearance and panel cutout for uniform panel appearance.

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A growth company dedicated entirely to manufacture and sale of Panel, Edgewise, and Control meters.

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METERS—PANEL

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
API INSTRUMENTS CO CHESTERLAND OHIO	**ADV PG 363**
COMPUTER PRODUCTS INC FORT LAUDERDALE FLA	**ADV PG 487**
DATASCAN INC CLIFTON N J	**ADV PG 362**
ELECTRO-MECHANICAL INSTRUMENT CO, INC PERKASIE PA	**ADV PG 709**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG 8**
IDEAL PRECISION METER CO INC BROOKLYN N Y	**ADV PG 365**
LAMBDA ELECTRONICS CORP MELVILLE	**N Y**
MODUTEC INC NORWALK CONN	**ADV PGS 364,365**
NON-LINEAR SYSTEMS INC DEL MAR	**CAL**
PARKER INSTRUMENT CORP STAMFORD CONN	**ADV PG 362**
WHITTAKER CORP GEN COM DIV PLAINVIEW	**N Y**
Alco Electronic Products, Inc Lawrence	Mass
Allied Electronics Corp Chicago	Ill
A & M Instruments Inc Great Neck	N Y
Ammon Instruments Inc Manchester	N H
Amperex Electronic Corp, Component Div Hauppauge	N Y
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook	N Y
API Instruments Co Chesterland	Ohio
Bailey Meter Co Wickliffe	Ohio
Bartlett-Emery Instrument Co Fort Madison	Iowa
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Beede Electrical Instrument Co, Inc Penacook	N H
Bitronics Inc Bethlehem	Pa
Canadian Research Institute Don Mills	Ont
Colorado Hickok Corp Grand Junction	Colo
Compagnie Generale de Metrologie Haute Savoie	France
Components Specialties Inc Freeport	N Y
Computer Products Inc Fort Lauderdale	Fla
Datascan Inc Clifton	N J
Digilin Inc Glendale	Cal
Digital Instruments Co Inc Shawnee-Mission	Kans
Dixson Inc Meter Div Grand Junction	Colo
Dowa Trading Co Ltd Kobe	Japan
E I L Instrument Div Unitec Industries Timonium	Md
Electro-Mechanical Instrument Co, Inc Perkasie	Pa

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Electronics Buyers' Guide

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PANEL METERS

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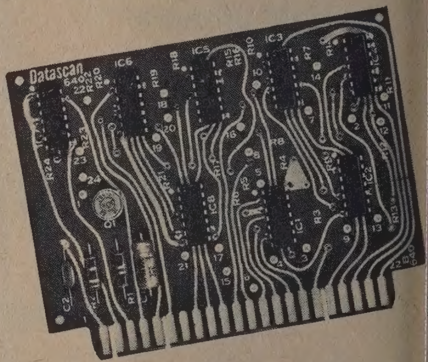

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-Cer Inc South Holland	Ill
irchild Instrumentation Sunnyvale	Cal
rranti, Ltd Lancashire	England
neral Electric Co, ECSO Schenectady	N Y
rdon Co Claud S Richmond	Ill
alex Industries Inc Copiague	N Y
llmark Standards Inc Mount Vernon	N Y
ydon Co The, A W Waterbury	Conn
ckok Electrical Instrument Co Cleveland	Ohio
neywell Precision Meter Div Manchester	N H
neywell Test Instruments Div Denver	Colo
yt Electrical Instrument Works Inc Burton-Rogers Co Sls Div Cambridge	Mass
eal Precision Meter Co Inc Brooklyn	N Y
pectron Inc New York	N Y
ternational Electronics Corp Melville	NY
A Systems Inc Waltham	Mass
T Europe Inc Components Gp Brussels 1	Belgium
ay Electric Co Pine Brook	N J
yoritsu Electrical Instruments Works Ltd Tokyo	Japan
ake Engineering Co Ltd Scarborough	Ont
ambda Electronics Corp Melville	N Y
astercraft Instrument Co Dubuque	Iowa
etermaster, Inc Los Angeles	Cal
illivac Instruments Inc Schenectady	N Y
odutec Inc Norwalk	Conn
ura Corp Great Neck	N Y
elson Electronic Labs Inc Plano	Tex
ewport Labs Inc Santa Ana	Cal
ichols Co Ltd, R H Downsview	Ont
on-Linear Systems Inc Del Mar	Cal
arker Instrument Corp Stamford	Conn
haostron Instrument & Electronic Co South Pasadena	Cal
inlites, Inc Fairfield	N J
MF Electronics Inc Dayton	Ohio
V S Inc East Orange	N J

Fast acting.

The Electronics Buyers' Guide can get you on the right frequency in a hurry. For example, there are 14 different kinds of oscillators listed. Everything from AF oscillators to voltage controlled crystal oscillators. There are three sections in your EBG, devoted to products, manufacturers and trade names. So see your fast-acting EBG.

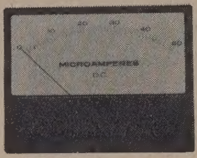
Electronics Buyers' Guide

API indicating and controlling instruments

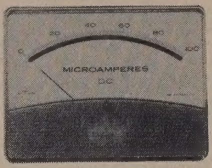
Panel meters, meter-relays, controllers

DC meters available from stock include 15 Panelist and Stylist models with standard 1% tracking and frictionless taut-band construction in 20 to 100 μa ranges, at no extra charge.

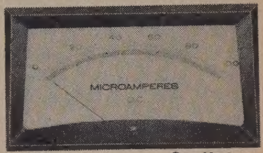
Other models available in all standard AC and DC ranges. Taut-band standard between 0 to 3 and 0 to 100 μa; 0 to 3 and 0 to 25 mv. Taut-band is special in ranges above 100 μa. Most taut-band DC meters can be calibrated for 0.5% tracking, 1% accuracy, or 0.5% accuracy. Square and rectangular models range from 2¼″ to 10″ in width.



Panelist—black phenolic, three models.

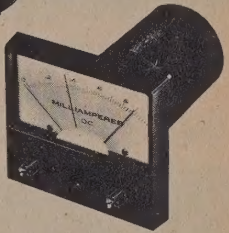


Panelist—clear acrylic, six models.



Stylist—recessed-mounting, four models.

Compack IV—edge-reading



Compack IV—integral controller.

Contactless (optical) meter-relays are offered in Panelist, Stylist and edge-reading styles. Adjustable single or double set points, reliable control action at set point, continuous indication of input signal, operation from small (unamplified) signals.

The Ultimeter, while not a meter-relay, allows circuit designers to combine signal indication and easy set point adjustment with the latest integrated circuit techniques at lowest possible cost. Contains 1% linear meter movement and 0.5% linear potentiometer, both precisely calibrated to the meter dial.

Compack IV controllers are five times more sensitive and considerably faster than comparable instruments previously available for On/Off control. Standard full-scale ranges as sensitive as 0 to 1 μa and 0 to 1 mv.

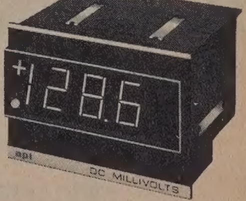
Control is independent of meter movement, triggering electronically when signal strength equals set point value. Other features are easy set point adjustment, standard 1% accuracy, small space requirement, simple installation. Ranges up to 0 to 50 amperes DC and 0 to 500 volts DC.

Also available in edge-reading model.

Digital products

Model 4301 is a 3-digit DPM that requires only 1½″ behind the panel when its exclusive detachable power supply is remotely mounted.

Standard accuracy ±0.1% of reading, ±1 digit. Features include print command, display-hold, 30% overrange, auto-polarity, BCD output. Ranges are 0 to 130.0 mv to 0 to 1000 volts DC, and 0 to 13.00 μa to 0 to 130.0 ma DC. Set points available.



Model 4301 digital panel meter.

Model 4304 has 4 digits for a display to 1999. Standard ranges are 0 to 199.9 mv to 0 to 199.9 volts DC, and 0 to 19.99 μa to 0 to 199.9 ma DC.

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Chesterland, Ohio 44026 | (216) 729-1611

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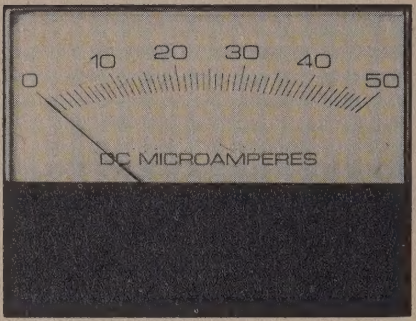
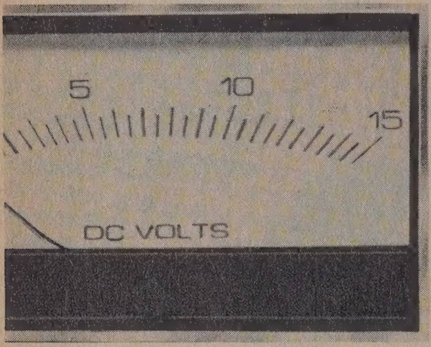
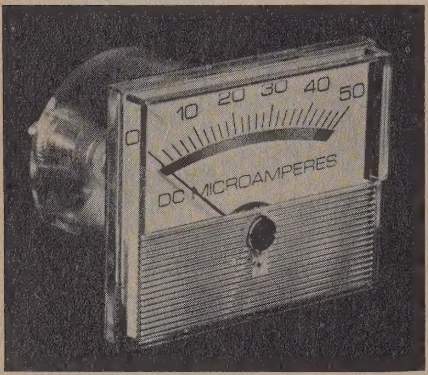
- Full range of sizes in all styles and ranges: 1½", 2½", 3½", 4½", 5½".
- Factory modification center for *fast* service on special requirements.



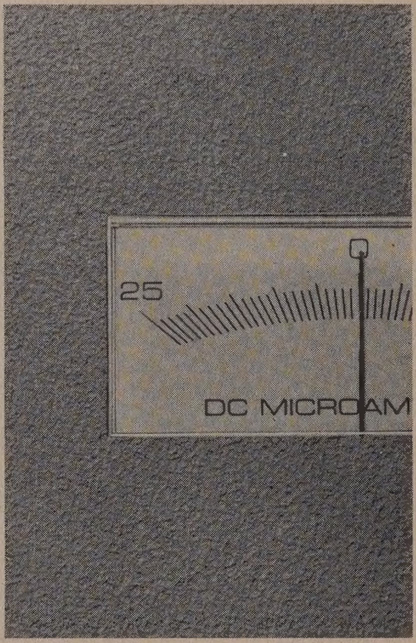
Surface mount meters. Matte black or clear acrylic covers are standard; a spectrum of colors are optional.



Bezel mount meters. The slimmest, handsomest bezel you've ever seen! Available in matte black or brushed metal inline, as shown.



Blue • Dot™ meters. Ruggedized movements, Lexan cases, available in all styles and sizes. Meet MIL specs and UL requirements.



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MAKERS OF METERS FOR THE '70S

Pain

Killer.

If vendors have you in a pinch and another source of supply will help, turn to the Electronics Buyers' Guide. You'll find all the information you need on over 1,363 sources of power supplies, listed under 11 headings from *AC Regulated Power Supplies* to *Laser Power Supplies.*

Electronics Buyers' Guide

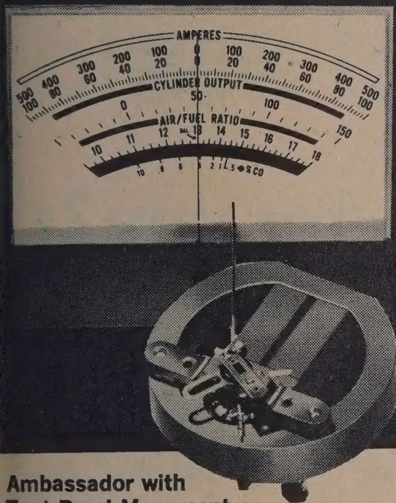
Ramapo Instrument Co Inc Bloomingdale . . . .
Schneider Radio-Television Div Ivry . . . . .Fra
Shigoto Industries Ltd New York . . . . .N
Sigma Instruments Inc Braintree . . . . .M
Simpson Electric Co Chicago . . . .
Singer Co Instrumentation Div Bridgeport C
Sterling Mfg Co Cleveland . . . . .O
Sun Electric Corp Chicago . . . .
Sunshine Scientific Instruments Inc Philadelphia . . . .
Takeda Riken Industry Co Ltd Tokyo . . . . .Ja
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . .
Time Systems Corp Mountain View . . . .
Trio Laboratories Inc Plainview . . . .
Triplett Electrical Instrument Co Bluffton . . . . .O
Tyco Instrument Div Waltham . . . . .M
United Systems Corp Dayton . . . . .O
Voltron Products Inc Pasadena . . . .
Wac Line Div Simmonds Precision Prods Dayton . . . . .O
Westinghouse Electric Corp, Relay & Instr Div Newark . . .
Weston Instruments Div Weston Instr Inc Newark . . . . . .
Whittaker Corp Gen Com Div Plainview . . . .

Forget the manufacturer's

phone number?

Check the green pages.

METERS ARE OUR BUSINESS!



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Denver — J. L. Goodman Sls. Co.: 303-757-6858
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Ft. Lauderdale — Beacon Elec. Assocs.: 305-564-4298
Maitland — Beacon Elec. Assocs.: 305-647-3498
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Atlanta — Beacon Elec. Assocs.: 404-351-3654
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IOWA
Cedar Rapids — Reid Assocs.: 319-362-6302
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Wichita — G. Fixman Eng. Co.: 316-682-9433
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College Pk. — Shiplett-Warrington: 301-864-5757
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Canton — New Eng. Elec. Sls. Co.: 617-828-4835
MICHIGAN
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Hyde Park — R. P. Kennedy Co.: 914-229-2269
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MODUTEC, INC.
18 Marshall St., Norwalk, Conn. 06854

METERS—PH

See Indicators—pH

METERS—PHASE-ANGLE

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GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... **ADV PG 7**
HEWLETT-PACKARD PALO ALTO .... **CAL**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND .... **OHIO**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO .... **ADV PG 8**
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW N Y .... **ADV PG 365**
NORTH HILLS ELECTRONICS INC GLEN COVE .... **N Y**
SCIENTIFIC-ATLANTA INC ATLANTA .... **GA**
THETA INSTRUMENT CORP FAIRFIELD .... **N J**
WEINSCHEL ENGINEERING CO INC GAITHERSBURG .... **MD**
Acton Laboratories Inc Acton .... Mass
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ .... U K
A & M Instruments Inc Great Neck .... N Y
Ando Electric Co Ltd Ohta-ku, Tokyo .... Japan
Aritech Corp Brighton .... Mass
Beckwith Electric Co Inc Mt Prospect Ill
Canadian Research Institute Don Mills .... Ont
Dranetz Engineering Labs Inc Plainfield .... N J
Dytronics Co Inc Columbus .... Ohio
Eastern Specialty Co Philadelphia .... Pa
E I L Instrument Div Unitec Industries Timonium .... Md
General Electric Co, ECSO Schenectady .... N Y
Hewlett-Packard Palo Alto .... Cal
Hickok Electrical Instrument Co Cleveland .... Ohio
Honeywell Test Instruments Div Denver .... Colo
Industrial Test Equipment Co Port Washington .... N Y
IRA Systems Inc Waltham .... Mass
Korfund Dynamics Corp Westbury .... N Y
Larson Instrument Co Inc Orangeburg .... N Y
Measurement Technology Corp Canoga Park .... Cal
Meguro Denpa Sokki K K Meguro-ku, Tokyo .... Japan
Microlab/F X R Livingston .... N J
North Atlantic Industries Inc Plainview .... N Y
North Hills Electronics Inc Glen Cove .... N Y
Nu-Devices Inc Norwalk .... Conn
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
PMF Electronics Inc Dayton .... Ohio
Princeton Applied Research Corp Princeton .... N J
Procedyne Corp New Brunswick .... N J
Racal Electronics Ltd Bracknell Berks .... England
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Scientific-Atlanta Inc Atlanta .... Ga
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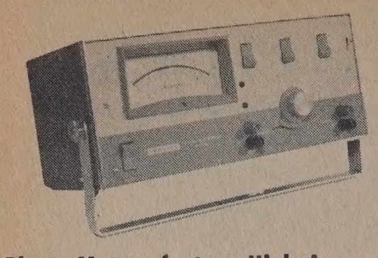

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- ☐ High sensitivity—to 1MV
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Theta Instrument Corp Fairfield . . . . N J
Trio Laboratories Inc Plainview . . . . N Y
Universal Ad-Yu Electronics Inc Passaic . . . . N J
Vibration Instruments Co Anaheim . . . . Cal
Voltron Products Inc Pasadena . . . . Cal
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
Wavetek San Diego . . . . Cal
Weinschel Engineering Co Inc Gaithersburg . . . . Md
Westinghouse Electric Corp, Relay & Instr Div Newark . . . N J
Weston Instruments Div Weston Instr Inc Newark . . . . N J
Wiltron Co Palo Alto . . . . Cal

METERS—POWER

***See* Wattmeters also Bolometers; Calorimeters; Ammeters; Meters— Field Intensity**

METERS—POWER-FACTOR

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GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y . . . . ADV PG 7
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
INTRONICS INC NEWTON . . . . MASS
NORTH HILLS ELECTRONICS INC GLEN COVE . . . . N Y
A & M Instruments Inc Great Neck . . . . N Y
Beckman Instruments Inc Fullerton, ... Cal
Beckwith Electric Co Inc Mt Prospect Ill
Bitronics Inc Bethlehem . . . . Pa
Canadian Research Institute Don Mills . . . . Ont
Darcy Industries Inc Santa Monica . . . . Cal
Dranetz Engineering Labs Inc Plainfield . . . . N J
E I L Instrument Div Unitec Industries Timonium . . . . Md
Epic Inc New York . . . . N Y
Esterline Angus Div Esterline Corp Indianapolis . . . . Ind
Ferranti, Ltd Lancashire . . . . England
General Electric Co, ECSO Schenectady . . . . N Y
Hallmark Standards Inc Mount Vernon . . . . N Y
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Industrial Test Equipment Co Port Washington . . . . N Y
International Electronics Corp Melville . . . . NY
Intronics Inc Newton . . . . Mass
Metermaster, Inc Los Angeles . . . . Cal
North Hills Electronics Inc Glen Cove . . . . N Y
PMF Electronics Inc Dayton . . . . Ohio
Ramyr Mfg Co Buena Park . . . . Cal
Scientific Columbus Inc Columbus . . . . Ohio
Singer Co Instrumentation Div Bridgeport . . . . Conn
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Voltron Products Inc Pasadena . . . . Cal
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio

Westinghouse Electric Corp, Relay & Instr Div Newark . . . N J
Weston Instruments Div Weston Instr Inc Newark . . . . N J

METERS, POWER LEVEL—A-F

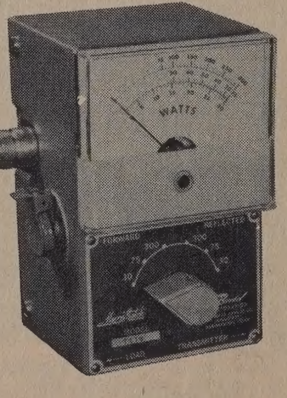
ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
DRANETZ ENGINEERING LABS INC PLAINFIELD . . . . N J
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
INTRONICS INC NEWTON . . . . MASS
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . N Y
A & M Instruments Inc Great Neck . . . . N Y
Anritsu Electric Co Ltd Tokyo . . . . Japan
Bartlett-Emery Instrument Co Fort Madison . . . . Iowa
Beckman Instruments Inc Fullerton, ... Cal
Canadian Research Institute Don Mills . . . . Ont
Daven Div McGraw-Edison Co Manchester . . . . N H
Dranetz Engineering Labs Inc Plainfield . . . . N J
Hallmark Standards Inc Mount Vernon . . . . N Y
Hickok Electrical Instrument Co Cleveland . . . . Ohio
International Electronics Corp Melville . . . . NY
Intronics Inc Newton . . . . Mass
Kikusui Electronics Corp
Kanagawa City . . . . Kanagawa Pref Japan
Kokuyo Electric Co Ltd Tokyo . . . . Japan
Meguro Denpa Sokki K K Meguro-ku, Tokyo . . . . Japan
Mura Corp Great Neck . . . . N Y
Narda Microwave Corp Plainview . . . . N Y
Northeast Electronics Corp Concord . . . . N H
Optics Technology Inc Palo Alto . . . . Cal
Philco-Ford Corp Washington . . . . D C
Q V S Inc East Orange . . . . N J
Ramyr Mfg Co Buena Park . . . . Cal
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Singer Co Instr Div Ballantine Oper Boonton . . . . N J
Standard Telephones & Cables Ltd London WC 2 . . . . England
Tele-Signal Corp Sub Singer Co Woodbury . . . . N Y
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
Western Reserve Electronics, Inc Cleveland . . . . Ohio

METERS, POWER LEVEL—MICROWAVE

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN
IND . . . . ADV PG 366
HEWLETT-PACKARD PALO ALTO . . . . CAL
Altronic Research Corp Cleveland . . . . Ohio
A & M Instruments Inc Great Neck . . . . N Y
Anritsu Electric Co Ltd Tokyo . . . . Japan
Automatic Metal Products Corp Brooklyn . . . . N Y
Bendix Corp, Microwave Devices Div Franklin . . . . Ind
Electro Impulse Lab Inc Red Bank . . . . N J
General Microwave Corp Farmingdale . . . . N Y
Harris-Intertype Corp Cleveland . . . . Ohio
Hewlett-Packard Palo Alto . . . . Cal

wattmeters

RF POWER and VSWR



For full information,
call or write:
Microwave Devices Division,
The Bendix Corporation
Hurricane Road,
Franklin, Indiana 46131
Tel: 317/736-6136

Bendix

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MSI Electronics Inc Woodside . . . . N Y
Narda Microwave Corp Plainview . . . . N Y
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Pacific Measurements Inc Palo Alto . . . . Cal
Philco-Ford Corp Washington . . . . D C
PRD Electronics Inc, Sub H-I Corp Westbury . . . . N Y
Ramcor Inc Huntington . . . . NY
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Standard Telephones & Cables Ltd London WC 2 . . . . England
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio

METERS, POWER LEVEL—R-F

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN . . IND
BIRD ELECTRONIC CORP CLEVELAND (SOLON) OHIO . . . . ADV PGS 368,369
HEWLETT-PACKARD PALO ALTO . . . . CAL
INTRONICS INC NEWTON . . . . MASS
Aerospace Research, Inc Boston . . . . Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . . N Y
Alfred Electronics Palo Alto . . . . Cal
Altronic Research Corp Cleveland . . . . Ohio
A & M Instruments Inc Great Neck . . . . N Y
Anritsu Electric Co Ltd Tokyo . . . . Japan
Automatic Metal Products Corp Brooklyn . . . . N Y
Bayly Engineering Ltd Ajax . . . . Ont
Beckman Instruments Inc Fullerton, ... Cal
Bendix Corp, Microwave Devices Div Franklin . . . . Ind
B F Electronics Solana Beach . . . . Cal
Bird Electronic Corp Cleveland (Solon) . . . . Ohio
Boonton Electronics Corp Parsippany . . . . N J
Comdel Inc Beverly . . . . Mass
Electro Impulse Lab Inc Red Bank . . . . N J
Farinon Electric San Carlos . . . . Cal
General Microwave Corp Farmingdale . . . . N Y
Hewlett-Packard Palo Alto . . . . Cal
International Electronics Corp Melville . . . . NY
Intronics Inc Newton . . . . Mass
Kikusui Electronics Corp Kanagawa City . . . . Kanagawa Pref Japan
Marconi Instruments Div, English Electric Corp Englewood . . . . N J
Mobil Electronics Inc Anderson . . . . Ind
Mura Corp Great Neck . . . . N Y
Narda Microwave Corp Plainview . . . . N Y
Pacific Measurements Inc Palo Alto . . . . Cal
Philco-Ford Corp Washington . . . . D C
PRD Electronics Inc, Sub H-I Corp Westbury . . . . N Y
Racal Electronics Ltd Bracknell Berks . . . . England
Ramcor Inc Huntington . . . . NY
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Singer Co Instrumentation Div Bridgeport . . . . Conn
Standard Telephones & Cables Ltd London WC 2 . . . . England
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio
Wandel & Goltermann, W & G Instr Inc Hanover . . . . N J
Wiltron Co Palo Alto . . . . Cal

METERS—Q

DRANETZ ENGINEERING LABS INC PLAINFIELD . . . . N J
HEWLETT-PACKARD PALO ALTO . . . . CAL
Advance Electronics Ltd Ilford Essex . . . . England
Allen Aircraft Radio Inc Elk Grove Village Ill
A & M Instruments Inc Great Neck . . . . N Y
Beckman Instruments Intl SA 1207 Geneva . . . . Switzerland
Dranetz Engineering Labs Inc Plainfield . . . . N J
Freed Transformer Co Inc Brooklyn . . . . N Y
Hewlett-Packard Palo Alto . . . . Cal
Kokuyo Electric Co Ltd Tokyo . . . . Japan
Marconi Instruments Div, English Electric Corp Englewood . . . . N J
Meguro Denpa Sokki K K Meguro-ku, Tokyo . . . . Japan
New London Instrument Co New London . . . . Conn
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Taffet Electronics Inc Woodside . . . . N Y

METERS—Q DIGITAL

IDEAL PRECISION METER CO INC BROOKLYN . . . . N Y
Darcy Industries Inc Santa Monica . . . . Cal
Engler Instrument Co Jersey City . . . . N J
Ideal Precision Meter Co Inc Brooklyn . . . . N Y
J-Omega Co Mountain View . . . . Cal
Measurement Technology Corp Canoga Park . . . . Cal

METERS—RADIATION, NUCLEAR

See **Counters—Nuclear; Chambers—Ionization; Dosimeters**

METERS—RUNNING TIME

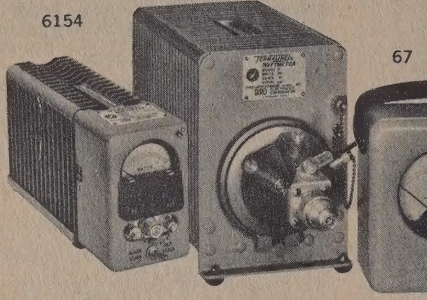
See **Timers—Motor-Operated**

METERS—SOUND LEVEL

HEWLETT-PACKARD PALO ALTO . . . . CAL
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
TRACOR INC AUSTIN . . . . TEX
A & M Instruments Inc Great Neck . . . . N Y
Amperex Electronic Corp, Component Div Hauppauge . . . . N Y
Amstro Corp Fairfield . . . . N J
Bartlett-Emery Instrument Co Fort Madison . . . . Iowa

TERMALINE®

RF ABSORPTION WATTMETERS



TERMALINE®

RF ABSORPTION WATTMETERS

Are direct reading instruments for absorbing and measuring RF power in 50-ohm coaxial line systems through the frequencies of 2 to 1000 MHz. The load section of the TERMALINE Wattmeter serves as a dummy load. The indicating meter is calibrated to read RF power directly in watts with ±5% of full scale accuracy. TERMALINE Wattmeters are available from milliwatts to kilowatts.

Maximum Power	Calibrated Frequency Range	Power Scales Available	Connector	Model	U.S. Price
		AIR-COOLED			
2W	30-500MHz	25, 50, 100, 250, 500, 1000 milliwatts, 2 watts	BNC/F	6254	$115
60W	30-500MHz*	Dual range: 0-15/0-60W	N/F	611	175
80W	30-500MHz*	Dual range: 0-20/0-80W	N/F	612	175
80W	30-500MHz*	Choice of two compatible scales (eg.: 1-5W, 5-25W, 2-20W)	N/F	61	220
150W	25-1000MHz**	Four range: 0-5/0-15/0-50/0-150W	N/F	6154	265
500W	30-500MHz*	Triple range: 0-25/0-100/0-500W	QC(1)	67	350
1000W	2-30MHz	0-1000W	QC(1)	694	365
1200W	30-500MHz	Triple range: 0-120/0-600/0-1200W	QC(1)	6835	485
		WATER-COOLED			
2500W	30-500MHz*	Triple range: 0-100/0-500/0-2500W	QC(1)	67C	$390

*Special calibration 500-1000 MHz available at time of order.
**25-500 MHz ±5%, 500-1000 MHz ±10% Accuracy.

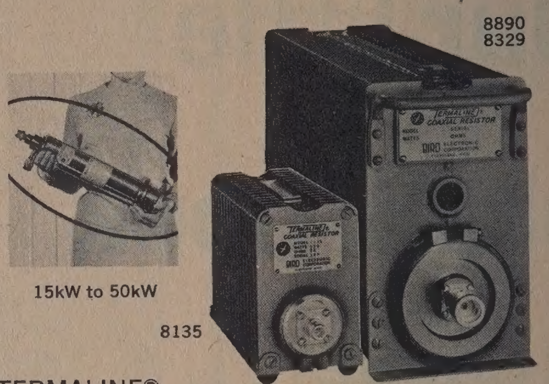
COAXIAL RF FILTERS

Custom engineered or field-proven designs. High rejection attenuation filters available with Low-pass cut-off from 16 to 2700 MHz (about fifty designs at 400 MHz), Hi-pass cut-off frequencies from 30 to 1000 MHz, Band-pass as narrow as 5% of center frequency. Sizes from ½ cubic inches, with subminiature connectors, to 3⅛" line.

TERMALINE®

RF COAXIAL LOAD RESISTORS

TENULINE® POWER ATTENUATORS



TERMALINE®

RF COAXIAL LOAD RESISTORS

For accurate, non-radiating termination of 50-ohm RF coaxial transmission lines are designed for use in permanent installations, development testing and trouble shooting of transmitters, intermediate components, power tubes, and accessories.

TENULINE® POWER ATTENUATORS

In addition to terminating a 50-ohm system, deliver an output signal 30 dB below the input, for RFI measurements, for extending the range of low-power wattmeters, for isolation of system components, etc.

Max. Power	Freq. Range	Max. VSWR	Connector Input	Model	U.S. Price
			AIR-COOLED		
2W	0-4GHz	1.1	N/M or F	8011 or 10	$ 20
5W	0-4GHz	1.2	N/M or F	80	25
5W	0-4GHz	1.2	M or F: C, BNC, TNC	80	30
10W	0-4GHz	1.2	N/M or F	8053 or 52	30
20W	0-3.5GHz	1.3	N/F	80A	30
25W	0-3.5GHz	1.25	QC(3)	8080	40
50W	0-4GHz	1.2	QC(1)	8130	49
80W	0-4GHz	1.2	N/F	81B	65
100W	0-2.5GHz	1.2	QC(3)	8160	125
150W	0-4GHz	1.2	QC(1)	8135	75
225W	0-2.5GHz	1.2	QC(3)	8161	157
500W	0-2.5GHz	1.25	QC(1)	8201	165
600W	0-3GHz	1.25	QC(1)	8401	175
1000W	0-2GHz	1.25	QC(2)	8251	365
1000W	0-2.5GHz	1.25	QC(2)	8833**	365
2500W	0-2GHz	1.25	QC(2)	8890**	425
2500W	0-2GHz	1.25	3⅛" EIA Flanged	8891**	450
2500W	0-2GHz	1.25	1⅝" EIA Flanged	8892**	435
			WATER-COOLED		
1000W	0-3.5GHz	1.25	M or F: N,C	8710/11	$200
2500W	0-2.5GHz	1.25	QC(2)	8230	180
5kW	0-2GHz	1.2	1⅝" EIA Flanged	8720	325
10kW	0-1.4GHz	1.15	3⅛" & 1⅝" EIA Fl.	8732/6	Inquire
15kW 25kW 50kW	0-500MHz 0-500MHz 0-500MHz	1.1	3⅛" (Adapters to 1⅝" and 6⅛" available)	See note below	on request

Six models of 15, 25, and 50kW Load Resistors are available with 50-ohm EIA or 51.5-ohm Unflanged Input Connectors. Write for details.

Max. Power	Freq. Range	Max. VSWR	Connector Input	Model	U.S. Price
			30 dB ATTENUATORS (AIR COOLED)		
50W	0-500MHz	1.1	QC(1) in. (1) out	8321	$125
200W	0-500MHz	1.1	QC(1) in. (1) out	8322	225
500W	0-500MHz	1.1	QC(1) in. (1) out	8325	400
1000W	0-500MHz	1.1	QC(2) in. (1) out	8327**	475
2000W	0-500MHz	1.1	QC(2) in. (1) out	8329**	600

**Overtemperature Thermoswitch available.

BIRD RF POWER 50-OHM COAXIAL QUALITY INSTRUMENTS

to measure, terminate, attenuate and filter

Thruline Model	Connectors	Plug-in Elements		U.S. Price
		Frequency (MHz)	Power Ranges (watts)	
43	QC$^{(1)}$			$95
Order one or more elements with your Thruline Wattmeter to suit your frequency and power ranges.		2-30	50, 100, 250, 500, 1000, 2500, 5000	$30 each
		25-60, 50-125 100-250, 200-500, 400-1000	5, 10, 25, 50,100, 250, 500, 1000	
		60-80, 80-95, 95-125 110-160, 150-250, 200-300, 275-450, 425-850, 800-950	1 watt	$50 each
Cowhide Carrying Case model CC-1 $17.50		60-80, 80-95, 95-150, 150-250, 200-300, 250-450, 400-850, 800-950	2.5 watts	
		950-1260, 1100-1800, 1700-2200, 2200-2300	1, 2.5, 5, 10, 25	$75 each
4311	QC$^{(1)}$			$575
	For Peak and CW Power use Elements listed above, or select from Peak Power Elements below.			
		25-60, 50-125, 100-250, 200-500, 400-1000	2.5kW, 5kW, 10kW	$75 each
		950-1260	50, 100, 250, 500, 1000, 2.5kW, 5kW	

Mini-Monitor™ Thruline Model	Connectors	Freq. Range	Power Scales	U.S. Price
4111	UHF, N, BNC	25-175MHz	150/15W	$105 each
4112	N, UHF, BNC	2-30MHz	200/20W	
4113	N, UHF, BNC	2-30MHz	1000/100W	
4114	N, UHF, BNC	450-470MHz	50/5W	

Carrying Case Model CC-2 $6.50

Thruline Model	Connectors	Plug-in Elements		U.S. Price
		Frequency (MHz)	Power Ranges (kilowatts)	
4712	1⅝" EIA Flanged			$206
		2-30	1, 2.5, 5, 10, 25	$ 50 each
		25-60, 50-125	.25, .50, 1, 2.5, 5, 10	
		.1-.25, .2-.5, .4-1 GHz	.25, .50, 1, 2.5, 5	
460	3⅛" EIA Flanged			$235
		2-30	5, 10, 25, 50, 100	$ 50 each
		25-60, 50-125, 100-250, 200-500, 400-1000	1, 2.5, 5, 10, 25	
4902	6⅛" EIA Flanged			$600
		2-30	25, 50, 100, 250	$ 50 each
		25-60, 50-125 100-250, 200-500, 400-1000	2.5, 5, 10, 25, 50	

THRULINE® RF DIRECTIONAL WATTMETERS

Insertion instruments for measuring and monitoring incident and reflected power in coaxial transmission lines with ± 5% of full scale accuracy. Insertion VSWR is less than 1.05. Net power under any load condition is the difference between incident and reflected power readings, which also yield load VSWR from a nomograph.

4311 THRULINE Peak **and** CW Wattmeter **also** measures power of **pulsed RF** systems such as air navigational aids, telemetry, radar, etc. from 0.4 microsecond pulse width (± 8% accuracy).

Models 4111-12-13-14 are new palm-sized CW Wattmeters with one forward and one reflected power scale for servicing transmitters in the 2-30 MHz, 25-175 MHz or the 450-470 MHz frequency range.

Line Sections with single or double element sockets for all THRULINE Wattmeters, as well as ⅞" diameter instruments available.

QC-TYPE CONNECTORS (Quick Change) Adaptable to particular TERMALINE, THRULINE, and TENULINE units, these connectors may be quickly changed in the field. Connector types available are: Female or male BNC, TNC, N, C, SC. HN. LC. UHF, LT, ⅞" and 1⅝" EIA Flanged.

Normally supplied: (1) Female N, (2) Female LC, (3) Male N.

Prices are subject to change without notice. F.O.B. Cleveland, Ohio.

OTHER BIRD INSTRUMENTS THRULINE® RF DIRECTIONAL POWER SENSORS • TERMALINE® CALORIMETERS • BIRD WATTCHER® RF POWER MONITOR/ALARM • SENTRILINE® FILTER-COUPLERS • COAXWITCH® COAXIAL SELECTOR SWITCHES.

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Inglewood, Cal.: 5005 W. Century Blvd. (213) 674-1446
Waltham, Mass.: 235 Bear Hill Road (617) 899-4162
Altamonte Springs, Fla.: 703 Beverly (305) 831-1530
Lititz, Pa.: P. O. Box 169 (717) 626-8518
Palatine, Ill.: 234 N. Northwest Hwy. (312) 359-0300

BIRD ELECTRONIC CORPORATION
30303 Aurora Road / Cleveland (Solon), Ohio 44139 / Phone 216-248-1200
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Beede Electrical Instrument Co, Inc Penacook	N H
Canadian Research Institute Don Mills	Ont
Conn Corp Elkhart	Ind
Cosmocord Ltd Waltham Cross	Hertfordshire UK
Daven Div McGraw-Edison Co Manchester	N H
Dawe Instruments Ltd London W3	England
ELIT-Elettronica Italiana S r l 20151 Milan	Italy
En-Cer Inc South Holland	Ill
General Radio Co West Concord	Mass
Gotham Audio Corp New York	N Y
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Honeywell Precision Meter Div Manchester	N H
International Electronics Corp Melville	NY
Korfund Dynamics Corp Westbury	N Y
Lab Electro-Acoustique 92 Rueil-Malmaison	France
Lafayette Radio Electronics Syosset	NY
Mura Corp Great Neck	N Y
Northeast Electronics Corp Concord	N H
Perfectone Sound Labs Allendale	NJ
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Sankyo Seiki Mfg Co, Ltd Tokyo	Japan
Scott Inc, H H Maynard	Mass
Simpson Electric Co Chicago	Ill
Standard Telephones & Cables Ltd London WC 2	England
Sterling Mfg Co Cleveland	Ohio
Sun Electric Corp Chicago	Ill
Toyo Musen Co Ltd Tokyo	Japan
Tracor Inc Austin	Tex
Triplett Electrical Instrument Co Bluffton	Ohio
Wac Line Div Simmonds Precision Prods Dayton	Ohio

METERS—STANDING WAVE

HEATH CO BENTON HARBOR	**MICH**
HEWLETT-PACKARD PALO ALTO	**CAL**
SYSTRON-DONNER CORP CONCORD	**CAL**
WEINSCHEL ENGINEERING CO INC GAITHERSBURG	**MD**
Alford Mfg Co Winchester	Mass
Altronic Research Corp Cleveland	Ohio
Amperex Electronic Corp, Component Div Hauppauge	N Y
General Microwave Corp Farmingdale	N Y
General Radio Co West Concord	Mass
Heath Co Benton Harbor	Mich
Hewlett-Packard Palo Alto	Cal
Johnson Co, E F Waseca	Minn
Kyoritsu Electrical Instruments Works Ltd Tokyo	Japan
Microlab/F X R Livingston	N J
Mura Corp Great Neck	N Y
Narda Microwave Corp Plainview	N Y
New-Tronics Corp Brookpark	Ohio
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Racal Electronics Ltd Bracknell Berks	England
Robins Electronics La Mesa	Cal
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Singer Co Instrumentation Div Bridgeport	Conn
Systron-Donner Corp Concord	Cal
Technical Materiel Corp Mamaroneck	N Y
Transcom Electronics Inc La Mesa	Cal
Weinschel Engineering Co Inc Gaithersburg	Md
Wiltron Co Palo Alto	Cal

METERS—TENSION

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
Automatic Timing & Controls, Inc King of Prussia	Pa
Chatillon & Sons, John Kew Gardens	N Y
Coil Winding Equipment Co Oyster Bay	N Y
Custom Scientific Instruments Inc Whippany	N J
Dillon & Co Inc, W C Van Nuys	Cal
Electromatic Equipment Co Cedarhurst	N Y
General Electric Co, ECSO Schenectady	N Y
Industrial Winding Machinery Corp River Edge	N J
Kinetic Systems Inc Concord	Mass
Martin-Decker Corp Santa Ana	Cal
Master Tower Co Sioux City	Iowa
Plessey Airborne Corp Hillside	NJ
Sigma Systems Corp, Sub Applied Science Inc Dallas	Tex
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Tensitron Inc Harvard	Mass
Transducers, Inc Santa Fe Springs	Cal
Wac Line Div Simmonds Precision Prods Dayton	Ohio
West Coast Research Corp Los Angeles	Cal

METERS—THERMOCOUPLE

API INSTRUMENTS CO CHESTERLAND	**OHIO**
IDEAL PRECISION METER CO INC BROOKLYN	**N Y**
SIEMENS AMERICA INC NEW YORK	**N Y**
Advanced Dynamics Inc Div Alco Std Corp Cleveland	Ohio
Aeromarine Electronics, Inc San Diego	Cal
Aircraft Components Inc Benton Harbor	Mich
A & M Instruments Inc Great Neck	N Y
Amstro Corp Fairfield	N J
API Instruments Co Chesterland	Ohio
Bailey Co Washington	D C
Bailey Meter Co Wickliffe	Ohio
Bartlett-Emery Instrument Co Fort Madison	Iowa
Beede Electrical Instrument Co, Inc Penacook	N H
Bristol Div, American Chain & Cable Co Waterbury	Conn
Canadian Research Institute Don Mills	Ont
Doric Scientific Corp San Diego	Cal
Dytro Corp Hicksville	NY
E I L Instrument Div Unitec Industries Timonium	Md
Electronic Development Labs Inc Plainview	N Y
En-Cer Inc South Holland	Ill
Esterline Angus Div Esterline Corp Indianapolis	Ind
Ferranti, Ltd Lancashire	England
Fredericks Co Huntingdon Valley	Pa
Gentran Inc Santa Clara	Cal
Gruenberg Electric Co Inc Garden City	N Y
Hallmark Standards Inc Mount Vernon	N Y
Ideal Precision Meter Co Inc Brooklyn	N Y
Industrial Electronetics Corp Satellite Beach	Fla
Instrulab Inc Dayton	Ohio
Kaye & Co Inc, Joseph Cambridge	Mass
Larson Instrument Co Inc Orangeburg	N Y
Lewis Engineering Co Naugatuck	Conn
Marlin Mfg Corp Cleveland	Ohio
Metermaster, Inc Los Angeles	Cal
Model Rectifier Corp Brooklyn	N Y
Nanmac Corp Framingham Centre	Mass
Narda Microwave Corp Plainview	N Y
Nichols Co Ltd, R H Downsview	Ont
Omega Engineering Inc Stamford	Conn
Plessey Airborne Corp Hillside	NJ
PMF Electronics Inc Dayton	Ohio
Pyco Inc Penndel	Pa
Pyrometer Instrument Co Inc Northvale	N J
Pyro-Serv Instruments, Inc North Arlington	N J
Rawson-Lush Instrument Co Inc Acton	Mass
Siemens America Inc New York	N Y
Sigma Instruments Inc Braintree	Mass
Simpson Electric Co Chicago	Ill
Singer Co Instrumentation Div Bridgeport	Conn
Solitron/Microwave Long Island City	N Y
Sun Electric Corp Chicago	Ill
Sunshine Scientific Instruments Inc Philadelphia	Pa
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Thermo Electric Co Inc Saddle Brook	N J
Triplett Electrical Instrument Co Bluffton	Ohio
United Systems Corp Dayton	Ohio
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Westinghouse Electric Corp, Relay & Instr Div Newark	N J
West Instrument Div Gulton Ind Inc Schiller Park	Ill
Weston Instruments Div Weston Instr Inc Newark	N J
Zeva Electric Corp Hanover	N J

METERS—VIBRATION

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG 8**
IDEAL PRECISION METER CO INC BROOKLYN	**N Y**
ITHACO INC ITHACA	**N Y**
TRACOR INC AUSTIN	**TEX**
Agac-Derritron Inc Alexandria	Va
Amstro Corp Fairfield	N J
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bently Nevada Corp Minden	Nev
Cosmocord Ltd Waltham Cross	Hertfordshire UK
Dawe Instruments Ltd London W3	England
Dytronics Co Inc Columbus	Ohio
Endevco Corp Pasadena	Cal
Epic Inc New York	N Y
General Electric Co, ECSO Schenectady	N Y
General Radio Co West Concord	Mass
Helm Instrument Co Inc Toledo	Ohio
Honeywell Test Instruments Div Denver	Colo
Ideal Precision Meter Co Inc Brooklyn	N Y
Indikon Co Inc Watertown	Mass
Industrial Electronetics Corp Satellite Beach	Fla
International Research & Development Corp Worthington	Ohio
Ithaco Inc Ithaca	N Y
MB Electronics A Textron Co New Haven	Conn
Metrix Instrument Co Houston	Tex
Model Rectifier Corp Brooklyn	N Y
MTI- Mechanical Technology Inc Latham	NY
Reliance Electric Co Cleveland	Ohio
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Spectral Dynamics Corp of San Diego San Diego	Cal
Toyo Musen Co Ltd Tokyo	Japan
Tracor Inc Austin	Tex
Unholtz-Dickie Corp Hamden	Conn
Wavelabs Co Div Systron-Donner Corp Concord	Cal
Wayne Kerr Co c/o Southfield Electronics Southfield	Mich
Westberg Mfg Co Sonoma	Cal
Wharton Unitools Moosup	Conn

METERS—VOLTAGE RATIO

***See* Voltmeters**

METERS—VOLT-OHM, ELECTRONIC

***See* Voltmeters—Vacuum Tube**

METERS—VOLT-OHM-MILLIAMMETERS

***See* Volt-Ohm-Milliammeters**

METERS—VU

***See* Meters—Sound Level**

METERS—WATTMETERS

***See* Wattmeters**

METERS—WAVE

***See* Wavemeters**

METHYL METHACRYLATE

***See* Plastics**

MICA—GLASS

MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE	**IL**
Asheville-Schoonmaker Mica Co Newport News	Va
Blinn Co Inc, Delbert Pomona	Ca
Budd Co Polychem Div Newark	De
Columbia Technical Corp Woodside	N
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Ca
Industrial Optics Div Yardney Razdow Labs Newark	N
Macallen Co Inc Newmarket	N
Magnetic Shield Div, Perfection Mica Co Bensenville	I
McMillan Radiation Labs Inc Ipswich	Mas
3M Company St Paul	Min
Mykroy Inc Wheeling	I
Polymica & Insulation Co Inc Hartford	Con
Polysciences Inc Warrington	P
Sylvania Electric Prods Inc, Parts Div Warren	P
United Mineral & Chemical Corp New York	N

MICA—GLASS-BONDED

MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE	**IL**
American Mica Insulation Co Manasquan	N
Aremco Products Inc Briarcliff Manor	N
Columbia Technical Corp Woodside	N
Haveg Industries, Inc, Precision Molding Div Taunton	Ma
Insulating Fabricators Inc East Rutherford	N
Insulating Fabricators of N E Inc Watertown	Ma
Insulating Shapes Inc Bronx	N
Leed Insulator Corp Los Angeles	C
Magnetic Shield Div, Perfection Mica Co Bensenville	
3M Company St Paul	Mi
Molecular Dielectrics Inc Clifton	N
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton	N
Mykroy Inc Wheeling	
Quartz & Silice Paris 8 eme	Fran
Spaulding Fibre Co Inc Tonawanda	N
United Mineral & Chemical Corp New York	N

MICA—SYNTHETIC

MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE	
American Mica Insulation Co Manasquan	N
Columbia Technical Corp Woodside	N
General Compounds Co, Div Kai R Kuhl Co Los Angeles	
Insulating Fabricators Inc East Rutherford	N
Magnetic Shield Div, Perfection Mica Co Bensenville	
3M Company St Paul	Mi
Molecular Dielectrics Inc Clifton	N
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton	N
Mykroy Inc Wheeling	
Polymica & Insulation Co Inc Hartford	C
Topper Mfg Co Inc Great Neck	

MICA TUBING

***See* Tubing—Nonmetallic**

MICROAMMETERS

***See* Ammeters**

MICROELECTRONIC CIRCUITS

***See* Circuits—Integrated**

MICROELECTRONIC MODULES

***See* Modules—Active**

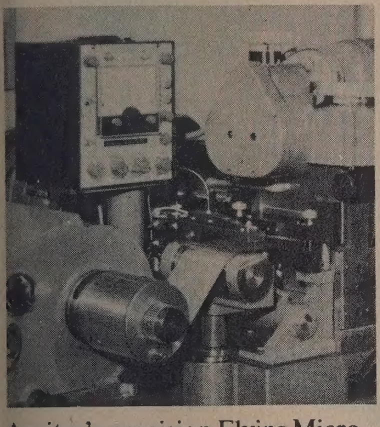
Forget the manufacturer's

phone number?

Check the green pages.

Anritsu

Do you know
Flying Micro ?



Anritsu's precision Flying Micrometer is used to continuously measure the thickness of a plate during rolling process.

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Phone: Tokyo 442-8171/Telex: 0242-2353
Cable: ANRITDENKI TOKYO

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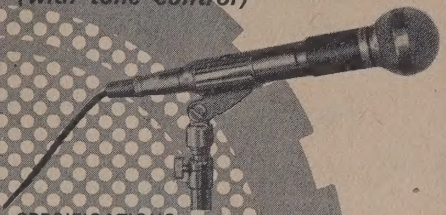

SPECIFICATIONS
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- Sensitivity: −73 dB ±2 dB/μ bar
- Frequency Response: 50 to 15000 Hz ±5 dB
- Dimensions: 50 mm dia. 250 mm Length

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MICROPHONE

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- Impedance: 600 ohms ±20% re. 1000Hz
- Sensitivity: −70 dB ±3 dB re. 1000Hz
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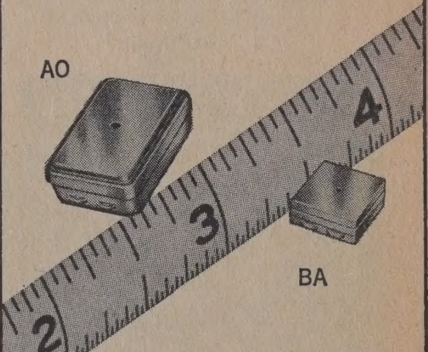

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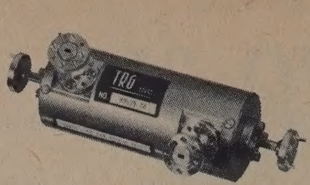
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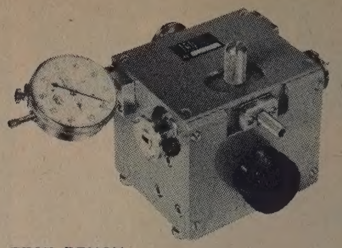
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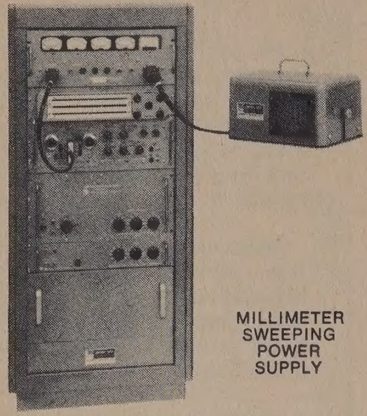
COMPONENTS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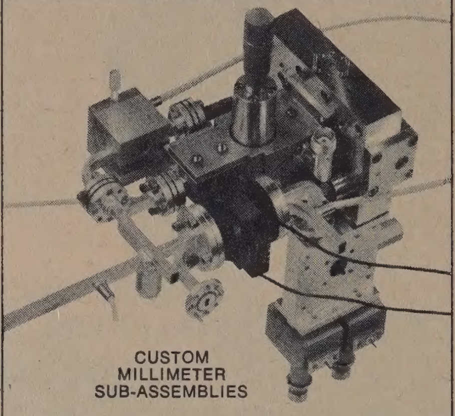
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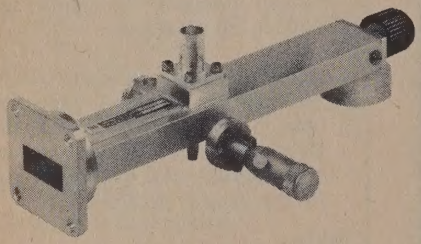
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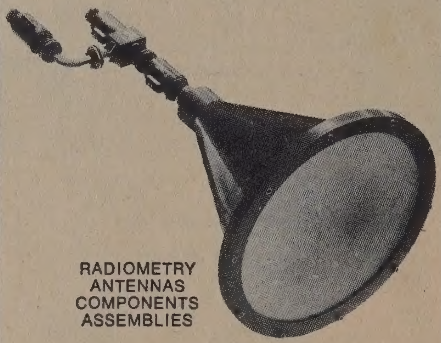
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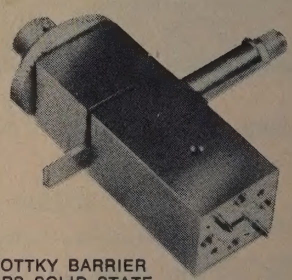
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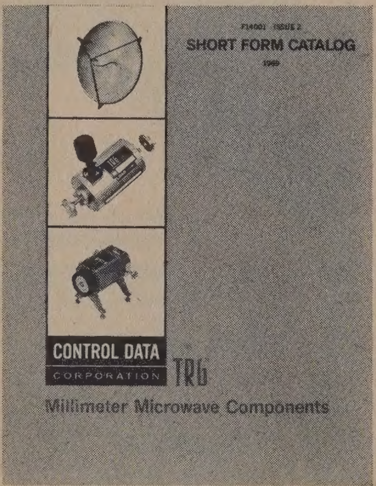
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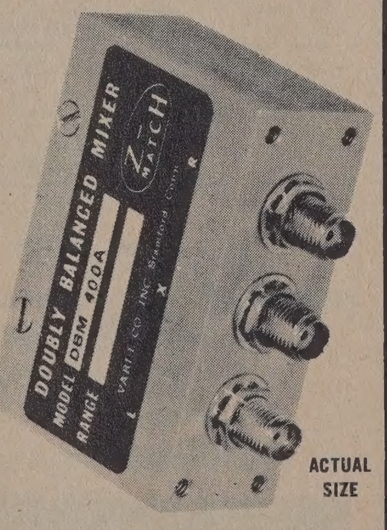

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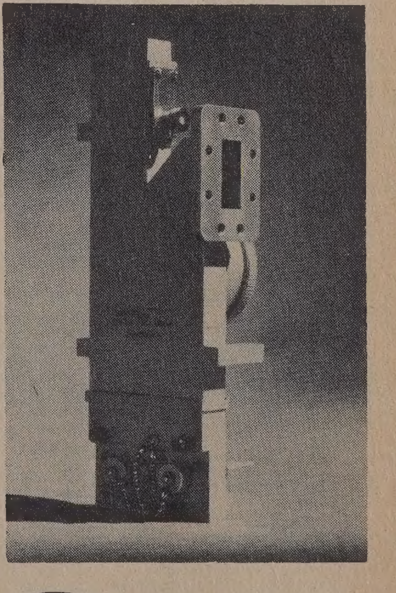

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4.5-5.15	CCH	6.5 to 7.0	1.5:1	1	13
5.15-5.85	CDH	6.5 to 7.0	1.2:1	1	13
7.3-8.5	XAH	6.5 to 7.0	1.2:1	1	13
8.5-9.6	XBH	6.5 to 7.0	1.2:1	1	13
9.4-10.3	XCH	6.5 to 7.0	1.2:1	1	13
10.3-12.0	XDH	8.5 to 9.5	1.2:1	1	13
12.4-14.5	KAH	8.5 to 9.0	1.2:1	1	13
14.5-17.0	KBH	8.5 to 9.0	1.2:1	1	13
23.0-25.0	KCH	9.0 to 9.7	1.3:1	1	13
34.0-36.0	KDH	9.0 to 10	1.2:1	1	13
waveguide/waveguide orthogonal and tee					
8.2-12.4	XDB	8.0 to 9.0	3.5:1	2	15
12.4-18.0	KAB	8.0 to 9.0	3.0:1	2	15
18.0-26.5	KFT	10.5 to 11.5	5.0:1	2	15
26.5-40.0	KGT	11.0 to 12.0*	5.0:1	2	15
*17 dB max. between 38 and 40 GHz					
coax to coax					
0.2-1.0	UFK	7.0 to 8.0	2:1	2	15
0.9-1.8	LAK	7.0 to 8.0	2:1	2	15
1.0-2.0	LAC	8.0 to 8.5	1.3:1	1	6
1.7-2.4	SAC	8.0 to 8.5	1.3:1	1	6
2.0-4.0	SBC	8.0 to 8:5	1.3:1	1	6
4.0-7.0	CAC	8.0 to 8.5	1.3:1	1	6
4.0-8.0	CJC	8.0 to 9.5	1.3:1	1	6

STANDARD PREAMPLIFIER CHARACTERISTICS

Center Frequency MHz	Bandwidth MHz	†RF to IF Gain dB	*IF N.F. over 1.2 dB dB	Max. Mixer Input Signal dBm
-2 miniature tube preamps				
30	8	24	0	–10
30	12	20	0	–7
60	8	24	0.4	–10
60	12	20	0.4	–7
70	8	23	0.7	–10
70	12	20	0.7	–7
-3 miniature tube preamps				
30	8	40	0	–33
30	12	32	0	–27
60	8	40	0.4	–33
60	12	32	0.4	–27
60	20	24	0.8	–20
70	8	38	0.7	–33
70	12	30	0.7	–27
70	20	24	1.1	–20
-7 solid state preamps				
30	12	24	1.0	–24
30	20	19	1.0	–24
60	12	24	1.0	–24
60	20	19	1.0	–24
70	12	24	1.0	–24
70	20	19	1.0	–24
-9 solid state preamps				
160	50	24	3.0	–10
250	100	20	3.0	–5

Noise figure of mixer-preamplifiers is obtained by adding range given for the mixer selected and the figure shown under "IF N.F. over 1.2 dB" for the required preamplifier. EXAMPLE: A CBH mixer mating with a -3 preamplifier having a 60 MHz center frequency and 8 MHz bandwidth has a noise figure range of 6.5 to 7.0 dB plus 0.4 dB; thus the noise figure range is 6.9 to 7.4 dB.

†RF to IF power gain: 6 dB (assumed mixer loss) has been deducted from preamplifier gain in determining stated values.

‡For linear operation, an input power increase of 3 dB over the stated "mixer input signal" level will result in less than 1 dB of output signal compression.

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LEL series BMP-1 Mixer-preamplifiers, for broadband receiver and MIL-E-5400 airborne applications, are particularly useful in ECM, multi-antenna, monopulse direction finding equipment.

SPECIFICATIONS: Model BMP 1-160-100-50 (2-10 GHz)
RF range (1.5-12.0 GHz max.) . . . . . . 2-10 GHz
IF range (available to 1 GHz) . . . . . . 160 MHz
IF bandwidth . . . . 100 MHz
Noise figure . . . 11.5 dB typical, 13.0 dB Max.
VSWR . . . . 1.5:1 Max.
Isolation (L.O. to RF) . . . . 8 dB min.
L.O. drive level . . . . 2 mW
Gain (RF to IF) . . . . 17 dB
Power required . . . . ±20V @ 25 mA
Size . . . . 4 9/16" x 2 3/4" x 1 5/16"
Weight . . . . 1 lb.
Connectors . . . . OSM or equivalent

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Inc Bay Shore .... NY
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ral Microwave Corp Farmingdale .... N Y
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ett-Packard Palo Alto .... Cal
rpn Corp of Amer Div KDI Corp Dayton .... Ohio
Electro Science Industries Syracuse .... N Y
Siegler Inc Santa Monica .... Cal
iv Varian Associates Copiague .... N Y
Electronic Systems, Div Loral Corp New York .... NY
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dian Metalcraft Inc Whittier .... Cal
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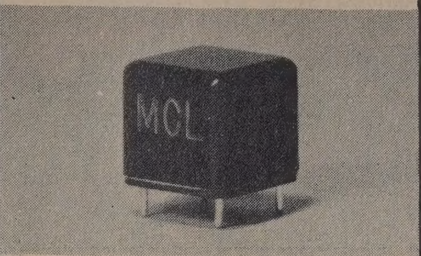

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Meridian Metalcraft Inc Whittier .... Cal
Micromega Div Bunker-Ramo Corp Venice .... Cal
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Portchester Instrument Corp Port Chester .... N Y
Premier Microwave Corp Port Chester .... NY
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Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
Systron-Donner Corp Concord .... Cal
Western Microwave Labs Inc Los Gatos .... Cal

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Industrial Components Inc Div Welsh Corp Beaverton .... Ore
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Lorch Electronics Corp Englewood .... N J
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Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
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S K G Associates Inc Boston .... Mass
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Stern Co Inc M L Charlotte .... N C
Struthers-Dunn Inc Pitman .... N J
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Tri-Tronics Lab Inc Euless .... Tex
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Tyco Instrument Div Waltham .... Mass
Union Carbide Electronics, Semiconductor Dept. San Diego .... Cal
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Analog Devices Inc Cambridge ....
Analog Technology Corp Pasadena ....
Anzac-Waltham, Div Adams-Russell Waltham ....
Applied Control Co Cedar Grove ....
Astro-Space Labs Inc Huntsville ....
Atlantic Instruments & Electronics, Inc Watertown ....
Autronics Corp Pasadena ....
Avco Electronics Div Cincinnati ....
Beckman Instruments Inc, Helipot Div Fullerton ....
Bell & Howell Co, Elctn Instr Grp Pasadena ....
Binary Electronics of Cal Div Avionic Structures Inc Anaheim ....
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica
Borders Electronics Co Inc Medford ....
Brown Engineering-A Teledyne Co Huntsville ....
Burr-Brown Research Corp Tucson ....
Burroughs Corp Electronic Components Div Plainfield ....
California Systems Components, Inc Chatsworth ....
Cambridge Thermionic Corp Cambridge ....
Computer Logic Corp Santa Monica ....
Control Logic Inc Natick ....
Control Science Corp Alexandria ....
Crystalonics A Teledyne Co Cambridge ....
CTS Corp Elkhart ....
CTS Electronics Inc South Pasadena ....
CTS Microelectronics Inc Lafayette ....
Dale Electronics Inc Columbus ....
Dale Electronics Inc, Sioux Div Yankton ....
Data Device Corp Hicksville ....
Dayton Electronics Products Co Dayton ....
Delevan Electronics Div Amer Prec Indus Inc East Auror
Di/An Controls Inc Boston ....
Dickson Electronics Corp Scottsdale ....
Digital Products San Pedro ....
Discon Corp Fort Lauderdale ....
Douglas Randall Inc Westerly ....
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando
E D P Corp Orlando ....
Electronic Associates Inc West Long Branch ....
Electronic Modules Corp Timonium ....
Electronic Research Associates Inc Cedar Grove ....
Elgin Electronics Inc Erie ....
Erie Technological Products Inc Erie ....
Fairlane Electronics, Inc Long Valley ....
Ferranti, Ltd Lancashire ....
Film Microelectronics, Inc Burlington ....
General Dynamics, Electronics Div Rochester ....
General Electric Co, ECSO Schenectady ....
General Instrument Europe SPA Milano ....
Guardian Electric Mfg Co of Cal Inc Culver City ....
Gulton Industries Inc Metuchen ....
Halex Inc Torrance ....
HEI Inc Chaska ....
Hitachi Ltd Chiyoda-Ku, Tokyo ....
Honeywell Inc, Computer Control Div Framingham ....
Hybrid Electronics Inc Bedford ....
Hybrid Systems Corp Burlington ....
Incor Inc Plainview ....
Industrial Instruments Ltd Bromley Kent ....
Information Control Corp El Segundo ....
International Components Corp Asbury Park ....
Intronics Inc Newton ....
Ithaco Inc Ithaca ....
ITT Aerospace, Optical Div Fort Wayne ....
ITT Europe Inc Components Gp Brussels 1 ....
ITT Semiconductors West Palm Beach ....
Jordan Electric Co Van Nuys ....
Kearfott Div Singer-General Precision Inc Little Falls
Kidde & Co Inc, Walter Belleville ....
Labtron Corp of Amer Div KDI Corp Dayton ....
Lear Siegler Inc, Instrument Div Grand Rapids ....
Ledex Div Ledex Inc Dayton ....
Lel Div Varian Associates Copiague ....
Logitek Div General Devices Inc. Farmingdale ....
Loral Electronic Systems, Div Loral Corp New York ....
Mayberry Electronics Co Inglewood ....
Melcor Electronics Corp Farmingdale ....
Metalized Ceramics Corp Providence ....
Methode Electronics Inc Chicago ....
Microdyne Inc Rolling Meadows ....
Micro Metrics Inc Paterson ....
Microsemiconductor Corp Culver City ....
Micro Switch Div, Honeywell Freeport ....
Microtek Electronics Inc Cambridge ....
Microwave/Systems Inc East Syracuse ....

Mfg Co Inc, James Malden .... Mass
ular Research Inc Palm Beach Gardens .... Fla
or Systems Inc an Aydin Co Fort Washington .... Pa
ola Semiconductor Products Inc Phoenix .... Ariz
n Corp Brockton .... Mass
econd Systems Inc Fairfield .... Conn
ne Electronics Co New York .... N Y
ar Enterprises Ltd Edinburgh .... Scotland
evices Inc Norwalk .... Conn
p Labs Los Angeles .... Cal
al Electronics Inc Tuscon .... Ariz
r Ltd, G A Stanley W Molesey, Surrey .... England
legics Mfg Co Inc Bensenville Ill
Electronics Co Inc Santa Ana .... Cal
n Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
riza Div Analog Devices Cambridge .... Mass
onics Corp Dorchester .... Mass
ick/Nexus Research A Teledyne Co Dedham .... Mass
-Ford Corp Washington .... D C
ix Data Inc Phoenix .... Ariz
Electronics Corp Philadelphia .... Pa
Scientific Div Litton Industries Blacksburg .... VA
rtec Div, Airtronics Corp Chatsworth .... Cal
Electronics Corp Anaheim .... Cal
Industries Inc Sioux Falls .... SD
eon Co, Components Div, Ind Compnts Oper
ncy .... Mass
r Corp Canoga Park .... Cal
e Electronics Inc Garden City .... NY
tific Data Systems Inc El Segundo .... Cal
Electronics Corp Orlando .... Fla
Development Corp Hicksville .... NY
Associates, Inc El Segundo .... Cal
tics Corp Sunnyvale .... Cal
can Corp, Ind Prods Div Mattapoisett .... Mass
Associates Inc Boston .... Mass
State Electronics Corp Sepulveda .... Cal
e Age Microcircuits Chatham .... N J
e & Systems Div General Time Corp Stamford .... Conn
gue Electric Co North Adams .... Mass
hers-Dunn Inc Pitman .... N J
hers Electronics Corp Sub Struthers-Wells
maroneck .... N Y
nit Engineering Corp Bozeman .... Mont
eam Electronics Fort Lauderdale .... Fla
nia Electric Prods Inc, Parts Div Warren .... Pa
om Corp El Paso .... Tex
ems Engineering Labs. Ft Lauderdale .... Fla
lyne Telemetry Co Los Angeles .... Cal
nson-CSF 78 Versailles .... France
Electronics Corp Winnisquam .... N H
sitron Electronic Corp Wakefield .... Mass
Systems Group Redondo Beach .... Cal
Instrument Div Waltham .... Mass
Carbide Electronics, Semiconductor Dept.
n Diego .... Cal
Ohm Electronics Co Haddonfield .... N J
Electronics Inc Robinson Elctn Comps Div
sta Mesa .... Cal
Inc Microcircuit Products Div Garland .... Tex
mon Microwave Corp Middlesex .... N J
Labs Div Sub Automation Ind Inc Silver Spring .... Md
o Pasadena .... Cal
irt Co Los Angeles .... Cal
ock Systems Inc Danbury .... Conn
vyn Electric Ltd Northumberland .... England
vyn International Inc Westlake .... Ohio
Laboratories El Segundo .... Cal

DULES, ACTIVE—COMPUTER & OGIC

URATE ELECTRONICS CORP ELYRIA .... OHIO
LOG DEVICES INC CAMBRIDGE MASS .... ADV PG 189
KMAN INSTRUMENTS INC, HELIPOT DIV
LLERTON .... CAL
TRALAB, DIV GLOBE-UNION INC MILWAUKEE .... WIS
K COMPONENTS INC WATERTOWN .... MASS
PUTER PRODUCTS INC FORT LAUDERDALE .... FLA
ASCAN INC CLIFTON N J .... ADV PG 377
CO RADIO DIV GENERAL MOTORS CORP KOKOMO .... IND
P CORP ORLANDO .... FLA
ONICS INC NEWTON MASS .... ADV PG 269
PON ELECTRIC CO LTD TOKYO .... JAPAN
Y SCIENTIFIC DIV LITTON INDUSTRIES
LACKSBURG .... VA
ties Inc Albertson .... N Y
urate Electronics Corp Elyria .... Ohio
Data Systems Inc Rochester .... N Y
gri-Tech Inc Nutley .... N J
d Control Co Inc New York .... N Y
perex Electronic Corp Semiconductor & Microcircuits Div
atersville .... R I
log Devices Inc Cambridge .... Mass
logic Corp Wakefield .... Mass
odata Inc Anaheim .... Cal
ntic Instruments & Electronics, Inc Watertown .... Mass
ronics Corp Pasadena .... Cal
o Electronics Div Cincinnati .... Ohio
kman Instruments Inc, Helipot Div Fullerton .... Cal
& Howell Co, Elctn Instr Grp Pasadena .... Cal
ary Electronics of Cal Div Avionic Structures Inc
naheim .... Cal
ett-Berman Corp Sub Alloys Unltd Inc Santa Monica .... Cal
ders Electronics Co Inc Medford .... NJ
wn Engineering-A Teledyne Co Huntsville .... Ala
r-Brown Research Corp Tucson .... Ariz
roughs Corp Electronic Components Div Plainfield .... N J
fornia Systems Components, Inc Chatsworth .... Cal
nbridge Thermionic Corp Cambridge .... Mass
berra Industries Meriden .... Conn
oga Industries Los Angeles .... Cal
tralab, Div Globe-Union Inc Milwaukee .... Wis
onetics Inc Mount Vernon .... N Y
K Components Inc Watertown .... Mass
nputer Central Detroit .... Mich
nputer Logic Corp Santa Monica .... Cal

Computer Products Inc Fort Lauderdale .... Fla
Condor Industrial Corp Wheaton Ill
Control Logic Inc Natick .... Mass
Corning Glass Works Corning .... N Y
Crystalonics A Teledyne Co Cambridge .... Mass
CTS Corp Elkhart .... Ind
CTS Microelectronics Inc Lafayette .... Ind
Cutler-Hammer Inc Milwaukee .... Wisc
Data Device Corp Hicksville .... N Y
Data Mate Computer Systems Inc Big Spring .... Tex
Datametrics Corp Van Nuys .... Cal
Datascan Inc Clifton .... N J
Data Technology Corp Palo Alto .... Cal
DatCon Electronics Corp Mt Vernon .... NY
Dayton Electronics Products Co Dayton .... Ohio
Delco Radio Div General Motors Corp Kokomo .... Ind
Dialight Corp Brooklyn .... N Y
Di/An Controls Inc Boston .... Mass
Digital Equipment Corp Maynard .... Mass
Digital Products San Pedro .... Cal
Digital Products Corp Fort Lauderdale .... Fla
Digitronics Corp Albertson .... N Y
Dinion Coil Co Inc Caledonia .... N Y
Douglas Randall Inc Westerly .... R I
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .... Fla
Dytro Corp Hicksville .... NY
E D P Corp Orlando .... Fla
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Associates Inc West Long Branch .... N J
Electronic Engineering Co of Cal Santa Ana .... Cal
Electronic Modules Corp Timonium .... Md
Elgin Electronics Inc Erie .... Pa
Erie Technological Products Inc Erie .... Pa
Fairlane Electronics, Inc Long Valley .... N J
Ferranti, Ltd Lancashire .... England
Film Microelectronics, Inc Burlington .... Mass
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Europe SPA Milano .... Italy
General Magnetics Inc Bloomfield .... N J
Golden Technology Inc Santa Rosa .... Cal
Grason Stadler Co Inc West Concord .... Mass
Gulton Industries Inc Metuchen .... N J
Halex Inc Torrance .... Cal
Hamilton Standard Div UAC Elctns Systems
  Windsor Locks .... Conn
HEI Inc Chaska .... Minn
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
Honeywell Inc, Computer Control Div Framingham .... Mass
Humphrey Electronics Inc Raleigh .... N C
Hybrid Electronics Inc Bedford .... Mass
Icon Corp Cambridge .... Mass
Incor Inc Plainview .... N Y
Industrial Instruments Ltd Bromley Kent .... England
Information Control Corp El Segundo .... Cal
Interdata Oceanport .... N J
Intronics Inc Newton .... Mass
ITT Aerospace, Optical Div Fort Wayne .... Ind
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Semiconductors West Palm Beach .... Fla
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Kidde & Co Inc, Walter Belleville .... N J
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
LeCroy Research Systems Corp West Nyack .... N Y
Lehigh Valley Electronics Inc Fogelsville .... Pa
Logic Corp Haddonfield .... N J
Logitek Div General Devices Inc. Farmingdale .... N Y
Loral Electronic Systems, Div Loral Corp New York .... NY
Massey Dickinson Co Inc Saxonville .... Mass
MCG Electronics Inc Deer Park .... N Y
Mesur-Matic Electronic Corp Warner .... N H
Microdyne Inc Rolling Meadows Ill
Micro Metrics Inc Paterson .... N J
Microtek Electronics Inc Cambridge .... Mass
Microwave/Systems Inc East Syracuse .... N Y
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Motorola Semiconductor Products Inc Phoenix .... Ariz
Nanodyne Corp Sudbury .... Mass
Nanosecond Systems Inc Fairfield .... Conn
National Coil Co Inc Douglas .... Ariz
Navcor Inc Div KDI Corp Norristown .... Pa
Neptune Electronics Co New York .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Novatronics Inc Pompano Beach .... Fla
Nuclear Enterprises Ltd Edinburgh .... Scotland
Pastoriza Div Analog Devices Cambridge .... Mass
Philbrick/Nexus Research A Teledyne Co Dedham .... Mass
Philco-Ford Corp Washington .... D C
Phoenix Data Inc Phoenix .... Ariz
P M C Electronics Corp Philadelphia .... Pa
Poly Scientific Div Litton Industries Blacksburg .... VA
Princeton Applied Research Corp Princeton .... N J
Radix Electronics Corp Anaheim .... Cal
Randam Electronics Inc Cincinnati .... Ohio
Raven Industries Inc Sioux Falls .... SD
Raytheon Computer Santa Ana .... Cal
Redcor Corp Canoga Park .... Cal
Rodale Electronics Inc Garden City .... NY
Schneider Radio-Television Div Ivry .... France
Science Accessories Corp Southport .... Conn
Scientific Data Systems Inc El Segundo .... Cal
Semiconductor Circuits, Inc Woburn .... Mass
Sensitak Instrument Corp Sub Struthers-Dunn Inc
  Manchester .... N H
Servo Development Corp Hicksville .... NY
Shelly Associates, Inc El Segundo .... Cal
Signetics Corp Sunnyvale .... Cal
Solid State Electronics Corp Sepulveda .... Cal
Space Craft Inc Huntsville .... Ala
Sprague Electric Co North Adams .... Mass
Stern Co Inc M L Charlotte .... N C
Struthers-Dunn Inc Pitman .... N J
Summit Engineering Corp Bozeman .... Mont
Sylvania Electronic Systems Waltham .... Mass
Syscom Corp El Paso .... Tex
Systems Engineering Labs. Ft Lauderdale .... Fla
Systems Research Labs Inc Dayton .... Ohio
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo .... Japan
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Thomson-CSF 78 Versailles .... France

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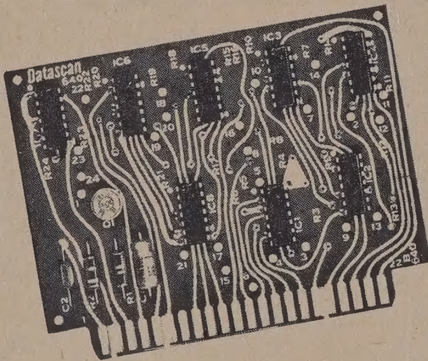

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TRW Systems Group Redondo Beach .... Cal
Vac-Ohm Electronics Co Haddonfield .... N J
Varian Data Machines Irvine .... Cal
Vari Tech Co Grand Rapids .... Mich
Vitro Labs Div Sub Automation Ind Inc Silver Spring .... Md
Vitro Labs Div Vitro Corp of America W Orange .... N J
Walkirt Co Los Angeles .... Cal
Warlock Systems Inc Danbury .... Conn
Welwyn Electric Ltd Northumberland .... England
Welwyn International Inc Westlake .... Ohio
Wyle Laboratories El Segundo .... Cal

MODULES, ACTIVE—CONTROL & SWITCHING

ACCURATE ELECTRONICS CORP ELYRIA .... OHIO
ANALOG DEVICES INC CAMBRIDGE .... MASS
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON .... CAL
CLAIREX ELECTRONICS INC NEW YORK .... N Y
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .... IND
E D P CORP ORLANDO .... FLA
HYBRID SYSTEMS CORP BURLINGTON .... MASS
INTRONICS INC NEWTON MASS .... ADV PG 397
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
POLY SCIENTIFIC DIV LITTON INDUSTRIES BLACKSBURG .... VA
TEMPO INSTRUMENT INC IND DIV PLAINVIEW .... N Y
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y .... ADV PG 642
Abilities Inc Albertson .... N Y
Accurate Electronics Corp Elyria .... Ohio
A D Data Systems Inc Rochester .... N Y
AEI Semiconductors Ltd Lincoln .... U K
Allegri-Tech Inc Nutley .... N J
Allied Control Co Inc New York .... N Y
Alpha Industries Inc Newton Upper Falls .... Mass
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Amtron Inc Sub Republic Corp Midlothian Ill
Analog Devices Inc Cambridge .... Mass
Astrodata Inc Anaheim .... Cal
Astro-Space Labs Inc Huntsville .... Ala
Atlantic Instruments & Electronics, Inc Watertown .... Mass
Audn Corp Hamburg .... N Y
Automation Development Co Culver City .... Cal
Autronics Corp Pasadena .... Cal
Avco Electronics Div Cincinnati .... Ohio
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Binary Electronics of Cal Div Avionic Structures Inc Anaheim .... Cal
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica .... Cal
Borders Electronics Co Inc Medford .... NJ
Brower Labs Inc Waltham .... Mass
Brown Engineering-A Teledyne Co Huntsville .... Ala
Burr-Brown Research Corp Tucson .... Ariz
Burroughs Corp Electronic Components Div Plainfield .... N J
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
California Systems Components, Inc Chatsworth .... Cal
Cambridge Thermionic Corp Cambridge .... Mass
Canberra Industries Meriden .... Conn
Chronetics Inc Mount Vernon .... N Y
Clairex Electronics Inc New York .... N Y
Cohu Electronics Inc San Diego .... Cal
Computer Central Detroit .... Mich
Computer Logic Corp Santa Monica .... Cal
Condor Industrial Corp Wheaton Ill
Control Logic Inc Natick .... Mass
Corning Glass Works Corning .... N Y
Crystalonics A Teledyne Co Cambridge .... Mass
CTS Corp Elkhart .... Ind
Cutler-Hammer Inc Milwaukee .... Wisc
Data Device Corp Hicksville .... N Y
Data Technology Corp Palo Alto .... Cal
Dayton Electronics Products Co Dayton .... Ohio
Delco Radio Div General Motors Corp Kokomo .... Ind
Design Products Corp Troy .... Mich
De-Tec-Tronic Corp Chicago Ill
Dialight Corp Brooklyn .... N Y
Di/An Controls Inc Boston .... Mass
Digital Products San Pedro .... Cal
Dolan Jenner Industries Inc Melrose .... Mass
Douglas Randall Inc Westerly .... R I
Dynamics Research Corp Stoneham .... Mass
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .... Fla
Dytro Corp Hicksville .... NY
Ebauches SA Dept Oscilloquartz 2001 Neuchatel .... Switz
E D P Corp Orlando .... Fla
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Controls Inc Wilton .... Conn
Electronic Engineering Co of Cal Santa Ana .... Cal
Electronic Modules Corp Timonium .... Md
Electronic Research Associates Inc Cedar Grove .... N J
Electron-Radar Products Chicago Ill
Erie Technological Products Inc Erie .... Pa
Fairlane Electronics, Inc Long Valley .... N J
Ferranti, Ltd Lancashire .... England
Film Microelectronics, Inc Burlington .... Mass
Fisher-Akin Co Manhattan Beach .... Cal
Frost Electronics Corp Rockaway .... N J
Gems Co Inc Farmington .... Conn
General Dynamics, Electronics Div Rochester .... N Y
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Guardian Electric Mfg Co of Cal Inc Culver City .... Cal
Gulton Industries Inc Metuchen .... N J
Halex Inc Torrance .... Cal
Hartman Electrical Mfg Co Mansfield .... Ohio
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Helm Instrument Co Inc Toledo .... Ohio
Henschel Corp Amesbury .... Mass
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Hybrid Electronics Inc Bedford .... Mass
Hybrid Systems Corp Burlington .... Mass
Icon Corp Cambridge .... Mass
Incor Inc Plainview .... N Y
Information Control Corp El Segundo .... Cal
International Components Corp Asbury Park .... N J
Intronics Inc Newton .... Mass
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ITT Semiconductors West Palm Beach .... Fla
Kidde & Co Inc, Walter Belleville .... N J
Lark Electronics Inc New York .... N Y
Ledex Div Ledex Inc Dayton .... Ohio
Lehigh Valley Electronics Inc Fogelsville .... Pa
Logitek Div General Devices Inc. Farmingdale .... N Y
Loral Electronic Systems, Div Loral Corp New York .... NY
Luminator Inc Plano .... Tex
Massey Dickinson Co Inc Saxonville .... Mass
Mayberry Electronics Co Inglewood .... Cal
MCG Electronics Inc Deer Park .... N Y
Mesur-Matic Electronic Corp Warner .... N H
Microdyne Inc Rolling Meadows Ill
Microsemiconductor Corp Culver City .... Cal
Micro Switch Div, Honeywell Freeport Ill
Microwave/Systems Inc East Syracuse .... N Y
Milletron, Inc Pittsburgh .... Pa
Molecular Research Inc Palm Beach Gardens .... Fla
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Motorola Semiconductor Products Inc Phoenix .... Ariz
Nanodyne Corp Sudbury .... Mass
Nanosecond Systems Inc Fairfield .... Conn
National Coil Co Inc Douglas .... Ariz
Neptune Electronics Co New York .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Nuclear Enterprises Ltd Edinburgh .... Scotland
Omega-t Systems Inc Richardson .... Tex
Opamp Labs Los Angeles .... Cal
Parko Electronics Co Inc Santa Ana .... Cal
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
Pastoriza Div Analog Devices Cambridge .... Mass
Philbrick/Nexus Research A Teledyne Co Dedham .... Mass
Philco-Ford Corp Washington .... D C
Phoenix Data Inc Phoenix .... Ariz
P M C Electronics Corp Philadelphia .... Pa
Poly Scientific Div Litton Industries Blacksburg .... VA
Radix Electronics Corp Anaheim .... Cal
Randam Electronics Inc Cincinnati .... Ohio
Raven Industries Inc Sioux Falls .... SD
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Raytheon Computer Santa Ana .... Cal
Redcor Corp Canoga Park .... Cal
RO Associates Inc Menlo Park .... Cal
Rodale Electronics Inc Garden City .... NY
Scott Electronics Corp Orlando .... Fla
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester .... N H
Sensor Corp Greenwich .... Conn
Servo Development Corp Hicksville .... NY
Servonetics Inc Northridge .... Cal
S K G Associates Inc Boston .... Mass
Slocum Industries Reseda .... Cal
Solid State Electronics Corp Sepulveda .... Cal
Space Age Microcircuits Chatham .... N J
Sprague Electric Co North Adams .... Mass
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia .... Pa
Stern Co Inc M L Charlotte .... N C
Struthers-Dunn Inc Pitman .... N J
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur .... Switzerland
Summit Engineering Corp Bozeman .... Mont
Sunbeam Electronics Fort Lauderdale .... Fla
Syscom Corp El Paso .... Tex
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo .... Japan
Technology Instrument Corp Sub Bowmar Instr Corp Newbury Park .... Cal
Techrand Corp of America Muskegon .... Mich
Telecontrol Div Vogue Instrument Corp Plainview .... NY
Tempo Instrument Inc Ind Div Plainview .... N Y
Tempo Instrument Inc, Military Div Plainview .... N Y
Thomson-CSF 78 Versailles .... France
Toledo Scale Co Div Reliance Elec Co Toledo .... Ohio
TRW Systems Group Redondo Beach .... Cal
Tyco Instrument Div Waltham .... Mass
Vac-Ohm Electronics Co Haddonfield .... N J
Vari Tech Co Grand Rapids .... Mich
Vitro Labs Div Sub Automation Ind Inc Silver Spring .... Md
VP Co Pasadena .... Cal
Walkirt Co Los Angeles .... Cal
Warlock Systems Inc Danbury .... Conn
Welwyn Electric Ltd Northumberland .... England
Welwyn International Inc Westlake .... Ohio

MODULES, ACTIVE—RADIO, TV & GENERAL PURPOSE

ACCURATE ELECTRONICS CORP ELYRIA .... OHIO
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE .... WIS
DALE ELECTRONICS INC COLUMBUS .... NEB
INTRONICS INC NEWTON MASS .... ADV PG 269
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Abilities Inc Albertson .... N Y
Accurate Electronics Corp Elyria .... Ohio
Allegri-Tech Inc Nutley .... N J
Allied Control Co Inc New York .... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Brown Engineering-A Teledyne Co Huntsville .... Ala
Burroughs Corp Electronic Components Div Plainfield .... N J
Centralab, Div Globe-Union Inc Milwaukee .... Wis
Central Dynamics Ltd Pte Claire .... Que
Cohu Electronics Inc San Diego .... Cal
CTS Corp Elkhart ....
Dale Electronics Inc Columbus ....
Dayton Electronics Products Co Dayton ....
Dinion Coil Co Inc Caledonia ....
Douglas Randall Inc Westerly ....
EDI Bradenton ....
General Instrument Europe SPA Milano I
Hitachi Ltd Chiyoda-Ku, Tokyo .... Ja
International Electronics Corp Melville ....
Intronics Inc Newton .... M
ITT Europe Inc Components Gp Brussels 1 .... Belg
ITT Semiconductors West Palm Beach ....
Karg Labs Inc South Norwalk C
Kidde & Co Inc, Walter Belleville ....
Microtek Electronics Inc Cambridge .... M
Motorola Semiconductor Products Inc Phoenix ....
Mullard Ltd London, WC 1 ....
Nanosecond Systems Inc Fairfield C
National Coil Co Inc Douglas ....
Neptune Electronics Co New York ....
Nippon Electric Co Ltd Tokyo .... Ja
Orega Electronique & Mecanique Vincennes, Seine .... Fr
Philco-Ford Corp Washington ....
P M C Electronics Corp Philadelphia ....
Princeton Applied Research Corp Princeton ....
Riker Video Inc Hauppauge ....
Saxton Products Inc Congers ....
Scott Electronics Corp Orlando ....
Solid State Electronics Corp Sepulveda ....
Spencer-Kennedy Labs Inc Boston .... M
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck ....
Tilton Electronics Corp Winnisquam ....
Vikoa Inc Hoboken ....
Warlock Systems Inc Danbury ....
Welwyn Electric Ltd Northumberland .... Eng
Welwyn International Inc Westlake ....

MODULES, ACTIVE—SEALED & ENCAPSULATED

ACCURATE ELECTRONICS CORP ELYRIA ....
ANALOG DEVICES INC CAMBRIDGE .... M
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON ....
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE ....
C & K COMPONENTS INC WATERTOWN .... M
COMPUTER PRODUCTS INC FORT LAUDERDALE ....
HYBRID SYSTEMS CORP BURLINGTON .... M
INTRONICS INC NEWTON MASS .... ADV P
ITHACO INC ITHACA ....
MICRO SWITCH DIV, HONEYWELL FREEPORT ....
POLY SCIENTIFIC DIV LITTON INDUSTRIES BLACKSBURG ....
TEMPO INSTRUMENT INC IND DIV PLAINVIEW ....
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y .... ADV P
TOROTEL, INC GRANDVIEW ....
TORWICO ELECTRONICS, INC LAKEWOOD ....
Accurate Electronics Corp Elyria ....
AEI Semiconductors Ltd Lincoln ....
Allegri-Tech Inc Nutley ....
Allied Control Co Inc New York ....
Amperex Electronic Corp Semiconductor & Microcircuits Slatersville ....
Analog Devices Inc Cambridge ....
Analog Technology Corp Pasadena ....
Aritech Corp Brighton ....
Astro-Space Labs Inc Huntsville ....
Atlantic Instruments & Electronics, Inc Watertown ....
Audn Corp Hamburg ....
Autronics Corp Pasadena ....
Avco Electronics Div Cincinnati ....
Beckman Instruments Inc, Helipot Div Fullerton ....
Bell & Howell Co, Elctn Instr Grp Pasadena ....
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica
Brown Engineering-A Teledyne Co Huntsville ....
Burr-Brown Research Corp Tucson ....
Burroughs Corp Electronic Components Div Plainfield ....
Cambridge Thermionic Corp Cambridge ....
Carol Electronics Div Weeco Inc Martinsburg ....
Castall Research Lab Inc Brockton ....
C-E Electronics Div Ametek Feasterville ....
Centralab, Div Globe-Union Inc Milwaukee ....
C & K Components Inc Watertown ....
Computer Central Detroit ....
Computer Products Inc Fort Lauderdale ....
Condor Industrial Corp Wheaton ....
Control Logic Inc Natick ....
Control Science Corp Alexandria ....
Crystalonics A Teledyne Co Cambridge ....
CTS Corp Elkhart ....
CTS Electronics Inc South Pasadena ....
CTS Microelectronics Inc Lafayette ....
Daltronics Inc Providence ....
Data Device Corp Hicksville ....
Datametrics Corp Van Nuys ....
Dayton Electronics Products Co Dayton ....
Design Products Corp Troy ....
Di/An Controls Inc Boston ....
Dorsett Electronics Inc Tulsa ....
Douglas Randall Inc Westerly ....
Electronic Engineering Co of Cal Santa Ana ....
Electronic Modules Corp Timonium ....
Electronic Research Associates Inc Cedar Grove ....
Electrospace Corp Westbury ....
Elgin Electronics Inc Erie ....
Erie Technological Products Inc Erie ....
Fairlane Electronics, Inc Long Valley ....
Ferranti, Ltd Lancashire ....
Film Microelectronics, Inc Burlington ....
Gamble Industries, Charles T Riverside ....
General Dynamics, Electronics Div Rochester ....
General Instrument Europe SPA Milano ....
General Instrument of Canada Ltd Waterloo ....

Inc Torrance .... Cal
ton Standard Div UAC Elctns Systems
dsor Locks .... Conn
nc Chaska .... Minn
hi Ltd Chiyoda-Ku, Tokyo .... Japan
well Inc, Computer Control Div Framingham ...... Mass
d Electronics Inc Bedford .... Mass
d Systems Corp Burlington .... Mass
trial Electronetics Corp Satellite Beach .... Fla
trial Instruments Ltd Bromley Kent .... England
lab Inc Dayton .... Ohio
national Components Corp Asbury Park .... N J
nics Inc Newton .... Mass
o Inc Ithaca .... N Y
erospace, Optical Div Fort Wayne .... Ind
urope Inc Components Gp Brussels 1 .... Belgium
emiconductors West Palm Beach .... Fla
n Electric Co Van Nuys .... Cal
& Co Inc, Walter Belleville .... N J
Electronics Inc New York .... N Y
Siegler Inc, Instrument Div Grand Rapids .... Mich
Div Ledex Inc Dayton .... Ohio
ek Div General Devices Inc. Farmingdale .... N Y
Electronic Systems, Div Loral Corp New York ...... NY
erry Electronics Co Inglewood .... Cal
Electronics Inc Deer Park .... N Y
en-Greatbatch Electronics Inc Clarence .... N Y
semiconductor Corp Culver City .... Cal
Switch Div, Honeywell Freeport Ill
tek Electronics Inc Cambridge .... Mass
Mfg Co Inc, James Malden .... Mass
ron, Inc Pittsburgh .... Pa
anite Resistors Ltd Jarrow .... England
rola Semiconductor Products Inc Phoenix .... Ariz
on Corp Brockton .... Mass
second Systems Inc Fairfield .... Conn
nal Coil Co Inc Douglas .... Ariz
une Electronics Co New York .... N Y
tronics Inc Pompano Beach .... Fla
ar Enterprises Ltd Edinburgh .... Scotland
evices Inc Norwalk .... Conn
al Electronics Inc Tuscon .... Ariz
er Ltd, G A Stanley W Molesey, Surrey .... England
plegics Mfg Co Inc Bensenville Ill
o Electronics Co Inc Santa Ana .... Cal
oriza Div Analog Devices Cambridge .... Mass
ess Instrument Co Inc Elmhurst .... NY
rick/Nexus Research A Teledyne Co Dedham ...... Mass
o-Ford Corp Washington .... D C
nix Data Inc Phoenix .... Ariz
C Electronics Corp Philadelphia .... Pa
Scientific Div Litton Industries Blacksburg .... VA
Electronics Corp Anaheim .... Cal
say Engineering Co Anaheim .... Cal
am Electronics Inc Cincinnati .... Ohio
heon Co, Components Div, Ind Compnts Oper
incy .... Mass
or Corp Canoga Park .... Cal
ssociates Inc Menlo Park .... Cal
le Electronics Inc Garden City .... NY
on Products Inc Congers .... N Y
eider Radio-Television Div Ivry .... France
t Electronics Corp Orlando .... Fla
itak Instrument Corp Sub Struthers-Dunn Inc
anchester .... N H
or Corp Greenwich .... Conn
o Development Corp Hicksville .... NY
onetics Inc Northridge .... Cal
etics Corp Sunnyvale .... Cal
ican Corp, Ind Prods Div Mattapoisett .... Mass
G Associates Inc Boston .... Mass
State Electronics Corp Sepulveda .... Cal
ron Devices Inc Tappan .... NY
ce Age Microcircuits Chatham .... N J
ce Craft Inc Huntsville .... Ala
gue Electric Co North Adams .... Mass
wyck Winding Div San Fernando Elec Mfg Co Inc
ewburgh .... N Y
thers-Dunn Inc Pitman .... N J
ania Electronic Systems Waltham .... Mass
po Instrument Inc Ind Div Plainview .... N Y
po Instrument Inc, Military Div Plainview .... N Y
nson-CSF 78 Versailles .... France
n Electronics Corp Winnisquam .... N H
tel, Inc Grandview .... Mo
vico Electronics, Inc Lakewood .... N J
sitron Electronic Corp Wakefield .... Mass
Systems Group Redondo Beach .... Cal
-Ohm Electronics Co Haddonfield .... N J
r Electronics Inc Robinson Elctn Comps Div
sta Mesa .... Cal
a Corp Wilton .... Conn
Co Pasadena .... Cal
lock Systems Inc Danbury .... Conn
wyn Electric Ltd Northumberland .... England
wyn International Inc Westlake .... Ohio
& T Corp Roslyn Heights .... NY

ODULES, ACTIVE—SOLID STATE EXCEPT INTEGRATED CIRCUITS)

URATE ELECTRONICS CORP ELYRIA .... OHIO
LOG DEVICES INC CAMBRIDGE .... MASS
KMAN INSTRUMENTS INC, HELIPOT DIV
ULLERTON .... CAL
ASCAN INC CLIFTON .... N J
CO RADIO DIV GENERAL MOTORS CORP KOKOMO .. IND
P CORP ORLANDO .... FLA
RID SYSTEMS CORP BURLINGTON .... MASS
RONICS INC NEWTON MASS .... ADV PG 397
ACO INC ITHACA .... N Y
LCOR ELECTRONICS CORP FARMINGDALE .... N Y
PON ELECTRIC CO LTD TOKYO .... JAPAN
Y SCIENTIFIC DIV LITTON INDUSTRIES
LACKSBURG .... VA

TEMPO INSTRUMENT INC IND DIV PLAINVIEW .... N Y
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW
N Y .... ADV PG 642
TOROTEL, INC GRANDVIEW .... MO
Abilities Inc Albertson .... N Y
Accurate Electronics Corp Elyria .... Ohio
A D Data Systems Inc Rochester .... N Y
AEI Semiconductors Ltd Lincoln .... U K
Aerospace Avionics Inc Bohemia .... NY
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ..... U K
Allegri-Tech Inc Nutley .... N J
Allied Control Co Inc New York .... N Y
Alpha Industries Inc Newton Upper Falls .... Mass
Amperex Electronic Corp Semiconductor & Microcircuits Div
Slatersville .... R I
Analog Devices Inc Cambridge .... Mass
Analog Technology Corp Pasadena .... Cal
Aritech Corp Brighton .... Mass
Arra, Inc Bay Shore .... NY
Atlantic Instruments & Electronics, Inc Watertown ..... Mass
Audn Corp Hamburg .... N Y
Autronics Corp Pasadena .... Cal
Avco Electronics Div Cincinnati .... Ohio
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Binary Electronics of Cal Div Avionic Structures Inc
Anaheim .... Cal
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica .. Cal
Brown Engineering-A Teledyne Co Huntsville .... Ala
Bryant Computer Products Walled Lake .... Mich
Burr-Brown Research Corp Tucson .... Ariz
Burroughs Corp Electronic Components Div Plainfield .... N J
Cae Industries Ltd, Elctns Div Montreal 3 .... Que
California Systems Components, Inc Chatsworth .... Cal
Canoga Industries Los Angeles .... Cal
Computer Central Detroit .... Mich
Computer Logic Corp Santa Monica .... Cal
Condor Industrial Corp Wheaton Ill
Control Logic Inc Natick .... Mass
Crystalonics A Teledyne Co Cambridge .... Mass
CTS Corp Elkhart .... Ind
CTS Electronics Inc South Pasadena .... Cal
CTS Microelectronics Inc Lafayette .... Ind
Cutler-Hammer Inc Milwaukee .... Wisc
Data Device Corp Hicksville .... N Y
Datascan Inc Clifton .... N J
Data Technology Corp Palo Alto .... Cal
Dayton Electronics Products Co Dayton .... Ohio
Delco Radio Div General Motors Corp Kokomo .... Ind
Design Products Corp Troy .... Mich
De-Tec-Tronic Corp Chicago Ill
Di/An Controls Inc Boston .... Mass
Digital Products San Pedro .... Cal
Dorsett Electronics Inc Tulsa .... Okla
Douglas Randall Inc Westerly .... R I
E D P Corp Orlando .... Fla
E G & G Inc, Systems Group Bedford .... Mass
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Engineering Co of Cal Santa Ana .... Cal
Electronic Modules Corp Timonium .... Md
Electronic Research Associates Inc Cedar Grove .... N J
Electron-Radar Products Chicago Ill
Fairlane Electronics, Inc Long Valley .... N J
Ferranti, Ltd Lancashire .... England
Film Microelectronics, Inc Burlington .... Mass
Gems Co Inc Farmington .... Conn
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Europe SPA Milano .... Italy
Gulton Industries Inc Metuchen .... N J
Halex Inc Torrance .... Cal
HEI Inc Chaska .... Minn
Helm Instrument Co Inc Toledo .... Ohio
Honeywell Inc, Computer Control Div Framingham ..... Mass
Humphrey Electronics Inc Raleigh .... N C
Hybrid Electronics Inc Bedford .... Mass
Hybrid Systems Corp Burlington .... Mass
Industrial Instruments Ltd Bromley Kent .... England
Information Control Corp El Segundo .... Cal
Instrulab Inc Dayton .... Ohio
International Components Corp Asbury Park .... N J
Intronics Inc Newton .... Mass
Ithaco Inc Ithaca .... N Y
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Semiconductors West Palm Beach .... Fla
Karg Labs Inc South Norwalk .... Conn
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lark Electronics Inc New York .... N Y
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
Ledex Div Ledex Inc Dayton .... Ohio
Lehigh Valley Electronics Inc Fogelsville .... Pa
Logic Corp Haddonfield .... N J
Logitek Div General Devices Inc. Farmingdale .... N Y
Loral Electronic Systems, Div Loral Corp New York ...... NY
Marconi Co Ltd Chelmsford .... England
Massey Dickinson Co Inc Saxonville .... Mass
Mayberry Electronics Co Inglewood .... Cal
Megadyne Industries Inc Rochester .... N Y
Melcor Electronics Corp Farmingdale .... N Y
Microdyne Inc Rolling Meadows Ill
Micromega Div Bunker-Ramo Corp Venice .... Cal
Micro Metrics Inc Paterson .... N J
Microsemiconductor Corp Culver City .... Cal
Microtek Electronics Inc Cambridge .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
Microwave/Systems Inc East Syracuse .... N Y
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Morganite Resistors Ltd Jarrow .... England
Motorola Semiconductor Products Inc Phoenix .... Ariz
Mutron Corp Brockton .... Mass
Nanosecond Systems Inc Fairfield .... Conn
National Coil Co Inc Douglas .... Ariz
Navcor Inc Div KDI Corp Norristown .... Pa
Neptune Electronics Co New York .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Novatronics Inc Pompano Beach .... Fla
Nu-Devices Inc Norwalk .... Conn
Opamp Labs Los Angeles .... Cal
Parko Electronics Co Inc Santa Ana .... Cal
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y

Pastoriza Div Analog Devices Cambridge .... Mass
Philbrick/Nexus Research A Teledyne Co Dedham ...... Mass
Philco-Ford Corp Washington .... D C
Phoenix Data Inc Phoenix .... Ariz
P M C Electronics Corp Philadelphia .... Pa
Poly Scientific Div Litton Industries Blacksburg .... VA
Radix Electronics Corp Anaheim .... Cal
Randam Electronics Inc Cincinnati .... Ohio
Raven Industries Inc Sioux Falls .... SD
Raytheon Co, Components Div, Ind Compnts Oper
Quincy .... Mass
Raytheon Co, Components Div, Semiconductor Oper
Mountain View .... Cal
Redcor Corp Canoga Park .... Cal
RO Associates Inc Menlo Park .... Cal
Rodale Electronics Inc Garden City .... NY
Science Accessories Corp Southport .... Conn
Scientific Data Systems Inc El Segundo .... Cal
Scott Electronics Corp Orlando .... Fla
Semiconductor Circuits, Inc Woburn .... Mass
Sensitak Instrument Corp Sub Struthers-Dunn Inc
Manchester .... N H
Sensor Corp Greenwich .... Conn
Servo Development Corp Hicksville .... NY
Signetics Corp Sunnyvale .... Cal
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
S K G Associates Inc Boston .... Mass
Slocum Industries Reseda .... Cal
Solid State Electronics Corp Sepulveda .... Cal
Solitron Devices Inc Tappan .... NY
Space Craft Inc Huntsville .... Ala
Space & Systems Div General Time Corp Stamford ..... Conn
Sprague Electric Co North Adams .... Mass
Struthers-Dunn Inc Pitman .... N J
Struthers Electronics Corp Sub Struthers-Wells
Mamaroneck .... N Y
Summit Engineering Corp Bozeman .... Mont
Sylvania Electronic Systems Waltham .... Mass
Syscom Corp El Paso .... Tex
Systems Engineering Labs. Ft Lauderdale .... Fla
Teledyne Telemetry Co Los Angeles .... Cal
Tempo Instrument Inc Ind Div Plainview .... N Y
Tempo Instrument Inc, Military Div Plainview .... N Y
Thomson-CSF 78 Versailles .... France
Tilton Electronics Corp Winnisquam .... N H
Toledo Scale Co Div Reliance Elec Co Toledo .... Ohio
Torotel, Inc Grandview .... Mo
Transitron Electronic Corp Wakefield .... Mass
Tri-Tronics Lab Inc Euless .... Tex
TRW Systems Group Redondo Beach .... Cal
Tyco Instrument Div Waltham .... Mass
Union Carbide Electronics, Semiconductor Dept.
San Diego .... Cal
Vikoa Inc Hoboken .... N J
Vitramon Microwave Corp Middlesex .... N J
Vitro Labs Div Sub Automation Ind Inc Silver Spring ..... Md
Vitro Labs Div Vitro Corp of America W Orange .... N J
VP Co Pasadena .... Cal
Walkirt Co Los Angeles .... Cal
Warlock Systems Inc Danbury .... Conn
Y T & T Corp Roslyn Heights .... NY

MODULES, PASSIVE—ASSEMBLED

ACCURATE ELECTRONICS CORP ELYRIA .... OHIO
INTRONICS INC NEWTON MASS .... ADV PG 397
R C L ELECTRONICS INC IRVINGTON .... N J
TOROTEL, INC GRANDVIEW .... MO
Accurate Electronics Corp Elyria .... Ohio
AEI Semiconductors Ltd Lincoln .... U K
Alessi Industries El Segundo .... Cal
Allegri-Tech Inc Nutley .... N J
Allied Control Co Inc New York .... N Y
American Components, Inc Conshohocken .... Pa
Amperex Electronic Corp Semiconductor & Microcircuits Div
Slatersville .... R I
Angstrohm Precision, Inc Van Nuys .... Cal
Ansley Doylestown .... Pa
Audn Corp Hamburg .... N Y
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Binary Electronics of Cal Div Avionic Structures Inc
Anaheim .... Cal
Brown Engineering-A Teledyne Co Huntsville .... Ala
Bryant Computer Products Walled Lake .... Mich
Burroughs Corp Electronic Components Div Plainfield ..... N J
Caddock Electronics Inc Riverside .... Cal
California Systems Components, Inc Chatsworth .... Cal
Computer Logic Corp Santa Monica .... Cal
Condor Industrial Corp Wheaton Ill
Control Logic Inc Natick .... Mass
Cornell-Dubilier Electronics Div Federal Pacific Electric Co
Newark .... N J
CTS Corp Elkhart .... Ind
CTS Microelectronics Inc Lafayette .... Ind
Data Technology Corp Palo Alto .... Cal
Dayton Electronics Products Co Dayton .... Ohio
De-Tec-Tronic Corp Chicago Ill
Di/An Controls Inc Boston .... Mass
Digital Equipment Corp Maynard .... Mass
Douglas Randall Inc Westerly .... R I
Elasco-Eastern Inc Bloomfield .... Conn
Electro Cube Inc San Gabriel .... Cal
Electronic Modules Corp Timonium .... Md
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Elgin Electronics Inc Erie .... Pa
Erie Technological Products Inc Erie .... Pa
Ferranti, Ltd Lancashire .... England
Frenchtown/CFI Inc Frenchtown .... N J
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Europe SPA Milano .... Italy
Gulton Industries Inc Metuchen .... N J
HEI Inc Chaska .... Minn
Hybrid Electronics Inc Bedford .... Mass
Inductor Engineering Inc Lewes .... Del
International Components Corp Asbury Park .... N J
Intronics Inc Newton .... Mass

IRC Div TRW Inc Los Angeles ..... Cal
ITT Europe Inc Components Gp Brussels 1 ..... Belgium
ITT Semiconductors West Palm Beach ..... Fla
Jordan Electric Co Van Nuys ..... Cal
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Kidde & Co Inc, Walter Belleville ..... N J
Logitek Div General Devices Inc. Farmingdale ..... N Y
Loral Electronic Systems, Div Loral Corp New York ..... NY
Melpar Inc, Special Prods Dept Falls Church ..... Va
Methode Electronics Inc Chicago Ill
Mial S P A I 20124 Milano ..... Italy
Microtek Electronics Inc Cambridge ..... Mass
Milletron, Inc Pittsburgh ..... Pa
Motorola Semiconductor Products Inc Phoenix ..... Ariz
Murata Mfg Co, Ltd Kyoto ..... Japan
Mutron Corp Brockton ..... Mass
Nanosecond Systems Inc Fairfield ..... Conn
Navcor Inc Div KDI Corp Norristown ..... Pa
Neptune Electronics Co New York ..... N Y
NPC Electronics Canoga Park ..... Cal
Nu-Devices Inc Norwalk ..... Conn
Nytronics Inc, Precision Resistor Div Kutztown ..... Pa
Paraplegics Mfg Co Inc Bensenville Ill
Pastoriza Div Analog Devices Cambridge ..... Mass
Peerless Instrument Co Inc Elmhurst ..... NY
Philco-Ford Corp Washington ..... D C
P M C Electronics Corp Philadelphia ..... Pa
Radix Electronics Corp Anaheim ..... Cal
Randam Electronics Inc Cincinnati ..... Ohio
Raven Industries Inc Sioux Falls ..... SD
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy ..... Mass
R C L Electronics Inc Irvington ..... N J
Resistance Products Co Harrisburg ..... Pa
Rockland Labs Inc Blauvelt ..... N Y
Scientific Data Systems Inc El Segundo ..... Cal
Scott Electronics Corp Orlando ..... Fla
Servo Development Corp Hicksville ..... NY
S K G Associates Inc Boston ..... Mass
Solid State Electronics Corp Sepulveda ..... Cal
Space Age Microcircuits Chatham ..... N J
Space & Systems Div General Time Corp Stamford ..... Conn
Sprague Electric Co North Adams ..... Mass
Struthers-Dunn Inc Pitman ..... N J
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur ..... Switzerland
Summit Engineering Corp Bozeman ..... Mont
Sylvania Electronic Systems Waltham ..... Mass
Syscom Corp El Paso ..... Tex
Thomson-CSF 78 Versailles ..... France
Tilton Electronics Corp Winnisquam ..... N H
Torotel, Inc Grandview ..... Mo
TRW Systems Group Redondo Beach ..... Cal
Vac-Ohm Electronics Co Haddonfield ..... N J
Vector Electronic Co Inc Sylmar ..... Cal
Vitramon Microwave Corp Middlesex ..... N J
VP Co Pasadena ..... Cal
Walkirt Co Los Angeles ..... Cal
Warlock Systems Inc Danbury ..... Conn
Welwyn Electric Ltd Northumberland ..... England
Y T & T Corp Roslyn Heights ..... NY

MODULES, PASSIVE—PRINTED

ACCURATE ELECTRONICS CORP ELYRIA ..... OHIO
R C L ELECTRONICS INC IRVINGTON ..... N J
Abilities Inc Albertson ..... N Y
Accurate Electronics Corp Elyria ..... Ohio
Alessi Industries El Segundo ..... Cal
Allied Control Co Inc New York ..... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div
  Slatersville ..... R I
Audn Corp Hamburg ..... N Y
Binary Electronics of Cal Div Avionic Structures Inc
  Anaheim ..... Cal
Brown Engineering-A Teledyne Co Huntsville ..... Ala
Burroughs Corp Electronic Components Div Plainfield ..... N J
Caddock Electronics Inc Riverside ..... Cal
California Systems Components, Inc Chatsworth ..... Cal
Condor Industrial Corp Wheaton Ill
Control Logic Inc Natick ..... Mass
CTS Corp Elkhart ..... Ind
CTS Electronics Inc South Pasadena ..... Cal
CTS Microelectronics Inc Lafayette ..... Ind
Dayton Electronics Products Co Dayton ..... Ohio
Di/An Controls Inc Boston ..... Mass
Digital Equipment Corp Maynard ..... Mass
Dorsett Electronics Inc Tulsa ..... Okla
Electronic Modules Corp Timonium ..... Md
Erie Technological Products Inc Erie ..... Pa
General Dynamics, Electronics Div Rochester ..... N Y
General Instrument Europe SPA Milano ..... Italy
HEI Inc Chaska ..... Minn
Hybrid Electronics Inc Bedford ..... Mass
Loral Electronic Systems, Div Loral Corp New York ..... NY
Mial S P A I 20124 Milano ..... Italy
Microwave/Systems Inc East Syracuse ..... N Y
Milletron, Inc Pittsburgh ..... Pa
Morganite Resistors Ltd Jarrow ..... England
Murata Mfg Co, Ltd Kyoto ..... Japan
Mutron Corp Brockton ..... Mass
Nanosecond Systems Inc Fairfield ..... Conn
Nu-Devices Inc Norwalk ..... Conn
Pastoriza Div Analog Devices Cambridge ..... Mass
Philco-Ford Corp Washington ..... D C
Randam Electronics Inc Cincinnati ..... Ohio
R C L Electronics Inc Irvington ..... N J
Scott Electronics Corp Orlando ..... Fla
Space Age Microcircuits Chatham ..... N J
Summit Engineering Corp Bozeman ..... Mont
Sylvania Electronic Systems Waltham ..... Mass
Syscom Corp El Paso ..... Tex
Thomson-CSF 78 Versailles ..... France
Tilton Electronics Corp Winnisquam ..... N H
TRW Systems Group Redondo Beach ..... Cal
Vac-Ohm Electronics Co Haddonfield ..... N J
Vector Electronic Co Inc Sylmar ..... Cal
Vitramon Microwave Corp Middlesex ..... N J
VP Co Pasadena ..... Cal

Warlock Systems Inc Danbury ..... Conn
Welwyn Electric Ltd Northumberland ..... England

MODULES, PASSIVE—PULSE FORMING NETWORKS

R C L ELECTRONICS INC IRVINGTON ..... N J
TOROTEL, INC GRANDVIEW ..... MO
Ampar Div Adams-Russell Waltham ..... Mass
Artronic Instrument Co Silver Spring ..... Md
Burroughs Corp Electronic Components Div Plainfield ..... N J
Film Microelectronics, Inc Burlington ..... Mass
Nu-Devices Inc Norwalk ..... Conn
Philbrick/Nexus Research A Teledyne Co Dedham ..... Mass
R C L Electronics Inc Irvington ..... N J
Syscom Corp El Paso ..... Tex
Tilton Electronics Corp Winnisquam ..... N H
Torotel, Inc Grandview ..... Mo
VP Co Pasadena ..... Cal

MODULES, PASSIVE—RESISTOR NETWORKS

R C L ELECTRONICS INC IRVINGTON ..... N J
TOROTEL, INC GRANDVIEW ..... MO
American Components, Inc Conshohocken ..... Pa
Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Burroughs Corp Electronic Components Div Plainfield ..... N J
CTS Corp Elkhart ..... Ind
Daven Div McGraw-Edison Co Manchester ..... N H
Douglas Randall Inc Westerly ..... R I
Erie Technological Products Inc Erie ..... Pa
Fansteel Inc North Chicago Ill
Film Microelectronics, Inc Burlington ..... Mass
HEI Inc Chaska ..... Minn
Hybrid Electronics Inc Bedford ..... Mass
Jordan Electric Co Van Nuys ..... Cal
Julie Research Labs, Inc New York ..... N Y
Megadyne Industries Inc Rochester ..... N Y
Mial S P A I 20124 Milano ..... Italy
Morganite Resistors Ltd Jarrow ..... England
NPC Electronics Canoga Park ..... Cal
Nu-Devices Inc Norwalk ..... Conn
R C L Electronics Inc Irvington ..... N J
Shallcross A Cutler-Hammer Co Selma ..... N C
Syscom Corp El Paso ..... Tex
Tilton Electronics Corp Winnisquam ..... N H
Torotel, Inc Grandview ..... Mo
VP Co Pasadena ..... Cal
Welwyn Electric Ltd Northumberland ..... England

MODULES, PASSIVE—SEALED & ENCAPSULATED

ACCURATE ELECTRONICS CORP ELYRIA ..... OHIO
DALE ELECTRONICS INC, SIOUX DIV YANKTON
** S DAK ..... ADV PG 138**
HEWLETT-PACKARD PALO ALTO ..... CAL
INTRONICS INC NEWTON MASS ..... ADV PG 269
POLY SCIENTIFIC DIV LITTON INDUSTRIES
** BLACKSBURG ..... VA**
R C L ELECTRONICS INC IRVINGTON ..... N J
TORWICO ELECTRONICS, INC LAKEWOOD ..... N J
Accurate Electronics Corp Elyria ..... Ohio
Aerospace Avionics Inc Bohemia ..... NY
Alessi Industries El Segundo ..... Cal
Allegri-Tech Inc Nutley ..... N J
Allied Control Co Inc New York ..... N Y
American Components, Inc Conshohocken ..... Pa
Amperex Electronic Corp Semiconductor & Microcircuits Div
  Slatersville ..... R I
Angstrohm Precision, Inc Van Nuys ..... Cal
Applied Microwave Lab, Inc Andover ..... Mass
Aritech Corp Brighton ..... Mass
Artronic Instrument Co Silver Spring ..... Md
Audn Corp Hamburg ..... N Y
Avco Electronics Div Cincinnati ..... Ohio
Bell & Howell Co, Elctn Instr Grp Pasadena ..... Cal
Burroughs Corp Electronic Components Div Plainfield ..... N J
Caddock Electronics Inc Riverside ..... Cal
Castall Research Lab Inc Brockton ..... Mass
Condor Industrial Corp Wheaton Ill
Control Logic Inc Natick ..... Mass
Cornell-Dubilier Electronics Div Federal Pacific Electric Co
  Newark ..... N J
CTS Corp Elkhart ..... Ind
CTS Electronics Inc South Pasadena ..... Cal
CTS Microelectronics Inc Lafayette ..... Ind
Dale Electronics Inc, Sioux Div Yankton ..... S Dak
Dayton Electronics Products Co Dayton ..... Ohio
Di/An Controls Inc Boston ..... Mass
Digital Equipment Corp Maynard ..... Mass
Douglas Randall Inc Westerly ..... R I
Electro Cube Inc San Gabriel ..... Cal
Electronic Modules Corp Timonium ..... Md
Electronic Resources Inc Tasker Indus Los Angeles ..... Cal
Electrospace Corp Westbury ..... NY
Elgin Electronics Inc Erie ..... Pa
Erie Technological Products Inc Erie ..... Pa
Ferranti, Ltd Lancashire ..... England
General Dynamics, Electronics Div Rochester ..... N Y
General Instrument Europe SPA Milano ..... Italy
General Resistance Inc Div Chronetics Inc Mount Vernon ..... N Y
Halex Inc Torrance ..... Cal
HEI Inc Chaska ..... Minn
Hewlett-Packard Palo Alto ..... Cal
Hybrid Electronics Inc Bedford ..... Mass
Inductor Engineering Inc Lewes ..... Del
Industrial Electronetics Corp Satellite Beach ..... Fla
Intronics Inc Newton ..... Mass
IRC Div TRW Inc Los Angeles ..... Cal

ITT Aerospace, Optical Div Fort Wayne .....
ITT Europe Inc Components Gp Brussels 1 ..... Bel
ITT Semiconductors West Palm Beach .....
Jordan Electric Co Van Nuys .....
Julie Research Labs, Inc New York .....
Kidde & Co Inc, Walter Belleville .....
Labtron Corp of Amer Div KDI Corp Dayton .....
Logitek Div General Devices Inc. Farmingdale .....
Loral Electronic Systems, Div Loral Corp New York .....
Mial S P A I 20124 Milano .....
Microtek Electronics Inc Cambridge .....
Motorola Semiconductor Products Inc Phoenix .....
Mutron Corp Brockton .....
Neptune Electronics Co New York .....
NPC Electronics Canoga Park .....
Nu-Devices Inc Norwalk .....
Paraplegics Mfg Co Inc Bensenville .....
Pastoriza Div Analog Devices Cambridge .....
Peerless Instrument Co Inc Elmhurst .....
Philco-Ford Corp Washington .....
P M C Electronics Corp Philadelphia .....
Poly Scientific Div Litton Industries Blacksburg .....
Radix Electronics Corp Anaheim .....
Randam Electronics Inc Cincinnati .....
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy .....
R C L Electronics Inc Irvington .....
Resistance Products Co Harrisburg .....
Scott Electronics Corp Orlando .....
S K G Associates Inc Boston .....
Solid State Electronics Corp Sepulveda .....
Solitron Devices Inc Tappan .....
Space Age Microcircuits Chatham .....
Sprague Electric Co North Adams .....
Struthers-Dunn Inc Pitman .....
Sylvania Electronic Systems Waltham .....
Thomson-CSF 78 Versailles ..... Fr
Tilton Electronics Corp Winnisquam .....
Torwico Electronics, Inc Lakewood .....
TRW Systems Group Redondo Beach .....
Vitramon Microwave Corp Middlesex .....
VP Co Pasadena .....
Warlock Systems Inc Danbury .....
Welwyn Electric Ltd Northumberland ..... En

MOISTURE REPELLANT

***See* Coatings—Protective, Permanent & Sealing**

MOLDED PLASTICS

***See* Plastics**

MOLDING MACHINES

***See* Machines—Plastics-Molding**

MOLYBDENUM

MOLYBDENUM CORP OF AMERICA NEW YORK .....
SUPERIOR TUBE CO NORRISTOWN .....
Aceto Chemical Co, Inc Flushing .....
Active Alloys, Inc Elizabeth .....
Allen-Jones Electronics Div WEMS Inc Gardena .....
Alpha Metals Inc Jersey City .....
American Metal Climax Inc New York .....
Associated Engineering & Mfg Corp Glen Ridge .....
Atomergic Chemetals Co Div Gallard-Schlesinger Chemica
  Corp Carle Place .....
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
  Roslyn Heights .....
Bemol Corp Newton .....
Bram Metallurgical Chemical Co Philadelphia .....
Cerac Inc Butler .....
Cleveland Refractory Metals, Div Chase Brass Copper Co
  Solon .....
C M Mfg Co Bloomfield .....
Cross Co, H Weehawken .....
Fansteel Inc North Chicago .....
General Electric Co Lamp Metals & Components Dept
  Cleveland .....
Hamilton Precision Metals Div Hamilton Watch Co
  Lancaster .....
Koch Light Labs Ltd Colnbrook, Bucks ..... E
Leach & Garner Co, Industrial Div Attleboro .....
Mackay Inc, A D New York .....
Materials Research Corp Orangeburg .....
3M Company St Paul .....
Molybdenum Corp of America New York .....
Norton Co Metals Div Newton .....
Philips Elmet Corp Lewiston .....
Rembar Co Inc Dobbs Ferry .....
Ryerson & Son Inc, J T Chicago .....
Semi-Alloys Inc Mt Vernon .....
Semicon Associates Inc Lexington .....
Semi-Elements Inc Saxonburg .....
Shieldalloy Corp Newfield .....
Spectra-Mat Inc Watsonville .....
Superior Tube Co Norristown .....
Sylvania Elec Prods Inc, Chem & Met Div Towanda .....
Union City Filament Corp Union City .....
United Mineral & Chemical Corp New York .....
Universal-Cyclops Specialty Steel Div Cyclops Corp
  Pittsburgh .....
Var-Lac-Oid Chemical Co Elizabeth .....
Ventron Electronics Corp, Controls/Matls Div Bradford
Vitro Labs Div Vitro Corp of America W Orange .....
Wah Chang A Teledyne Co Glen Cove .....
Westinghouse Electric Corp, Lamp Div Bloomfield .....

NEL

TOMO SPECIAL METALS CO LTD OSAKA .... JAPAN
RIOR TUBE CO NORRISTOWN .... PA
e Alloys, Inc Elizabeth .... N J
ont Smelting & Refng Wks Inc Sales Eng Ctr
lyn Heights .... NY
Metallurgical Chemical Co Philadelphia .... Pa
-Harris Co Harrison .... N J
ton Precision Metals Div Hamilton Watch Co
caster .... Pa
y Cylinder Co Sub Edgewater Corp Philadelphia .... Pa
& Garner Co, Industrial Div Attleboro .... Mass
ay Inc, A D New York .... N Y
Ceram Inc Mount Vernon .... N Y
Minerals, Pigments & Metals Div New York .... NY
y Metals A Teledyne Co New Bedford .... Mass
Alloys Inc Mt Vernon .... N Y
rs Thin Strip Inc Sub Olin Waterbury .... Conn
omo Special Metals Co Ltd Osaka .... Japan
ior Tube Co Norristown .... Pa

NEL WIRE

e **Wire—Bare**

NITORS—AIR PARTICLE

e **Monitors—Radioactivity**

NITORS—FREQUENCY

LETT-PACKARD PALO ALTO .... CAL
OK ELECTRICAL INSTRUMENT CO CLEVELAND .... OHIO
YWELL TEST INSTRUMENTS DIV DENVER
LO .... ADV PG 8
SUREMENTS A MCGRAW-EDISON DIV BOONTON .. N J
ON ELECTRIC CO LTD TOKYO .... JAPAN
OR INC AUSTIN .... TEX
nced Measurement Instruments, Inc Somerville .... Mass
space Research, Inc Boston .... Mass
ican Time Products, Elctns Div Bulova Watch Co Inc
odside .... N Y
M Instruments Inc Great Neck .... N Y
ex Instruments, Inc Van Nuys .... Cal
matic Metal Products Corp Brooklyn .... N Y
matic Switch Co Florham Park .... N J
Electronics Lab Inc Upper Darby .... Pa
e Co, James G Plymouth Meeting .... Pa
son Corp, Sub Kurz & Root Co Appleton .... Wisc
Div, Watkins-Johnson Co Rockville .... Md
man Electronics Inc Sunnyvale .... Cal
Instruments Ltd London W3 .... England
ech Inc Ridgefield .... Conn
sified Electronics Inc Evansville .... Ind
las Randall Inc Westerly .... R I
log Corp Fort Lauderdale .... Fla
mic Controls Corp South Windsor .... Conn
rado Electronics Concord .... Cal
uency Engineering Labs Farmingdale .... N J
s Radio Co Quincy Ill
ral Dynamics, Electronics Div Rochester .... N Y
ral Microwave Corp Farmingdale .... N Y
man Electrical Mfg Co Mansfield .... Ohio
Instrument Co Inc Toledo .... Ohio
ett-Packard Palo Alto .... Cal
ok Electrical Instrument Co Cleveland .... Ohio
ywell Test Instruments Div Denver .... Colo
Electronics Ltd Camberley .... England
pkin Laboratories, Inc Bradenton .... Fla
nd Airborne Products Div AMF Vandalia .... Ohio
tek Div General Devices Inc. Farmingdale .... N Y
icopa Controls Scottsdale .... Ariz
Electronics Inc Deer Park .... N Y
artin Industries Inc Omaha .... Neb
Corp Monrovia .... Cal
surements A McGraw-Edison Div Boonton .... N J
nen-Greatbatch Electronics Inc Clarence .... N Y
owave Associates Inc Burlington .... Mass
owave/Systems Inc East Syracuse .... N Y
da Microwave Corp Plainview .... N Y
onal Radio Co Inc Melrose .... Mass
London Instr Co Div Crescent Comm Corp Newton .. Mass
on Electric Co Ltd Tokyo .... Japan
thern Radio Co Inc New York .... N Y
zen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
co-Ford Corp Washington .... D C
al Electronics Ltd Bracknell Berks .... England
io Corp of America, Comml Elctn Prods Div Camden .. N J
lumberger Overseas Messgerate 8000 Munich . W Germany
plex Time Recorder Co Gardner .... Mass
ger Co Instrumentation Div Bridgeport .... Conn
d State Electronics Corp Sepulveda .... Cal
nerset Radiation Lab Inc Arlington .... Va
ctran Electronics Div Novatronics Inc Pompano Beach . Fla
nbolic Displays Inc Orange .... Cal
hmetric Co Redwood City .... Cal
o Communication Equipment Co Ltd
linato-ku Tokyo .... Japan
cor Inc Austin .... Tex
V Systems Group Redondo Beach .... Cal
ner Electronics Ltd New Malden, Surrey .... Eng
tron Products Inc Pasadena .... Cal
c Line Div Simmonds Precision Prods Dayton .... Ohio
stronics Inc Fort Worth .... Tex
slow Tele-Tronics Inc Eatontown .... N J
ntel, Inc Berkeley .... Cal

ONITORS, POWER—A-F

RONICS INC NEWTON .... MASS
E-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
M Instruments Inc Great Neck .... N Y
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Hi-Tek Corp Santa Ana .... Cal
Intronics Inc Newton .... Mass
Leland Airborne Products Div AMF Vandalia .... Ohio
Logitek Div General Devices Inc. Farmingdale .... N Y
Maytronics Inc Colorado Springs .... Colo
Montedoro Corp San Luis Obispo .... Cal
Narda Microwave Corp Plainview .... N Y
NH Research Inc Santa Ana .... Cal
Northeast Electronics Corp Concord .... N H
Ohio Semitronics Inc Columbus .... Ohio
Philco-Ford Corp Washington .... D C
Private Tele Communications Inc Chicago Ill
Singer Co Instrumentation Div Bridgeport .... Conn
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Vapor Corp Chicago Ill
Voltron Products Inc Pasadena .... Cal

MONITORS, POWER—MICROWAVE

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IND
HEWLETT-PACKARD PALO ALTO .... CAL
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
WEINSCHEL ENGINEERING CO INC GAITHERSBURG .... MD
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Alpha Industries Inc Newton Upper Falls .... Mass
Applied Microwave Lab, Inc Andover .... Mass
Astrolab Inc Linden .... N J
Bendix Corp, Microwave Devices Div Franklin .... Ind
Coax Devices Chelsea .... Mass
Douglas Microwave Co Div Struthers Electronics Corp
Mamaroneck .... N Y
Elpac Inc RF/Microwave Div Irvine .... Cal
Farinon Electric San Carlos .... Cal
General Microwave Corp Farmingdale .... N Y
Geo Space Systems Inc St Petersburg .... Fla
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
LDV Electro Science Industries Syracuse .... N Y
Maury Microwave Corp Cucamonga .... Cal
Maytronics Inc Colorado Springs .... Colo
MCS Corp Monrovia .... Cal
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Narda Microwave Corp Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Philco-Ford Corp Washington .... D C
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Premier Microwave Corp Port Chester .... NY
Ramcor Inc Huntington .... NY
RLC Electronics Inc Port Chester .... N Y
Singer Co Instrumentation Div Bridgeport .... Conn
Weinschel Engineering Co Inc Gaithersburg .... Md

MONITORS, POWER—R-F

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IND
BIRD ELECTRONIC CORP CLEVELAND (SOLON) .... OHIO
ELECTRONIC NAVIGATION INDUSTRIES INC ROCHESTER . NY
HEWLETT-PACKARD PALO ALTO .... CAL
INTRONICS INC NEWTON .... MASS
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
SERVO CORP OF AMERICA HICKSVILLE .... N Y
SYSTRON-DONNER CORP CONCORD .... CAL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG .... MD
A & M Instruments Inc Great Neck .... N Y
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Bayly Engineering Ltd Ajax .... Ont
Bendix Corp, Microwave Devices Div Franklin .... Ind
B F Electronics Solana Beach .... Cal
Bird Electronic Corp Cleveland (Solon) .... Ohio
Douglas Microwave Co Div Struthers Electronics Corp
Mamaroneck .... N Y
Electronic Navigation Industries Inc Rochester .... NY
Elpac Inc RF/Microwave Div Irvine .... Cal
Farinon Electric San Carlos .... Cal
General Microwave Corp Farmingdale .... N Y
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Intronics Inc Newton .... Mass
Maytronics Inc Colorado Springs .... Colo
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Montedoro Corp San Luis Obispo .... Cal
Narda Microwave Corp Plainview .... N Y
Northeast Electronics Corp Concord .... N H
Philco-Ford Corp Washington .... D C
RLC Electronics Inc Port Chester .... N Y
Servo Corp of America Hicksville .... N Y
Singer Co Instrumentation Div Bridgeport .... Conn
Southern Avionics Co Beaumont .... Tex
Systron-Donner Corp Concord .... Cal
Trepac Corp of America Englewood .... N J
Weinschel Engineering Co Inc Gaithersburg .... Md
Wilcox Electric Co Kansas City .... Mo

MONITORS—RADIOACTIVITY

GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
Analog Technology Corp Pasadena .... Cal
Atomic Labs, Div Cenco Instr Corp Chicago Ill
Beckman Instruments Inc Fullerton, ... Cal
Canberra Industries Meriden .... Conn
Cary Instruments a Varian Sub Monrovia .... Cal
Eberline Instrument Corp Santa Fe .... N M
E G & G Inc Laboratory Prods Div Goleta .... Cal
EMI Electronics Ltd Hayes .... Middlesex Eng
EON Corp Brooklyn .... N Y
Gelman Instrument Co Ann Arbor .... Mich
General Electric Co, ECSO Schenectady .... N Y
Gilardoni S p A Mandello Lario Como .... Italy
Johnston Labs, Inc Cockeysville .... Md
Laben S p A Milan .... Italy
Landis & Gyr AG Zug .... Switzerland
Lockheed-Georgia Co Marietta .... Ga
Nuclear-Chicago Des Plaines Ill
Nuclear Corp of America, Nuclear Div Denville .... N J
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Measurements Corp Indianapolis .... Ind
Nuclear Supplies Encino .... Cal
Picker Nuclear White Plains .... N Y
Plessey Co Ltd Ilford Essex .... England
Racal Electronics Ltd Bracknell Berks .... England
St John X-Ray Laboratory Califon .... N J
The Nucleus, Inc Oak Ridge .... Tenn
Tracerlab, Div Lab for Electronics Inc Waltham .... Mass
Tracerlab-The Instrument Div of ICN Oakland .... Cal
Troxler Electronic Labs Inc Raleigh .... N C
Universal Transistor Products Div Link Copiague .... N Y
Victoreen Instrument Div Cleveland .... Ohio
Waber Electronics Inc Philadelphia .... Pa

MONITORS—TEMPERATURE

HEWLETT-PACKARD PALO ALTO .... CAL
TECHNICAL APPARATUS BUILDERS DIV POWER
ALTERNATING DIRECT CORP BROOKLYN .... N Y
Acromag Inc Wixom .... Mich
Aladdin Controls Div Aladdin Electronics Nashville .... Tenn
A & M Instruments Inc Great Neck .... N Y
Applied Research Austin Inc Austin .... Tex
Avien, Inc Woodside .... N Y
Biocom, Inc Culver City .... Cal
Cambridge Systems Inc Newton .... Mass
Deltron, Inc North Wales .... Pa
Doric Scientific Corp San Diego .... Cal
Edison, Thomas A Industries, Instr Div West Orange .... N J
Electronic Control Systems Inc Fairmont .... W Va
Electronic Modules Corp Timonium .... Md
En-Cer Inc South Holland Ill
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Glesco Electronics Inc Rockford Ill
Hagan Computer Systems Div Westinghouse Pittsburgh .... Pa
Hallmark Standards Inc Mount Vernon .... N Y
Helm Instrument Co Inc Toledo .... Ohio
Hewlett-Packard Palo Alto .... Cal
Himmelstein & Co, S Elk Grove Village Ill
Honeywell Inc Apparatus Controls Div Minneapolis .... Minn
Honeywell Resdntl & Coml Sls Divs Minneapolis .... Minn
Industrial Electronetics Corp Satellite Beach .... Fla
Infrared Industries Inc Santa Barbara .... Cal
Instrumentation & Control Systems Inc Addison Ill
Instrument Development Labs Div Kollmorgen Corp
Attleboro .... Mass
Irtronics Inc Stamford .... Conn
Julie Research Labs, Inc New York .... N Y
Leeds & Northrup Co North Wales .... Pa
Lucci & Co Marine Div Mechtron-Genco Sarasota .... Fla
Mack Electric Devices Inc Wyncote .... Pa
Maricopa Controls Scottsdale .... Ariz
Maytronics Inc Colorado Springs .... Colo
Mennen-Greatbatch Electronics Inc Clarence .... N Y
Minco Products Inc Minneapolis .... Minn
Montedoro Corp San Luis Obispo .... Cal
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Plessey Airborne Corp Hillside .... NJ
P P M Inc Cleveland .... Ohio
Relco Products Inc Denver .... Colo
Reliance Electric Co Cleveland .... Ohio
Scientific Engrg Mfg Co Div Gen Devices Inc
North Hollywood .... Cal
Sigma Instruments Inc Braintree .... Mass
Signet Controls Inc Tulsa .... Okla
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Symbolic Displays Inc Orange .... Cal
Technical Apparatus Builders Div Power Alternating Direct
Corp Brooklyn .... N Y
Technology/Versatronics Inc Yellow Springs .... Ohio
Techrand Corp of America Muskegon .... Mich
Thermo Electric Co Inc Saddle Brook .... N J
West Instrument Div Gulton Ind Inc Schiller Park Ill
Westronics Inc Fort Worth .... Tex

MONITORS—TV

HEWLETT-PACKARD PALO ALTO .... CAL
HUGHES AIRCRAFT CO VAC TUBE PRODS DV STORAGE
TUBES & COML DISP SYS OCEANSIDE .... CAL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
TEKTRONIX INC BEAVERTON .... ORE
Albion Optical Co Inc West Nyack .... N Y
Ampex Corp Redwood City .... Cal
Ball Brothers Research Corp Boulder .... Colo
Belar Electronics Lab Inc Upper Darby .... Pa
Beta Instrument Corp Newton Upper Falls .... Mass
Brown Engineering-A Teledyne Co Huntsville .... Ala
Canadian Motorola Electronics Ltd Willowdale 425 .... Ont
Canoga Industries Los Angeles .... Cal
Cohu Electronics Inc San Diego .... Cal
Concord Electronics Corp Los Angeles .... Cal
Conrac Corp New York .... N Y
Dalmo Victor, A Textron Div Belmont .... Cal
Dalto Electronics Corp Norwood .... N J
Denson Electronics Corp Rockville .... Conn
Diamond Electronics Unit, Babcock & Wilcox Lancaster .. Ohio
Diamond Power Sub Babcock & Wilcox Lancaster .... Ohio
EMI Electronics Ltd Hayes .... Middlesex Eng
Gordon Enterprises Inc, Alan North Hollywood .... Cal
Hewlett-Packard Palo Alto .... Cal

Hughes Aircraft Co Vac Tube Prods Dv Storage Tubes & Coml Disp Sys Oceanside	Cal
Hydro Products Div Dillingham Corp San Diego	Cal
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa	Japan
Inelco S p A Tavernerio	Italy
I T I Electronics Inc Clifton	N J
ITT Aerospace Optical Div Aerospace Oper San Fernando	Cal
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim	Cal
Litton Industries, Electron Tube Div San Carlos	Cal
Marconi Co Ltd Chelmsford	England
Maryland Telecommunications Div KMS Indus Inc Cockeysville	Md
Matsushita Electric Industrial Co Ltd Osaka	Japan
Monitor Systems Inc an Aydin Co Fort Washington	Pa
Motorola Communications & Electronics Div Schaumburg	Ill
Motorola Communications & Electronics Inc Chicago	Ill
Multi Media Engineering Inc Rockville	Md
Nippon Electric Co Ltd Tokyo	Japan
Ovitron Corp Industrial Syst Div Cheshire	Conn
Packard Bell Electronics, Closed Circuit TV Prods Newbury Park	Cal
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington	Ind
Schneider Radio-Television Div Ivry	France
Setchell Carlson, Inc New Brighton	Minn
Sharp Electronics Corp Carlstadt	N J
Shiba Electric Co Ltd Woodside	N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo	Japan
Systems Research Labs Inc Dayton	Ohio
Tektronix Inc Beaverton	Ore
Tele Measurements Inc Clifton	N J
Telemet Co, Video Prods & Airborne Telemetry Amityville	N Y
Thomson-CSF 78 Versailles	France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York	N Y
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh	Pa

MONITORS—VIBRATION

ITHACO INC ITHACA	**N Y**
TEKTRONIX INC BEAVERTON	**ORE**
TRACOR INC AUSTIN	**TEX**
Aerodyne Controls Corp Farmingdale	N Y
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bently Nevada Corp Minden	Nev
Columbia Research Labs Inc Woodlyn	Pa
Dawe Instruments Ltd London W3	England
Endevco Corp Pasadena	Cal
Helm Instrument Co Inc Toledo	Ohio
Indikon Co Inc Watertown	Mass
Industrial Electronetics Corp Satellite Beach	Fla
Instrumentation & Control Systems Inc Addison	Ill
International Research & Development Corp Worthington	Ohio
Ithaco Inc Ithaca	N Y
Metrix Instrument Co Houston	Tex
Reliance Electric Co Cleveland	Ohio
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Spectral Dynamics Corp of San Diego San Diego	Cal
Sperry Flight Systems Div Sperry Rand Corp Phoenix	Ariz
Tektronix Inc Beaverton	Ore
Tracor Inc Austin	Tex
Unholtz-Dickie Corp Hamden	Conn
Wavelabs Co Div Systron-Donner Corp Concord	Cal
Wayne Kerr Co c/o Southfield Electronics Southfield	Mich
Zonic Technical Labs Cincinnati	Ohio

MONOCHROMATORS

HEATH CO BENTON HARBOR	**MICH**
Bausch & Lomb Inc Rochester	N Y
Beckman Instruments Inc Fullerton,	Cal
Cambridge Thermionic Corp Cambridge	Mass
Crystal Research Inc Cambridge	Mass
Durrum Instrument Corp Palo Alto	Cal
Electronics & Alloys Inc Englewood	N J
Engis Equipment Co Morton Grove	Ill
Ercona Corp Bellmore	NY
Farrand Optical Co Inc Bronx	N Y
Gaertner Scientific Corp Chicago	Ill
Heath Co Benton Harbor	Mich
Infrared Industries Inc Santa Barbara	Cal
Jarrell-Ash Co Waltham	Mass
McKee-Pedersen Instruments Danville	Cal
McPherson Instrument Corp Sub GCA Corp Acton	Mass
Optronics Labs Div Columbia Scientific Corp Waltham	Mass
Phoenix Precision Instrument Co, Inc Philadelphia	Pa
Schoeffel Instrument Corp Westwood	NJ
Zeiss Inc, Carl New York	N Y

MOTOR CONTROLS

***See* Controls**

MOTOR GENERATOR SETS

BOWMAR INSTRUMENT CORP FORT WAYNE	**IND**
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL	**PA**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
GEORATOR CORP MANASSAS	**VA**
PORTESCAP U S NEW YORK	**N Y**
Allen Aircraft Radio Inc Elk Grove Village	Ill
Allis-Chalmers Mfg Co Milwaukee	Wis
American Electronics, Inc Fullerton	Cal
Bendix Corp Electric Power Div Eatontown	NJ
Bogue Electric Mfg Co Paterson	N J
Bowmar Instrument Corp Fort Wayne	Ind
Century Electric Co St Louis	Mo
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Columbia Electric Mfg Co Cleveland	Ohio
Consolidated Electric Corp Seattle	Wash
Electric Indicator Co Inc Wilton	Conn
Electric Machinery Mfg Co Minneapolis	Minn
Electric Products Co Cleveland	Ohio
Electronic Specialty Co, Conn Div Thomaston	Conn
Electro-Pacific Inc Goleta	Cal
Fuji Electric Co Ltd Tokyo	Japan
Gaylord Rives Co Div Amer Elctns Inc Pasadena	Cal
General Electric Co, ECSO Schenectady	N Y
Georator Corp Manassas	Va
Globe Industries Div TRW Inc Dayton	Ohio
Holtzer-Cabot Corp Boston	Mass
Horlick Co Inc, William I Boston	Mass
Ideal Electric & Mfg Co Mansfield	Ohio
Inet Power A Teledyne Co Gardena	Cal
Inland Motor Corp Radford	Va
Kato Engineering Co Mankato	Minn
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Kollsman Instrument Corp Syosset	N Y
Kurz & Root Co Appleton	Wis
Lear Siegler Inc Santa Monica	Cal
Leland Airborne Products Div AMF Vandalia	Ohio
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Motor Generator Div Hobart Bros Co Troy	Ohio
Phoenix Materials Corp Forbes Road	Pa
Porter H K Co Electrical Div Pittsburgh	Pa
Portescap U S New York	N Y
Rae Motor Corp McHenry	Ill
Reliance Electric Co Cleveland	Ohio
Safety Electrical Equipment Corp New Haven	Conn
Servo-Tek Products Co Hawthorne	N J
Siemon Mfg Co Wayne	Ill
Sigma Instruments Inc Braintree	Mass
Signet Controls Inc Tulsa	Okla
Simplex Time Recorder Co Gardner	Mass
Singer Co, Diehl Div Somerville	N J
Task Corp Anaheim	Cal
Technical Materiel Corp Mamaroneck	N Y
Thermo Electron Engineering Corp Waltham	Mass
Thomson-CSF 78 Versailles	France
T M C Systems & Power Corp Springfield	Va
Tocco Div Park-Ohio Ind Inc Cleveland	Ohio
Western Gear Corp Electro Products Div Pasadena	Cal
Westinghouse Electric Corp, Aerospace Electrical Div Lima	Ohio
Weston Instruments Div Weston Instr Inc Newark	N J
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

MOTORS—BRUSHLESS

BODINE ELECTRIC CO CHICAGO	**ILL**
EEMCO DIV INSTR MOTORS, ELECTRONICS SPECIALTY CO LOS ANGELES	**CAL**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HAYDON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
IMC MAGNETICS CORP WESTERN DIV MAYWOOD	**CAL**
SIEMENS AMERICA INC NEW YORK N Y	**ADV PG 382**
SUPERIOR ELECTRIC CO THE BRISTOL	**C**
ZENRAD CONTROLS CO SANTA BARBARA	
Aeroflex Labs, Inc Plainview	
Alliance Mfg Co Inc Alliance	
American Electronics, Inc Fullerton	
Appleton Electric Co Chicago	
Ashland Electric Products, Inc Long Island City	
Automation Development Co Culver City	
Avionics, Inc South Bend	
Barber-Colman Co, EMP Div Rockford	
Bodine Electric Co Chicago	
Bogue Electric Mfg Co Paterson	
Brevel Products Corp Carlstadt	
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook	
Carter Motor Co Chicago	
Cramer Div Conrac Corp Old Saybrook	
Curry Engineering Co N Hollywood	
Eastern Air Devices Inc Dover	
EEMCO Div Instr Motors, Electronics Specialty Co Los Angeles	
Electric Indicator Co Inc Wilton	
Electric Machinery Mfg Co Minneapolis	
Electric Products Co Cleveland	
Electronic Specialty Co, Conn Div Thomaston	
Electro-Pacific Inc Goleta	
EMD Components Inc Wickliffe	
Energy Conversion Systems Corp Grafton	
Gaylord Rives Co Div Amer Elctns Inc Pasadena	
General Electric Co, ECSO Schenectady	
General Industries Co Elyria	
Globe Industries Div TRW Inc Dayton	
Hale Instrument Inc Houston	
Harowe Servo Controls Inc West Chester	
Haydon Co The, A W Waterbury	
Haydon Switch & Instrument Inc Waterbury	
Hobbs Mfg Co Worcester	
Hydro-Aire Div Crane Co Burbank	
Icon Corp Cambridge	
Ideal Electric & Mfg Co Mansfield	
IMC Magnetics Corp Western Div Maywood	
Inet Power A Teledyne Co Gardena	
Inland Motor Corp Radford	
Kato Engineering Co Mankato	
Lamb Electric Div Ametek Inc Kent	
Lear Siegler Inc Santa Monica	
Lear Siegler Inc, Power Equipment Div Cleveland	
Leland Airborne Products Div AMF Vandalia	
Leland-Faraday Electric Co New York	
Louis Allis Co Div Litton Industries Milwaukee	
Magnetic Technology Inc Canoga Park	
Mamco Corp Racine	
Mathews Electronic Corp Mobile	
Matsushita Electric Industrial Co Ltd Osaka	
Molon Motor & Coil Corp Rolling Meadows	
Motoresearch Mfg Co Inc Racine	
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwe	
Reuland Electric Co City of Industry	
RMS Motor Corp Binghamton	

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Featuring Solid State Commutation. . .plus:

- Automatic load, temperature & voltage compensation
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- Adjustable speed
- Choice of gear heads, voltage, torque
- Long, maintenance-free life

1AD20
1AD30
1AD31
1AD50

MOTOR TYPE	VOLTS	AMPS	TORQUE IN OZ.	VARIABLE R. P. M.	DIA.	LENGTH
1AD20	6-10				0.80"	1.57"
"	10-15	0.16	0.17	2550 - 3450	"	"
1AD30	6-10	0.32	0.28	2550 - 3450	1.10"	2.24"
"	8-10	0.58	0.35	500 - 8000	"	"
1AD31	6-10	0.30	0.42	1500&3000	1.42"	2.17"
"	21-28	0.95	1.70	600 - 6000	"	"
1AD40	6-10	0.32	0.56	2550 - 3450	1.55"	1.15"
"	10-15				"	"
1AD50	21-28	1:48	7.00	2550 - 3450	2.00"	3.54"
"	21-28	1.48	7.00	600 - 6000		

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ins & Myers Inc Springfield . . . . Ohio
ting Components Div Instrument Sys Corp Bay Shore . N Y
yo Seiki Mfg Co, Ltd Tokyo . . . . Japan
ens America Inc New York . . . . N Y
on Mfg Co Wayne Ill
ka Engineering Co Los Angeles . . . . Cal
hs Industries Ltd, Aviation Div Wembley, Mdsx . . England
ry Rand Corp Electro Components Plant Durham . . . . N C
eam Electronics Fort Lauderdale . . . . Fla
rior Electric Co The Bristol . . . . Conn
Corp Anaheim . . . . Cal
ersal Electric Co Owosso . . . . Mich
ric Control Equipment Ltd Morden . . . . England
line Co of America Inc Old Saybrook . . . . Conn
tinghouse Electric Corp, Aerospace Electrical Div
ma . . . . Ohio
awa Electric Mfg Co Ltd Tokyo . . . . Japan
ad Controls Co Santa Barbara . . . . Cal

TORS—FRACTIONAL HP

B MOTOR & CONTROL CORP NEW YORK . . . . N Y
INE ELECTRIC CO CHICAGO ILL . . . . ADV PG 384
E ELECTRONICS INC COLUMBUS . . . . NEB
CO DIV INSTR MOTORS, ELECTRONICS SPECIALTY CO
S ANGELES . . . . CAL
TRO-CRAFT CORP HOPKINS . . . . MINN
ERAL ELECTRIC CO, ECSO SCHENECTADY
Y . . . . ADV PGS 7,386
DON SWITCH & INSTRUMENT INC WATERBURY
NN . . . . ADV PG 383
ARD INDUSTRIES DIV MSL INDUS INC RACINE
S . . . . ADV PG 385
MAGNETICS CORP EASTERN DIV WESTBURY . . . . . N Y
ANA GENERAL CORP ELECTRO-MECHANICAL DIV
LESBY ILL . . . . ADV PG 387
ELOGIC CORP PASADENA . . . . CAL
TRON A DICTAPHONE CO PASADENA CAL . . ADV PG 389
EAN ENGINEERING LABS PRINCETON JUNCTION . . . N J
TESCAP U S NEW YORK . . . . N Y
ERIOR ELECTRIC CO THE BRISTOL . . . . CONN
Controls Co New Haven . . . . Conn
AC Industries Inc Garden City . . . . N Y
rican Electronics, Inc Fullerton . . . . Cal
rican Lincoln Corp, Elec Motor Div Watertown . . . . . . NY
to-Craft Distinctive Miniatures New York . . . . N Y
and Electric Products, Inc Long Island City . . . . N Y
dor Electric Co Fort Smith . . . . Ark
ber-Colman Co, EMP Div Rockford Ill
B Motor & Control Corp New York . . . . N Y
u Motor Div UMC Electronics Co North Haven . . . . . . Conn
gen Lab, Inc Paterson . . . . N J
ine Electric Co Chicago Ill
ton Gear Works Quincy . . . . Mass
vel Products Corp Carlstadt . . . . N J
ter Motor Co Chicago Ill
tury Electric Co St Louis . . . . Mo
rac Corp New York . . . . N Y
solidated Controls Corp Bethel . . . . Conn
ry Engineering Co N Hollywood . . . . Cal
Electronics Inc Columbus . . . . Neb
len Co South Gate . . . . Cal
rr Electric Corp Cedarburg . . . . Wis
amic Air Engineering Inc Santa Ana . . . . Cal
tern Air Devices Inc Dover . . . . N H
MCO Div Instr Motors, Electronics Specialty Co
os Angeles . . . . Cal
tric Indicator Co Inc Wilton . . . . Conn
tro-Craft Corp Hopkins . . . . Minn
tronic Specialty Co, Conn Div Thomaston . . . . Conn
D Components Inc Wickliffe . . . . Ohio
nklin Electric Co Inc Bluffton . . . . Ind
Electric Co Ltd Tokyo . . . . Japan
lord Rives Co Div Amer Elctns Inc Pasadena . . . . Cal
eral Design Inc Sun Valley . . . . Cal
eral Electric Co, ECSO Schenectady . . . . N Y
eral Industries Co Elyria . . . . Ohio
e Industries Div TRW Inc Dayton . . . . Ohio
nes Mfg Co Urbana . . . . Ohio
e Instrument Inc Houston . . . . Tex
don Switch & Instrument Inc Waterbury . . . . Conn
er Corp, G K Las Vegas . . . . Nev
tzer-Cabot Corp Boston . . . . Mass
eywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
ver Electric Co Los Angeles . . . . Cal
iden Electronics Co Ltd Osaka . . . . Japan
ard Industries Div MSL Indus Inc Racine . . . . Wis
ro-Aire Div Crane Co Burbank . . . . Cal
Magnetics Corp Eastern Div Westbury . . . . N Y
iana General Corp Electro-Mechanical Div Oglesby Ill
nd Motor Corp Radford . . . . Va
el Motors Inc Highland Ill
arfott Div Singer-General Precision Inc Little Falls . . . . . NJ
ndrick & Davis Inc Lebanon . . . . N H
elogic Corp Pasadena . . . . Cal
tron A Dictaphone Co Pasadena . . . . Cal
nb Electric Div Ametek Inc Kent . . . . Ohio
ar Siegler Inc Santa Monica . . . . Cal
ar Siegler Inc, Power Equipment Div Cleveland . . . . Ohio
ar Siegler Inc, Romec Div Elyria . . . . Ohio
ece-Neville Co Cleveland . . . . Ohio
and-Faraday Electric Co New York . . . . N Y
a-Costruzioni Elettromeccaniche SPA Milan . . . . Italy
R Mfg Co Kearny . . . . N J
gnedyne Inc Carlsbad . . . . Cal
gnetic Technology Inc Canoga Park . . . . Cal
mco Corp Racine . . . . Wis
thews Electronic Corp Mobile . . . . Ala
tsushita Electric Industrial Co Ltd Osaka . . . . Japan
Lean Engineering Labs Princeton Junction . . . . N J
lon Motor & Coil Corp Rolling Meadows Ill
toresearch Mfg Co Inc Racine . . . . Wis
irhead Instruments Inc Mountainside . . . . N J
sh Controls Inc Sub Simmonds Prec Prods Inc Caldwell . N J
hols Co Ltd, R H Downsview . . . . Ont
motor Inc Burlingame . . . . Cal
otocircuits Corp Glen Cove . . . . N Y
ssey Co Ltd Ilford Essex . . . . England

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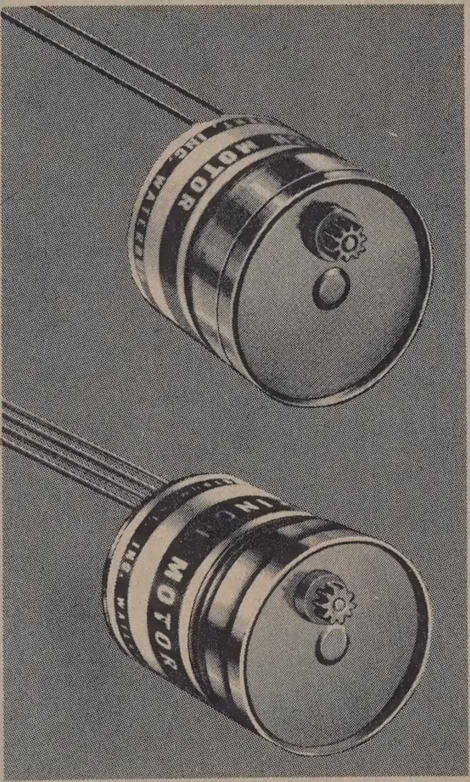
These small, unique motors are a genuine break-through in the State of the Art of timing motors. Only 1$\frac{1}{16}$" OD, they develop higher torque than many motors twice their size and always deliver instant, positive directional starting. They operate on 1 or 2 watt input. Mass production provides low unit cost.



Series 33000
Single Phase, Synchronous, Integrating. Fast Start-Stop. Rotor locks in on first line frequency cycle; stops instantly without coast. One watt input at rated voltage. Standard voltage ratings 20V and 115V, 60Hz. Cool operation. Unidirectional, shaded pole starting. No mechanical no-backs. Gears are heavy duty, permanently lubricated and sealed. Standard speeds 360, 300, 60 and 3.6 RPM. With split coils this motor becomes a stepper motor. Series 31000, below.

Series 33600
Bidirectional, 2-Phase Synchronous Integrating. Instantly reversible by switching capacitor from one coil to the other. Fast start-stop and reversing characteristics for precise positioning. Can "inch" in either direction in small increments. Two watt input. Other characteristics same as 33000 series. With split coils this motor becomes a step servo motor. Series 31600, below.

Series 31000 3-wire Stepper.
Unique principle drives rotor 360° for each pulse cycle. Other step angles available through gear reduction.

Series 31600 Reversible Step-Servo.
Bidirectional operation is obtained by energizing four coils in sequence or can be driven by simple logic circuitry up to 200 steps per second.

Series 32000 Brushless DC Timing Motor with Chronetic™ Governor.
Maintains speed constant within ± 0.1% over a voltage range of 20-30 v. DC. No commutator or contacts.

Send for catalog with complete details on features, applications and circuitry.

H·S·I®

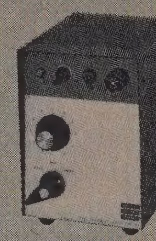
HAYDON SWITCH & INSTRUMENT, INC.
1500 Meriden Road, Waterbury, Conn. 06720 Area Code (203) 756-7441

Bodine offers a complete line of fractional hp motors, gearmotors and speed controls

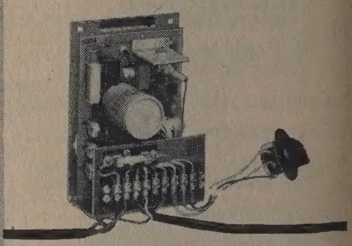
SPEED CONTROLS for Adjustable Speed Drive Systems:

A Bodine SCR-type speed control (chassis or encased) converts 50/60 Hz A-c to nearly pure D-c for shunt-wound drives. Makes possible smoother speed control of a Bodine drive (motor or gearmotor) over a wider range of speeds. For single source responsibility and maximum performance, insist on a perfectly matched Bodine motor—Bodine control system. A wide selection in the 1/50 to 1/4 Hp range is available.

The Bodine line, within its horsepower range, is unusually complete. There are over 3500 standard motors and gearmotors, with horsepower ranging from 1/2000 to 1/4. Bodine also builds custom and special motors to your design requirements. Our engineers will be happy to help you pinpoint the right one for your specific application need.



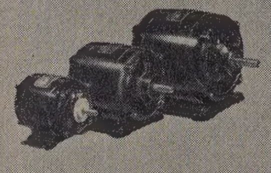
Encased Controls: Nine models are stocked. Some with extended speed range and/or torque control.



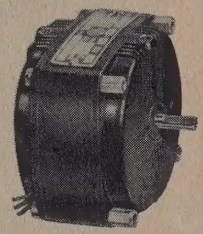
Chassis Control Kits: Four models stocked. Unlimited adaptability. Install in your own enclosure.

FHP MOTORS & GEARMOTORS:

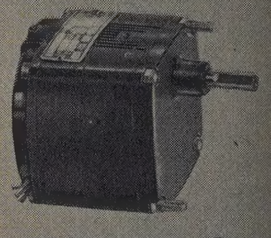
Since 1905 Bodine has manufactured fractional horsepower motors and gearmotors. Close tolerance machining and careful attention to even the smallest detail of construction enables Bodine not only to produce better motors, but to produce them at a lower cost to customers in terms of value received. STOCK Bodine motors and gearmotors are available in all types and sizes within a range of 1/2000 to 1/4 Hp; torques from 0.3 Oz-in. to well over 200 Lb-in.



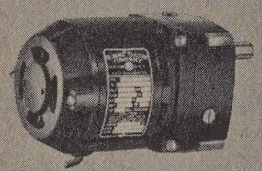
Type N Motors: Three basic sizes; 3.36", 4.50" and 5.68" in diameter. Stock ratings from 1/125 to 1/4 Hp. Almost any type of winding.



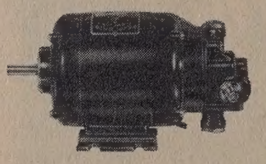
Type K Motors: Permanent-split capacitor instrument motors. Normal slip, high slip and synchronous windings. Stock ratings to 2.4 Oz-in. Only 2.405" square.



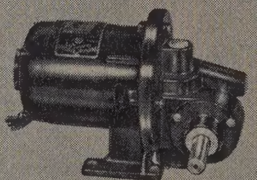
Type K Gearmotors: Permanent-split capacitor instrument gearmotors. Parallel shaft, helical gears. Stock ratings: 2.9-120 Oz-in. at 300-0.9 Rpm. Only 2.405" square.



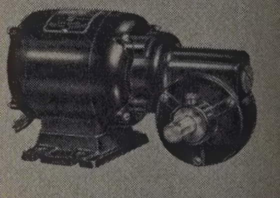
N-1D Gearmotors: Parallel shaft helical and spur gearing. Ratings to 25 Lb-in. Ratios to 900:1. Only 3.41" square.



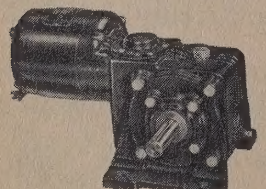
N-1R . . . single or double reduction worm gearmotors. Stock ratings to 5 Lb-in. range. Many ratios.



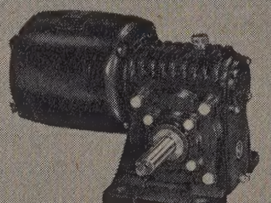
N-1RG . . . double reduction worm gearmotors. Stock ratings to 40 Lb-in. range. Many ratios.



Single reduction, right angle worm gearmotors. 5 frame sizes with stock ratings to 70 Lb-in. range. Ratios to 60:1.



N-3RJ . . . double reduction right angle worm gearmotors for transmitting high torques at low speeds. Stock ratings over 200 Lb-in.



N-5RH . . . single reduction right angle worm gearmotors. Heavy duty reducer for continuous driving of heavy loads. Ample reserve for overloads. Stock ratings over 200 Lb-in.

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Bodine Electric Co., 2534 W. Bradley Place, Chicago, Ill. 60618

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MOTORS/SPEED CONTROLS
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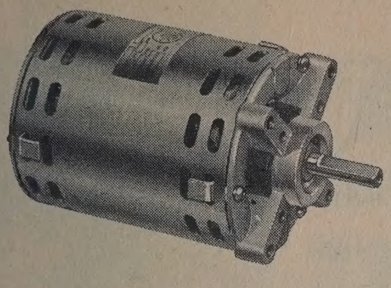
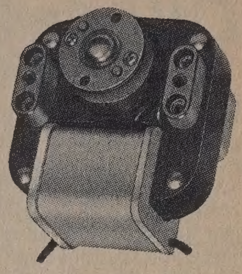
COMPUTER-RATED FRACTIONAL HORSEPOWER MOTORS



When Howard rates a motor 1/20 hp, we're not about to under-power your system with a 1/25 hp motor. We always True Rate our fhp motors this way. Our computer guarantees it . . . and your products benefit.



A-LINE SHELL FRAME INDUCTION MOTORS
- Permanent Capacitor
- Capacitor Start
- Reluctance Synchronous
- Hystersis Synchronous
- Variable Speed Permanent Capacitor

B-LINE CAST FRAME INDUCTION MOTORS
- Permanent Capacitor
- Reluctance Synchronous

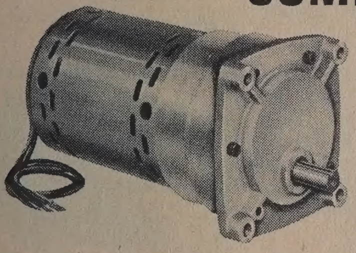
DC SHUNT MOTORS

SHADED POLE MOTORS
- U-Line Unit Bearing
- K-Line Skeleton—Conventional Bearing
- Variable Speed

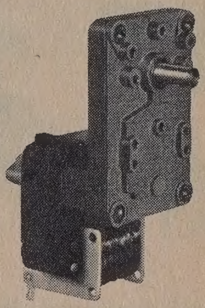
UNIVERSAL MOTORS
- B-Line Cast Frame
- D-Line Cast Case
- A-Line Shell Frame

SAME-DAY SHIPMENT OF STANDARD MODELS

COMPUTER-MATED GEARMOTORS



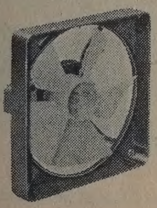
Howard gear trains and motors are computer-mated and computer-rated. This means that when Howard matches and rates a gearmotor, it's a true rating for your job. It means, too, that no Howard Gearmotor will ever destruct or destroy itself . . . or your system.



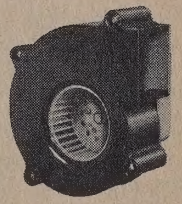
INDUCTION • UNIVERSAL AC/DC • RELUCTANCE SYNCHRONOUS • SHADED POLE

SAME-DAY SHIPMENT OF STANDARD MODELS

FANS & BLOWERS GUARANTEED FIVE YEARS



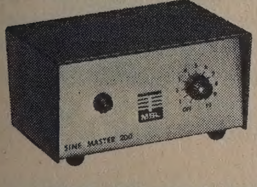
Our modest 5-year guarantee on Howard Fans and Blowers is based on an engineered lifespan of 10 years. And our customers report the fans are still blowing strong 12 or even 14 years after installation. More than 10 million successful installations.



- **Unit Bearing motor**
- **Indestructible nylon blades**
- **UL yellow card listing**
- **All metal construction**
- **Fans standard mount on 4⅛" centers**

SAME-DAY SHIPMENT OF STANDARD MODELS

NEW SINE MASTER SOLID STATE AC MOTOR SPEED CONTROLS
for HOWARD Fractional HP Motors



SINE MASTER 200

Regulated speed control for shaded pole induction and universal motors.

- Motor speed regulated by controlling the energy input to the motor
- Power is self-controlled to meet motor demands
- Maintain rated starting torque over entire control range
- Computer-mated to selected Howard fhp motors
- Priced competitively with DC-type controls
- Eliminate brush problems and maintenance of DC motors
- Electrical limit of 130 VRMS maximum and 4 amps in 40° C ambient
- Speed range of 20:1 for two-pole induction motors

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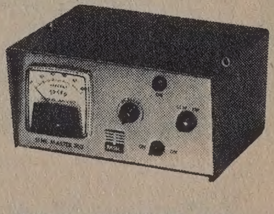

SINE MASTER 300

Automatic, governed speed control for permanent capacitor induction motors, universal and shaded pole induction motors.

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SPECIALTY MOTORS

NEW! Cooling-fan Assemblies

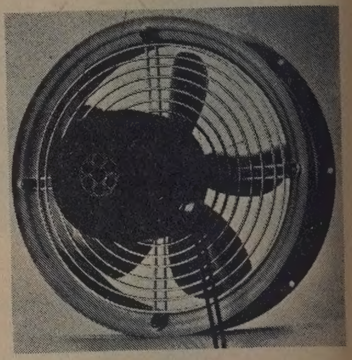
For Electronic-equipment Cabinets

New 100 CFM fan assembly is powered by reliable GE shaded-pole motor and is equipped with a durable, five-blade molded fan and brackets. The two-pole Unitized® motor features a recirculating oil lubrication system for extra long bearing life. The assembly is only 2⅞ inches deep from mounting plate to end of motor, and measures slightly under 4¾ inches square with mounting holes 4⅛ inches between centers.

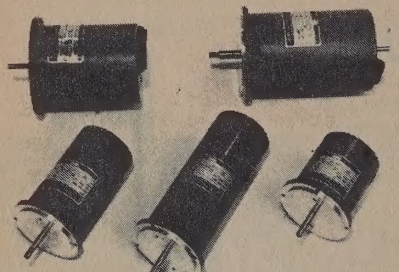
500 CFM fan assembly is powered by GE unit-bearing, four-pole, shaded-pole motor with recirculating oil lubrication system, and includes five-blade metal fan and grill. Measuring less than 6¼ inches deep from front to back, it has a ten-inch diameter fan venturi with eight holes around venturi flange for easy mounting. Also available with two-pole motors for even greater air-flow.

The units, which require only simple ON-OFF switches for operation, are designed for years of quiet, dependable, continuous-duty operation without maintenance. These blowers are available for 115- or 230-volt, 60-cycle duty, 50-cycle designs are available with somewhat lower output. For complete information, write for Bulletin GEA-8258.

100 CFM
fan assemblies



500 CFM
fan assemblies



NEW . . . ADVANCED

Hyper-Servo* MOTORS for electronic drives

For such demanding computer applications as single-capstan tape transports, disc packs, high-speed printers, card sorters and card readers, General Electric has created this new line of high performance d-c servo motors. The motors respond in less than one millisecond with acceleration rates faster than any motor previously offered by General Electric. Write for Bulletin GEA-8251. Characteristics: Torque-to-inertia ratio approaches one-half million rad/sec^2; pulse torque-to-inertia ratio exceeds one-half million rad/sec^2; inertial time constant is as low as one millisecond; diameter is 3.4 inches and larger; weight is as little as five pounds.

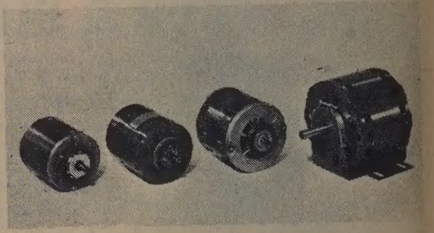
* Trade-mark of the General Electric Company.

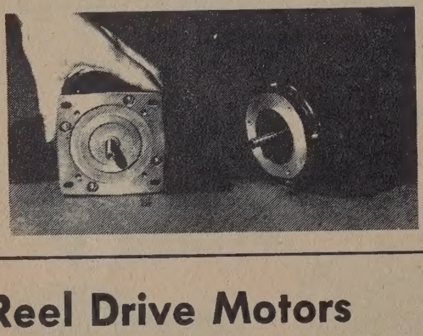
Small, Compact, A-c Induction Motors

Provide High Power in a Lightweight Package

Small in size, but high in reliability, General Electric compact, powerful, a-c induction motors are available in four sizes from 15 mhp to ½ horsepower. These reversible motors provide consistent, quiet, long-life operation in any mounting position. Synchronous motors for constant-speed applications are available in 3-, 3.4-, and 3⅞-inch diameter models. Special designs can be provided for various torque motor applications such as tape reel drives. For dimensions, features, ratings, and application information, write for Bulletin GEA-8254.

Typical Electronic Applications: Computer memory drums, tape reels, capstans, disc filers, card stackers, card printers, card punchers, and data cells.





SYNCHRONOUS, REVERSIBLE

Low-speed Gearless Servo Motors

For servo, stepping, and other low-speed high-torque applications, General Electric provides a line of low-speed, synchronous inductor motors in 4⅛-inch diameter models. These motors provide a choice of 50, 75, 150, or 250 oz. in torque at exactly 75 rpm without the use of speed-reducing devices. The motors provide fast starting, stopping, and reversing for 50- or 60-cycle applications at either 120 or 240 volts. For complete information write for Bulletin GEC-1294.

Reel Drive Motors

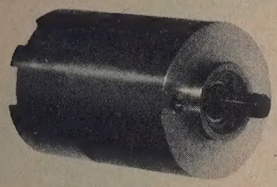
For Computer Tape Transports

GE's full line of fhp direct-current motors includes four frame sizes widely used for reel drives: 3⁵⁄₁₆", 3¹³⁄₁₆", 4⅝", and 6⁵⁄₁₆" diameters. Special end mountings and shaft extensions meet exacting application requirements. Series, split-series, compound, shunt, and compensated-shunt winding designs offer a broad design choice. Stall torque ratings from 3 to 120 ounce-feet and higher span various application needs, and motor voltage requirements are normally matched to your system design. Write for Bulletin GEC-1795.

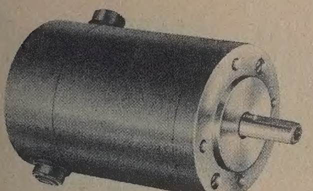
For complete information contact nearest GE Sales Office. See list on page 7, or write to General Electric Co., Section 998-67 Schenectady, N. Y. 12305.

GENERAL ELECTRI

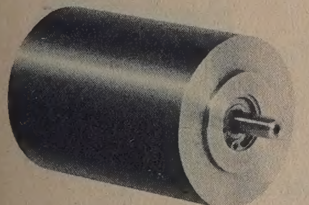
Nobody's equipped to save you money on precision motors like Indiana General



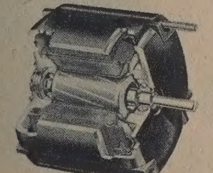
DC Miniature Motors—¾″ through 1½″ dia.



DC Torque Motors—2¼″ through 5″ dia.



400 Cycle AC Motors—.937″ through 1.670″ dia.



60 Cycle AC Motors—.937″ through 2.540″ dia.

IG has developed a standard parts concept of motor design to give over 1000 variations in each size. This "Family Plan" concept means customed-designed motors at off-the-shelf prices for:

1. Aerospace—actuators, recorders, rotating beacons, landing lights.
2. Communications—frequency tuners, cooling equipment, antenna drives.
3. Computers—tape reel drives, capstan drive motors, tachometers.

For free technical data bulletins on complete line of IG's precision motors, gearheads, and tachometers, write to: Mr. R. Wright, Sales Manager, Electro-Mechanical Products, Indiana General, Oglesby, Illinois 53110.

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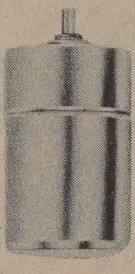

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broad selection of gearheads
very low moment of inertia
compact, space saving design
high efficiency, low power consumption
made in Switzerland

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Electronics Buyers' Guide

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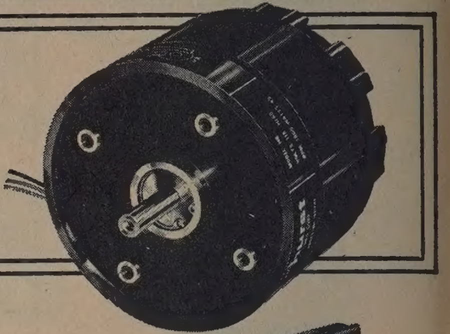
HEAVY DUTY SYNCHRONOUS MOTORS

hurst NEW! HoneyBee

Ideal for tape drive applications. Inverted rotor construction for reduced flutter. 1/50 HP, start torque 12 in. oz. at 1800 RPM; pull in torque 11 in. oz. 40°C heat rise, full load. Sealed ball bearings. Stainless steel shaft ⁵⁄₁₆" x 1". (Special shafts available.) Also available at 900 RPM.



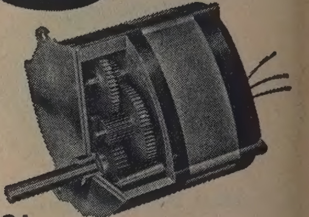
MODEL HB

hurst MODEL GA

600 IN. OZ. OF TORQUE AT 1 RPM (Reversible)

For long life and higher torque applications. Offers instrument manufacturers high performance and economy. Wide range of speeds.

- HEAVY DUTY GEARING
- NO LUBRICATION REQUIRED
- CAPACITOR INCLUDED

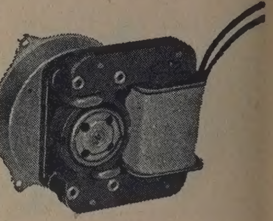


MODEL GA

hurst MODEL EA

150 IN. OZ. OF TORQUE AT 1 RPM (Unidirectional)

Open frame, shaded pole, extremely cool running. Bronze bearings, brass gears, hardened steel pinions and wheel shafts, stainless steel output shaft. For dependable, low-cost timing applications. Wide range of speeds.



MODEL EA

hurst MODEL DA

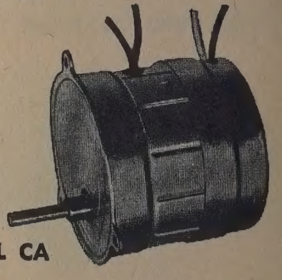
120 IN. OZ. OF TORQUE AT 1 RPM (Reversible)

Timing accuracy both clockwise and counter-clockwise. SPDT switching. Case 2½" diam., 1¾" long. Will not overheat. Capacitor included. Wide range of speeds.

hurst MODEL CA

100 IN. OZ. OF TORQUE AT 1 RPM (Reversible)

Features 1200 rpm rotor speed for quiet performance. Extremely versatile (animated displays, program instruments, outdoor advertising, etc.). Wide range of output speeds. Will not overheat. Capacitor included.

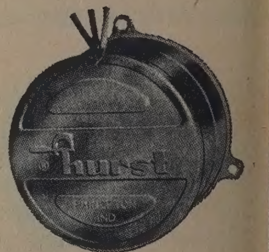


MODEL CA

hurst MODEL SM

RATED 40 IN. OZ. OF TORQUE AT 1 RPM (Unidirectional)

For tough jobs demanding accurate timing. Excellent shock and vibration resistance. Starts instantly at full torque. Will not overheat. Wide range of output speeds.



MODELS DA SM

hurst MODEL PC-SM / MODEL PC-DA

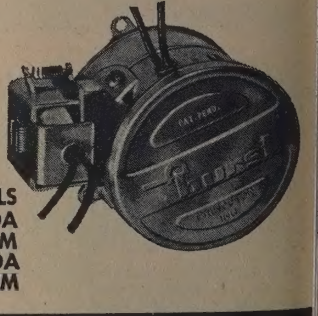
CLUTCH AND BRAKE MOTOR 40 IN. OZ. OF TORQUE AT 1 RPM (Unidirectional) / **CLUTCH AND BRAKE MOTOR 120 IN. OZ. OF TORQUE AT 1 RPM (Reversible)**

Both are positive clutch and instantaneous brake motors. For extremely fast starts and stops. Motor runs continuously with clutch and brake controlled by switching actuator only. Clutch starts output shaft within 20 milliseconds; brake stops output shaft within 1/5° at 1 rpm; within 12° at 60 rpm. Motor on AC voltage; actuator AC or DC. Either can be supplied in any voltage combination when motor is AC. Will not overheat. Wide range of speeds.

hurst MODEL AR-DA / MODEL AR-SM

100 IN. OZ. OF TORQUE AT 1 RPM (Reversible) / **40 IN. OZ. OF TORQUE AT 1 RPM (Unidirectional)**

Automatic reset. Planetary-type clutch operates directly upon output shaft. When de-energized, shaft is manual or automatic reset. Addition of external return spring to output shaft provides automatic reset on either model. Motor on AC voltage; actuator on AC or DC. Either can be supplied in any voltage combination when motor is AC. Will not overheat. Capacitor included. Wide range of speeds.



MODELS PC-DA PC-SM AR-DA AR-SM

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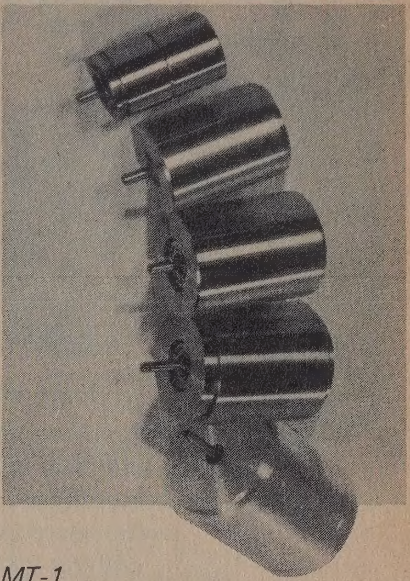
Kintron MOTORS



PRECISION INSTRUMENT AC/DC

Kintron motors are custom designed for applications where efficiency and precision are particularly important . . . meeting MIL and other stringent specifications. Quick response for prototype requirements.

AC

HYSTERESIS SYNCHRONOUS—*Type AH*

Frame Sizes	*5, 8, 10, 11, 13, 15, 18, 20*
Wave Shape	*Square or sine wave*
Frequency	*20 to 1200Hz*
Phases	*1 (with capacitor), 2 or 3*
Poles	*2, 4, 6, 8, 12, 16*
Efficiency	*To 55% for 4 poles (1200 rpm) @ 400 Hz*
Windings	*Single or bifilar. Multiple windings for 2 or 4 speed operation (as high as 8:1 speed ratio).*

Similar specifications to above

SERVO — Low Inertia *Type AS*

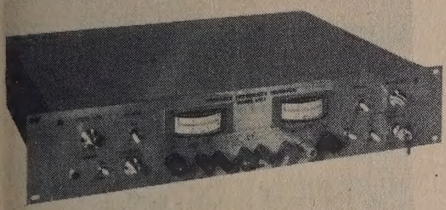
TORQUERS *Type AT (pancake configuration)*

DC

PM MOTORS —*Type DM*— High efficiency, 6-28 VDC, 2000 to 25,000 rpm.

HIGH RESPONSE SERVO MOTORS *Type DMT* — Sophisticated position servo systems customized for each application. Utilizes high resolution optical tachometer feedback.

INVERTERS



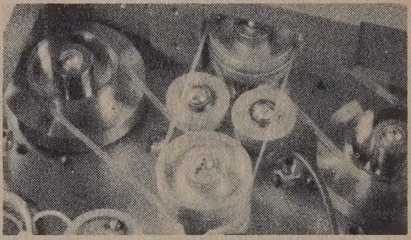
TEST INVERTER — Lab Type — *Model MT-1*

The MT-1 is a test instrumentation inverter, variable frequency, square wave power source for operating and testing small instrumentation motors. It may be used for any purpose requiring one or two phases of square wave power 90 degrees apart. Of prime value in quality assurance testing of hysteresis synchronous motors and engineering experimentation.

Specifications **Input:** *115 volts AC, 60 cycle, single phase.*

Output:
- *(1) AC voltage w/equivalent DC voltage readings on two meters 0-15 scale and 0-45 scale.*
- *(2) Frequency range adjustable from 55 Hz to 1250 Hz.*
- *(3) 2 Phase, reversible by panel switch.*
- *(4) 150 Watt output.*

DRIVE BELTS

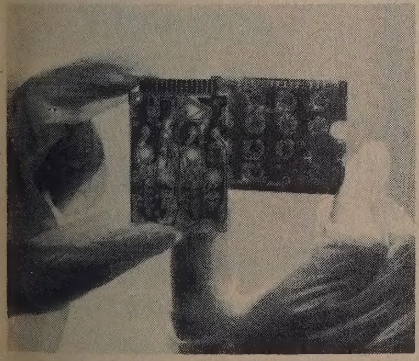


SEAMLESS — Mylar*/ Polyurethane / Kapton*

Ultimate in smooth, low flutter, precise power transmission due to uniform thickness — ideal for tape recorders, servo systems, speed reduction systems, etc. PERMIT SIMPLIFIED DESIGNS: 15:1 ratio stages (or greater) — precise/stable belt length eliminates need for tension idlers — direct drives from shafts as small as 0.040 inch. BETTER DRIVE: Over 20,000 PSI tensile strength — flexure to 10^6 belt cycles — stable, no creep, no set, no stretch — high immunity to environment. WIDE RANGE OF SIZES: 1 to 100 inches circumference, 0.05 to 1 inch width (max: 5% of belt length), 1, 1.5, 2, 3, 5, 7.5, 10 and 14 mils thickness. All orders are computer-analyzed at no charge, assuring system design validity.

*DUPONT TRADEMARK

PRINTED CIRCUITS



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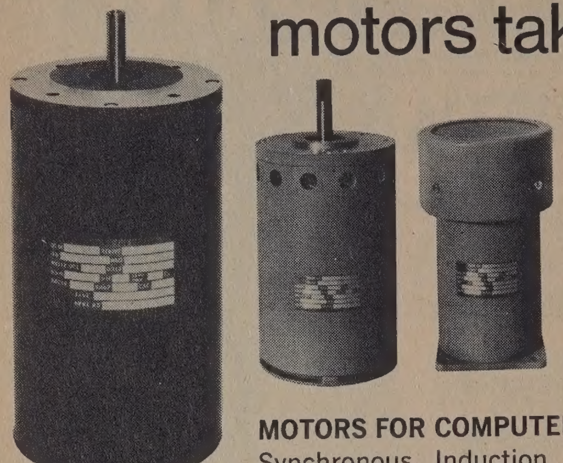

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CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
DREXEL HILL .... PA
DALE ELECTRONICS INC COLUMBUS .... NEB
DALE ELECTRONICS INC, SIOUX DIV YANKTON
S DAK .... ADV PG 138
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LOS ANGELES CAL .... ADV PG 390
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HOWARD INDUSTRIES DIV MSL INDUS INC RACINE
WIS .... ADV PG 385
HURST MFG CORP PRINCETON IND .... ADV PG 388
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INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV
OGLESBY ILL
KINELOGIC CORP PASADENA .... CAL
KINTRON A DICTAPHONE CO PASADENA CAL . ADV PG 389
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American Electronics, Inc Fullerton .... Cal
Ashland Electric Products, Inc Long Island City .... N Y
B & B Motor & Control Corp New York .... N Y
Beau Motor Div UMC Electronics Co North Haven .... Conn
Bodine Electric Co Chicago Ill
Bogue Electric Mfg Co Paterson .... N J
Bristol Motors-Timer Div Vocaline Corp of Amer Inc
Old Saybrook .... Conn
Cedar Div Control Data Corp Minneapolis .... Minn
Clifton Div Litton Industries Litton Prec Prods Inc
Drexel Hill .... Pa
Conrac Corp New York .... N Y
Conrac Corp New York .... N Y
Curry Engineering Co N Hollywood .... Cal
Dale Electronics Inc Columbus .... Neb
Dale Electronics Inc, Sioux Div Yankton .... S Dak
Eastern Air Devices Inc Dover .... N H
EEMCO Div Instr Motors, Electronics Specialty Co
Los Angeles .... Cal
Electric Indicator Co Inc Wilton .... Conn
EMD Components Inc Wickliffe .... Ohio
Ferranti, Ltd Lancashire .... England
Gaylord Rives Co Div Amer Elctns Inc Pasadena .... Cal
General Design Inc Sun Valley .... Cal
General Time, Industrial Controls Div Torrington .... Conn
Globe Industries Div TRW Inc Dayton .... Ohio
Hale Instrument Inc Houston .... Tex
Hansen Mfg Co Inc Princeton .... Ind
Harowe Servo Controls Inc West Chester .... Pa
Haydon Co The, A W Waterbury .... Conn
Haydon Switch & Instrument Inc Waterbury .... Conn
Holtzer-Cabot Corp Boston .... Mass
Howard Industries Div MSL Indus Inc Racine .... Wis
Hurst Mfg Corp Princeton .... Ind
Hydro-Aire Div Crane Co Burbank .... Cal
IMC Magnetics Corp Eastern Div Westbury .... N Y
Indiana General Corp Electro-Mechanical Div Oglesby Ill
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Kinelogic Corp Pasadena .... Cal
Kintron A Dictaphone Co Pasadena .... Cal
Kollsman Motor Corp Dublin .... Pa
Lear Siegler Inc Santa Monica .... Cal
Magnetic Technology Inc Canoga Park .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
McLean Engineering Labs Princeton Junction .... N J
Muirhead Instruments Inc Mountainside .... N J
Nortronics Div, Northrop Corp, Prec Prods Dept
Norwood .... Mass
Pamotor Inc Burlingame .... Cal
Pennwood Numechron Co Tymeter Electronics Pittsburgh .. Pa
Rotating Components Div Instrument Sys Corp Bay Shore . N Y
Sankyo Seiki Mfg Co, Ltd Tokyo .... Japan
Siemon Mfg Co Wayne Ill
Singer Co, Diehl Div Somerville .... N J
Skurka Engineering Co Los Angeles .... Cal
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Smiths Industries Ltd, Aviation Div Wembley, Mdsx .. England
Sperry Rand Corp Electro Components Plant Durham .... N C
Sunbeam Electronics Fort Lauderdale .... Fla
Teledyne Electronics Div dba Mechatrol Div Burlington ... N J
Thomson-CSF 78 Versailles .... France
Torque Tronics San Gabriel .... Cal
Transco Motor Mfg Inc Arcadia .... Cal
Uriel Corp Ronkonkoma .... NY
Vactric Control Equipment Ltd Morden .... England
Vernitron Corp Precision Comp Group Farmingdale .... N Y
Vernitron Corp Torrance Div Torrance .... Cal
Vocaline Co of America Inc Old Saybrook .... Conn
Western Gear Corp Electro Products Div Pasadena .... Cal

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Cedar Div Control Data Corp Minneapolis .... Minn
EEMCO Div Instr Motors, Electronics Specialty Co
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GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
HOWARD INDUSTRIES DIV MSL INDUS INC RACINE
WIS .... ADV PG
MITSUMI ELECTRIC CO LTD TOKYO .... JA
PORTESCAP U S NEW YORK ....
Aikow Shoji Kaisha Ltd Osaka .... Ja
A L Controls Co New Haven ....
Alliance Mfg Co Inc Alliance ....
Aristo-Craft Distinctive Miniatures New York ....
Ashland Electric Products, Inc Long Island City ....
Barber-Colman Co, EMP Div Rockford ....
Beau Motor Div UMC Electronics Co North Haven ....
EEMCO Div Instr Motors, Electronics Specialty Co
Los Angeles ....
General Electric Co, ECSO Schenectady ....
General Industries Co Elyria ....
Gleason-Avery Co Auburn ....
Globe Industries Div TRW Inc Dayton ....
Haydon Co The, A W Waterbury ....
Howard Industries Div MSL Indus Inc Racine ....
Jakel Motors Inc Highland ....
Lesa-Costruzioni Elettromeccaniche SPA Milan ....
Mamco Corp Racine ....
Matsushita Electric Industrial Co Ltd Osaka .... Ja
Mitsumi Electric Co Ltd Tokyo .... Ja
Pamotor Inc Burlingame ....
Portescap U S New York ....
Sanyo Electric Co Ltd Osaka .... J
Shigoto Industries Ltd New York ....
Torque Tronics San Gabriel ....
Uppco Inc Chicago ....

MOTORS—PRINTED CIRCUIT

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KINELOGIC CORP PASADENA ....
ZENRAD CONTROLS CO SANTA BARBARA ....
Flexible Products Inc Lakeville ....
Haydon Switch & Instrument Inc Waterbury ....
Heller Corp, G K Las Vegas ....
Kinelogic Corp Pasadena ....
Photocircuits Corp Glen Cove ....
Printed Motors Inc Glen Cove ....
Yaskawa Electric Mfg Co Ltd Tokyo .... J
Zenrad Controls Co Santa Barbara ....

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B & B MOTOR & CONTROL CORP NEW YORK ....
BODINE ELECTRIC CO CHICAGO ....
DALE ELECTRONICS INC, SIOUX DIV YANKTON
S DAK .... ADV P
ELECTRO-CRAFT CORP HOPKINS ....
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV
MITSUMI ELECTRIC CO LTD TOKYO .... JA
ZENRAD CONTROLS CO SANTA BARBARA ....
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Automation Development Co Culver City ....
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Bodine Electric Co Chicago ....
Bristol Motors-Timer Div Vocaline Corp of Amer Inc
Old Saybrook ....
Carter Motor Co Chicago ....
Cedar Div Control Data Corp Minneapolis ....
Curry Engineering Co N Hollywood ....
Dale Electronics Inc, Sioux Div Yankton ....
Dbm Research Corp Cocoa Beach ....
Electro-Craft Corp Hopkins ....
Energy Conversion Systems Corp Grafton ....
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Globe Industries Div TRW Inc Dayton ....
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sman Motor Corp Dublin .... Pa
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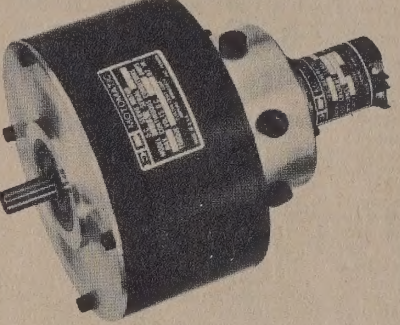

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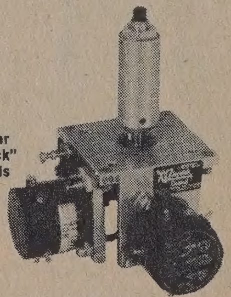

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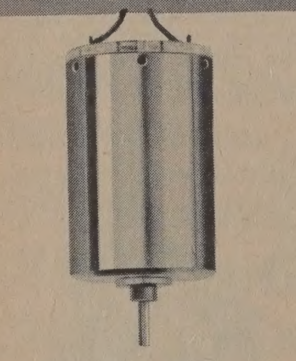
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INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV OGLESBY . . . ILL
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KINTRON A DICTAPHONE CO PASADENA CAL . ADV PG 389
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Cramer Div Conrac Corp Old Saybrook . . . Conn
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Electro-Craft Corp Hopkins . . . Minn
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Fuji Electric Co Ltd Tokyo . . . Japan
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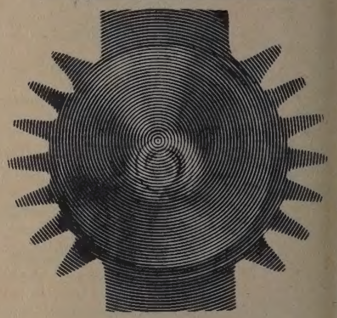
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Universal Electric Co Owosso	Mich
Uppco Inc Chicago	Ill
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Vernitron Corp Torrance Div Torrance	Cal
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RUN 72 rpm

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EEMCO DIV INSTR MOTORS, ELECTRONICS SPECIALTY CO LOS ANGELES	**CAL**
ELECTRO-CRAFT CORP HOPKINS	**MINN**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HAYDON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
HOWARD INDUSTRIES DIV MSL INDUS INC RACINE WIS	**ADV PG 385**
IMC MAGNETICS CORP EASTERN DIV WESTBURY	**N Y**
INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV OGLESBY	**ILL**
KINELOGIC CORP PASADENA	**CAL**
KINTRON A DICTAPHONE CO PASADENA CAL	**ADV PG 389**
MITSUMI ELECTRIC CO LTD TOKYO JAPAN	**ADV PG 692**
PORTESCAP U S NEW YORK	**N Y**
Alliance Mfg Co Inc Alliance	Ohio
AMBAC Industries Inc Garden City	N Y
American Electronics, Inc Fullerton	Cal
Aristo-Craft Distinctive Miniatures New York	N Y
Ashland Electric Products, Inc Long Island City	N Y
Automation Development Co Culver City	Cal
Barber-Colman Co, EMP Div Rockford	Ill
Barnes Engineering Co Def & Space Div Stamford	Conn
B & B Motor & Control Corp New York	N Y
Beau Motor Div UMC Electronics Co North Haven	Conn
Bergen Lab, Inc Paterson	N J
Bodine Electric Co Chicago	Ill
Brevel Products Corp Carlstadt	N J
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook	Conn
Carter Motor Co Chicago	Ill
Cedar Div Control Data Corp Minneapolis	Minn
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Conrac Corp New York	N Y
Consolidated Controls Corp Bethel	Conn
Cramer Div Conrac Corp Old Saybrook	Conn
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Dynamic Air Engineering Inc Santa Ana	Cal
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Clifton offers an extremely wide variety of torquers in a wide range of sizes from 1.125" O.D. to 5.125" O.D. Unique "inside/outside" models are available in which the outer member is the armature and the magnetic field the inner member of the torquer.

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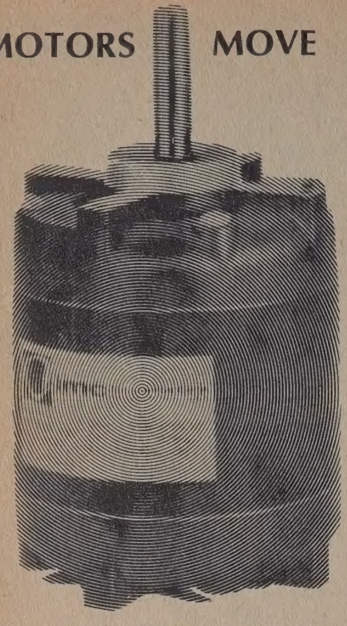
MOTORS MOVE



at 375 to 28,800 rpm in Hysteresis-synchronous, Reluctance-synchronous, Induction and Torque types.

Working, from fleapower to 5 hp levels (0.75 to 5.375-inch OD).

Accepting inputs from 18 to 1000 Hertz, from 6 to 440 Volts.

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HURST MFG CORP PRINCETON IND	**ADV PG 388**
IMC MAGNETICS CORP EASTERN DIV WESTBURY N Y	**ADV PG 394**
INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV OGLESBY	**ILL**
KINELOGIC CORP PASADENA	**CAL**
KINTRON A DICTAPHONE CO PASADENA CAL	**ADV PG 389**
MCLEAN ENGINEERING LABS PRINCETON JUNCTION	**N J**
MITSUMI ELECTRIC CO LTD TOKYO JAPAN	**ADV PG 692**
SUPERIOR ELECTRIC CO THE BRISTOL CONN	**ADV PG 394**
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Ashland Electric Products, Inc Long Island City	N Y
Aviation Electric Ltd St Laurent, Montreal	Que
Barber-Colman Co, EMP Div Rockford	Ill
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Beau Motor Div UMC Electronics Co North Haven	Conn
Bergen Lab, Inc Paterson	N J
Bodine Electric Co Chicago	Ill
Bogue Electric Mfg Co Paterson	N J
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Cedar Div Control Data Corp Minneapolis	Minn
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Columbia Electric Mfg Co Cleveland	Ohio
Conrac Corp New York	N Y
Consolidated Electric Corp Seattle	Wash
Cramer Div Conrac Corp Old Saybrook	Conn
Curry Engineering Co N Hollywood	Cal
Dale Electronics Inc Columbus	Neb
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Eastern Air Devices Inc Dover	N H
EEMCO Div Instr Motors, Electronics Specialty Co Los Angeles	Cal
Electric Indicator Co Inc Wilton	Conn
Electric Machinery Mfg Co Minneapolis	Minn
Electric Products Co Cleveland	Ohio
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Globe Industries Div TRW Inc Dayton	Ohio
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Hurst Mfg Corp Princeton	Ind
Hydro-Aire Div Crane Co Burbank	Cal
Icon Corp Cambridge	Mass
Ideal Electric & Mfg Co Mansfield	Ohio
IMC Magnetics Corp Eastern Div Westbury	N Y
Indiana General Corp Electro-Mechanical Div Oglesby	Ill
Inet Power A Teledyne Co Gardena	Cal
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Kato Engineering Co Mankato	Minn
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Kinelogic Corp Pasadena	Cal
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Kollsman Motor Corp Dublin	Pa
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Magnetic Technology Inc Canoga Park	Cal
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Molon Motor & Coil Corp Rolling Meadows	Ill
Muirhead Instruments Inc Mountainside	N J
Pamotor Inc Burlingame	Cal
Pennwood Numechron Co Tymeter Electronics Pittsburgh	Pa
Photocircuits Corp Glen Cove	N Y
Reliance Electric Co Cleveland	Ohio
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Shigoto Industries Ltd New York	N Y
Siemon Mfg Co Wayne	Ill
Sigma Instruments Inc Braintree	Mass
Singer Co, Diehl Div Somerville	N J
Skurka Engineering Co Los Angeles	Cal
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
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Uppco Inc Chicago	Ill
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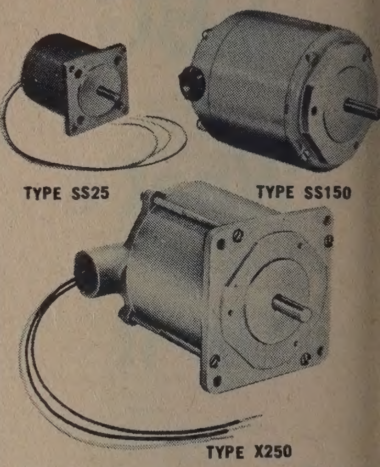
SLO-SYN®

Synchronous/ Stepping Motors



Permanent magnet a-c motors with instant start, stop and reverse and basic shaft speed of 72 rpm at 60 cycles (200 rpm for types TS50 and TS52). Bidirectional; stop or reverse within less than 5° of shaft rotation or .025 sec. Can remain coupled to load and safely overdriven when used with auxiliary high speed motor. Can be completely stalled without overheating or risk of damage. Can also be used for phase-switched d-c stepping at either 100 or 200 steps/rev. (36 or 72 steps/rev. for types TS50 or TS52). Steps accurate within ±.09° noncumulative.

TYPE	MAXIMUM AMPERES	TORQUE (Oz-In)	MAXIMUM MOMENT OF INERTIA OF A RIGIDLY ATTACHED LOAD (Lb-In²)
120 Volts, 50/60 Cycles, 1 Phase, 200 RPM at 60 Cycl			
TS50	0.3	50	0.25
120 Volts, 50/60 Cycles, 1 Phase, 72 RPM at 60 Cycle			
SS25	0.1	25	0.25
SS50	0.3	50	0.5
SS50M†	0.3	50	0.5
SS150	0.4	150	1.5
SS150M†	0.4	150	1.5
SS250	0.6	250	3
SS250M†	0.6	250	3
X250‡	0.6	250	3
SS400	0.6	400	4.5
X1000‡	3.0	1000	9
SS1800	4.0	1800	16
240 Volts, 50/60 Cycles, 1 Phase, 200 RPM at 60 Cycl			
TS52	0.2	50	0.25
240 Volts, 50/60 Cycles, 1 Phase, 72 RPM at 60 Cycle			
SS52	0.2	50	0.5
SS152	0.2	150	1.5
SS252	0.3	250	3
X252‡	0.3	250	3
SS402	0.3	400	4.5
X1002‡	1.5	1000	9
SS1802	2.0	1800	16

†Militarized. ‡Explosion-proof.

OTHER TYPES: 24 rpm; precision stepping with speeds to 1000 steps/sec. or higher; bifilar; four-lead; high vacuum, high temperature and high radiation; planetary gear; double-end; high torque gearmotors.

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st Mfg Corp Princeton . . . . Ind
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uglas Microwave Co Div Struthers Electronics Corp Mamaroneck . . . . N Y
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ley Industries, Inc Syosset . . . . N Y
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CS Corp Monrovia . . . . Cal
crolab/F X R Livingston . . . . N J
SI Electronics Inc Woodside . . . . N Y
rda Microwave Corp Plainview . . . . N Y
i Electric Industry Co Ltd Tokyo . . . . Japan
i Electronics of America, Inc Fort Lauderdale . . . . Fla
nega Laboratories Inc Rowley . . . . Mass
nni Spectra Inc Farmington . . . . Mich
D Electronics Inc, Sub H-I Corp Westbury . . . . N Y
ick-Set, Inc Skokie Ill
tor Microwave Inc Wakefield . . . . Mass
aveline Inc West Caldwell . . . . N J
einschel Engineering Co Inc Gaithersburg . . . . Md

OUNTS—MICROWAVE DETECTOR

RITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
WLETT-PACKARD PALO ALTO . . . . CAL
STRON-DONNER CORP CONCORD . . . . CAL
EINSCHEL ENGINEERING CO INC GAITHERSBURG MD . . . . ADV PG 49
tron, Div of Litton Industries, Inc Morris Plains . . . . N J
oha Industries Inc Newton Upper Falls . . . . Mass
nerican Electronic Labs Inc Lansdale . . . . Pa
ritsu Electric Co Ltd Tokyo . . . . Japan
trolab Inc Linden . . . . N J
tomatic Metal Products Corp Brooklyn . . . . N Y
amond Antenna & Microwave Corp Winchester . . . . . . Mass
uglas Microwave Co Div Struthers Electronics Corp Mamaroneck . . . . N Y
neral Microwave Corp Farmingdale . . . . N Y
ide Industries Inc Sun Valley . . . . Cal
rley Industries, Inc Syosset . . . . N Y
wlett-Packard Palo Alto . . . . Cal
V Electro Science Industries Syracuse . . . . N Y
aury Microwave Corp Cucamonga . . . . Cal
CS Corp Monrovia . . . . Cal
eridian Metalcraft Inc Whittier . . . . Cal
icrolab/F X R Livingston . . . . N J
icrophase Corp Cos Cob . . . . Conn
icro State Electronics Oper Raytheon Co Murray Hill . . . N J
icrowave Associates Inc Burlington . . . . Mass
icrowave Development Labs Inc Needham Heights . . . . Mass
icrowave Filter Co Inc East Syracuse . . . . NY

Microwave Labs of America Brooklyn . . . . N Y
MSI Electronics Inc Woodside . . . . N Y
Narda Microwave Corp Plainview . . . . N Y
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Portchester Instrument Corp Port Chester . . . . N Y
PRD Electronics Inc, Sub H-I Corp Westbury . . . . N Y
Quick-Set, Inc Skokie Ill
Systron-Donner Corp Concord . . . . Cal
Victor Microwave Inc Wakefield . . . . Mass
Waveline Inc West Caldwell . . . . N J
Weinschel Engineering Co Inc Gaithersburg . . . . Md

MOUNTS—THERMISTOR

HEWLETT-PACKARD PALO ALTO . . . . CAL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD . . . . ADV PG 49
Astrolab Inc Linden . . . . N J
Coax Devices Chelsea . . . . Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck . . . . N Y
General Microwave Corp Farmingdale . . . . N Y
Guide Industries Inc Sun Valley . . . . Cal
Herley Industries, Inc Syosset . . . . N Y
Hewlett-Packard Palo Alto . . . . Cal
MCS Corp Monrovia . . . . Cal
Microlab/F X R Livingston . . . . N J
Microwave Labs of America Brooklyn . . . . N Y
MSI Electronics Inc Woodside . . . . N Y
Narda Microwave Corp Plainview . . . . N Y
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Omega Laboratories Inc Rowley . . . . Mass
Omni Spectra Inc Farmington . . . . Mich
PRD Electronics Inc, Sub H-I Corp Westbury . . . . N Y
Quick-Set, Inc Skokie Ill
Solitron/Microwave Long Island City . . . . N Y
Veritron West Inc Chatsworth . . . . Cal
Weinschel Engineering Co Inc Gaithersburg . . . . Md

MOUNTS—VIBRATION & SHOCK

CALABRO PLASTICS INC UPPER DARBY . . . . PA
CARR FASTENER CO DIV UNITED-CARR INC CAMBRIDGE MASS . . . . ADV PGS 250,251
Abesto Corp Bloomfield . . . . N J
Aeroflex Labs, Inc Plainview . . . . N Y
Aircraft Components Inc Benton Harbor . . . . Mich
Allen Aircraft Radio Inc Elk Grove Village Ill
Amber Booth Co Houston . . . . Tex
Barry Controls Div Barry Wright Corp Watertown . . . . . . Mass
Bendix Corp Rubber Prods Plant Toledo . . . . Ohio
Calabro Plastics Inc Upper Darby . . . . Pa
Carr Fastener Co Div United-Carr Inc Cambridge . . . . . . Mass
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Dyna Metric Inc Pasadena . . . . Cal
Falstrom Co Passaic . . . . N J
Felters Co Millbury . . . . Mass
General Tire & Rubber Co Akron . . . . Ohio
Goodrich Industrial Prods Co, B F Akron . . . . Ohio
Goodyear Aerospace Corp Akron . . . . Ohio
Grimes Mfg Co Urbana . . . . Ohio
Industrial Electronic Rubber Co Twinsburg . . . . Ohio
Kinetic Systems Inc Concord . . . . Mass
Korfund Dynamics Corp Westbury . . . . N Y
Lord Mfg Co, Div Lord Corp Erie . . . . Pa
Marshall Research & Devel Corp Burlington . . . . Mass
MB Electronics A Textron Co New Haven . . . . Conn
Metex Corp Edison . . . . N J
Minor Rubber Co Inc Bloomfield . . . . N J
Montgomery Co Windsor Locks . . . . Conn
Parechoc S A Ch 1347 Le Sentier . . . . Switzerland
Pres-On Products Co Addison Ill
Raybestos-Manhattan Inc Bridgeport . . . . Conn
Robintech Inc Burbank . . . . Cal
Ross Co, Milton Southampton . . . . Pa
Ross Matthews Corp Fall River . . . . Mass
Russell Industries Inc Lynbrook . . . . N Y
Shur-Lok Corp Santa Ana . . . . Cal
Siltronics Inc Oakmont . . . . Pa
Spectral Dynamics Corp of San Diego San Diego . . . . Cal
United-Carr Inc Boston . . . . Mass
Vibrachoc S A Paris 8e . . . . France
VP Co Pasadena . . . . Cal
Wilcox Electric Co Kansas City . . . . Mo
Zero Mfg Co Burbank . . . . Cal

MULTI-BAND ANTENNAS

***See* Antennas—Communication**

MULTI-CHANNEL RECORDERS

***See* Recorders—Graphic & Tape**

MULTICODERS

American Astrionics Inc Palo Alto . . . . Cal
Computer Central Detroit . . . . Mich
Control Logic Inc Natick . . . . Mass
Datametrics Inc Waltham . . . . Mass
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando . . Fla
EMR Div Weston Instruments Inc Princeton . . . . N J
General Devices Inc, Instrumentation Div Princeton . . . . . . N J
Monitor Systems Inc an Aydin Co Fort Washington . . . . Pa
Philco-Ford Corp Washington . . . . D C
Saturn Electronics Corp Garland . . . . Tex
Sonex Inc Philadelphia . . . . Pa
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J

MULTICOUPLERS

ELECTRONIC NAVIGATION INDUSTRIES INC ROCHESTER . NY
REACTION INSTRUMENTS INC VIENNA . . . . VA
Aerospace Research, Inc Boston . . . . Mass
Ampar Div Adams-Russell Waltham . . . . Mass
Anaren Microwave Inc Syracuse . . . . N Y
A R F Products, Inc Raton . . . . N M
Comdel Inc Beverly . . . . Mass
Dero Research & Devel Corp Huntington . . . . N Y
Electromagnetic Technology Corp Mountain View . . . . Cal
Electronic Navigation Industries Inc Rochester . . . . NY
General Dynamics, Electronics Div Rochester . . . . N Y
Geo Space Systems Inc St Petersburg . . . . Fla
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lorch Electronics Corp Englewood . . . . N J
Montedoro Corp San Luis Obispo . . . . Cal
Narda Microwave Corp Plainview . . . . N Y
Omega-t Systems Inc Richardson . . . . Tex
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
Peninsula Microwave Labs Mountain View . . . . Cal
Plessey Co Ltd Ilford Essex . . . . England
Reaction Instruments Inc Vienna . . . . Va
Rohde & Schwarz Sales Co USA Inc Passaic . . . . N J
Sinclair Radio Labs Inc Tonawanda . . . . N Y
Sonoma Engineering & Rsch Inc Santa Rosa . . . . Cal
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck . . . . N Y
Summit Engineering Corp Bozeman . . . . Mont
Varian Palo Alto . . . . Cal
Virginia Electronics Co Inc Falls Church . . . . Va
Wavecom Inc Chatsworth . . . . Cal

MULTIPLEXERS

COMPUTER PRODUCTS INC FORT LAUDERDALE . . . . . . FLA
CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS . . . . N Y
HEWLETT-PACKARD PALO ALTO . . . . CAL
INTRONICS INC NEWTON . . . . MASS
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
PREMIER MICROWAVE CORP PORT CHESTER . . . . NY
SIEMENS AMERICA INC NEW YORK . . . . N Y
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . N Y
TUCK ELECTRONICS NEW CUMBERLAND . . . . PA
ZETA LABORATORIES INC MOUNTAIN VIEW . . . . CAL
Adage Inc Boston . . . . Mass
A D Data Systems Inc Rochester . . . . N Y
Aertech Industries Sunnyvale . . . . Cal
Airtron, Div of Litton Industries, Inc Morris Plains . . . . N J
Alford Mfg Co Winchester . . . . Mass
Allen-Bradley Co Milwaukee . . . . Wis
Alpha Industries Inc Newton Upper Falls . . . . Mass
Amelco Semiconductor, A Teledyne Co Mountain View . . . . Cal
American Astrionics Inc Palo Alto . . . . Cal
American Electronic Labs Inc Lansdale . . . . Pa
American Micro-Systems, Inc Santa Clara . . . . Cal
Analogic Corp Wakefield . . . . Mass
Anaren Microwave Inc Syracuse . . . . N Y
Andersen Laboratories, Inc Bloomfield . . . . Conn
Applied Microwave Lab, Inc Andover . . . . Mass
Applied Research, Inc Port Washington . . . . N Y
Astrodata Inc Anaheim . . . . Cal
Astro Lab Westminster . . . . Cal
Automatic Metal Products Corp Brooklyn . . . . N Y
Avco Systems Div Wilmington . . . . Mass
Ball Brothers Research Corp Boulder . . . . Colo
Beckman Instruments Inc Fullerton, ... Cal
Belar Electronics Lab Inc Upper Darby . . . . Pa
Bendix Corp, Communications Div Towson . . . . Md
Bendix Corp Electrodynamics Div North Hollywood . . . . Cal
Bio-Medical Electronics Inc Rockville . . . . Md
Blonder-Tongue Labs Inc Newark . . . . N J
Brower Labs Inc Waltham . . . . Mass
Brown Engineering-A Teledyne Co Huntsville . . . . Ala
Burr-Brown Research Corp Tucson . . . . Ariz
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Canberra Industries Meriden . . . . Conn
Canoga Industries Los Angeles . . . . Cal
Chrysler Corp, Space Div, Huntsville Oper Huntsville . . . . . . Ala
Colorado Instruments Inc Broomfield . . . . Colo
Computer Products Inc Fort Lauderdale . . . . Fla
Continental Device Corp Hawthorne . . . . Cal
Control Equipment Corp Needham Heights . . . . Mass
Control Logic Inc Natick . . . . Mass
Cunningham Corp Sub Gleason Wks Honeoye Falls . . . . N Y
Data-Control Systems Inc Danbury . . . . Conn
Data Device Corp Hicksville . . . . N Y
Datametrics Inc Waltham . . . . Mass
Data Trends Inc Mountain Lakes . . . . NJ
DatCon Electronics Corp Mt Vernon . . . . NY
Datum Inc Anaheim . . . . Cal
Defense Electronics Div DEI Industries Rockville . . . . Md
Dero Research & Devel Corp Huntington . . . . N Y
Dorsett Electronics Inc Tulsa . . . . Okla
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando . . Fla
Dytro Corp Hicksville . . . . NY
Electromagnetic Technology Corp Mountain View . . . . Cal
Electronic Engineering Co of Cal Santa Ana . . . . Cal
E & M Labs Westlake Village . . . . Cal
EMR Telemetry Sarasota . . . . Fla
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Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View . . . . Cal
Ferrotec Inc Newton . . . . Mass
Fifth Dimension Inc Princeton . . . . N J
Frequency Engineering Labs Farmingdale . . . . N J
Gates Radio Co Quincy Ill
General Devices Inc, Instrumentation Div Princeton . . . . . . N J
General Dynamics, Electronics Div Rochester . . . . N Y
General Instrument Europe SPA Milano . . . . Italy
Gombos Microwave Inc Clifton . . . . N J
Grimes Mfg Co Urbana . . . . Ohio
Harris-Intertype Corp Cleveland . . . . Ohio

Hathaway Pacific Palo Alto .... Cal
Hewlett-Packard Palo Alto .... Cal
Incor Inc Plainview .... N Y
Industrial Electronetics Corp Satellite Beach .... Fla
Infomax Palo Alto .... Cal
Information Control Corp El Segundo .... Cal
Information Instruments, Inc Ann Arbor .... Mich
International Communications Corp Miami .... Fla
International Scanatron Systems Corp Wyandanch .... N Y
Intronics Inc Newton .... Mass
ITT Defense Communications Div Nutley .... N J
Laben S p A Milan .... Italy
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
LDV Electro Science Industries Syracuse .... N Y
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim .. Cal
Lenkurt Electric Co Inc San Carlos .... Cal
Loral Electronic Systems, Div Loral Corp New York .... NY
Matrix Corp Beech Grove .... Ind
Measurement Technology Corp Canoga Park .... Cal
Melabs Palo Alto .... Cal
Micro Metrics Inc Paterson .... N J
Microphase Corp Cos Cob .... Conn
Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Milgo Electronic Corp Miami .... Fla
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Montedoro Corp San Luis Obispo .... Cal
Moore Associates Div Rucker Co San Carlos .... Cal
Moseley Associates Inc Goleta .... Cal
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
North Electric Co Galion .... Ohio
Novatronics Inc Pompano Beach .... Fla
Pastoriza Div Analog Devices Cambridge .... Mass
Peninsula Microwave Labs Mountain View .... Cal
Philco-Ford Corp Washington .... D C
Plessey Airborne Corp Hillside .... NJ
Premier Microwave Corp Port Chester .... NY
Preston Scientific, Inc Anaheim .... Cal
Quindar Electronics Inc, Controls Div Springfield .... NJ
Radiation Systems Inc McLean .... Va
Radix Electronics Corp Anaheim .... Cal
Rantec Div Emerson Electric Co Calabasas .... Cal
Raytheon Computer Santa Ana .... Cal
RCA, Defense Electronic Products Moorestown .... N J
Redcor Corp Canoga Park .... Cal
RFL Industries Inc, Communications Div Boonton .... N J
Rixon Electronics Inc Silver Spring .... Md
RLC Electronics Inc Port Chester .... N Y
Santa Rita Technology Inc Santa Clara .... Cal
Saturn Electronics Corp Garland .... Tex
Scientific Data Systems Inc El Segundo .... Cal
Siemens America Inc New York .... N Y
Sonex Inc Philadelphia .... Pa
Space Craft Inc Huntsville .... Ala
Stelma Inc Stamford .... Conn
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck .... N Y
Symetrics Engineering Corp Satellite Beach .... Fla
Systems Engineering Labs. Ft Lauderdale .... Fla
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Technical Materiel Corp Mamaroneck .... N Y
Tele-Dynamics Div, American Bosch Arma Corp
  Philadelphia .... Pa
Teledyne Telemetry Co Los Angeles .... Cal
Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Telonic Engineering Co Div Telonic Indus Inc
  Laguna Beach .... Cal
Teradyne Inc Boston .... Mass
Texas Instruments Incorporated Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
Towner Systems Co Alameda .... Cal
Towson Labs, Dept E Baltimore .... Md
Trans-Aire Electronics Inc New Hyde Park .... N Y
Transco Products Inc Venice .... Cal
TRF Inc Springfield .... Va
TRW Systems Group Redondo Beach .... Cal
Tuck Electronics New Cumberland .... Pa
Ultronic Systems Sub Sylvania Elec Prods Inc
  Moorestown .... N J
Utility Communication Systems Inc West Chester .... Pa
Vector Industries A Teledyne Co Palo Alto .... Cal
Video Research Corp Rockville .... Md
Vitro Labs Div Vitro Corp of America W Orange .... N J
Waller Corp Crystal Lake Ill
Wang Labs Inc Tewksbury .... Mass
Wavecom Inc Chatsworth .... Cal
Wilcox Electric Co Kansas City .... Mo
Wiltek, Inc Wilton .... Conn
Zeta Laboratories Inc Mountain View .... Cal

MULTIPLEX RADIO CARRIER SYSTEMS

***See* Communication Systems**

MULTIPLEX RECEIVERS

***See* Receivers—Radio Communication**

MULTIPLEX SYSTEMS

***See* Communication Systems**

MULTIPLEX TRANSMITTERS

***See* Transmitters—Radio Communication**

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Electronics Buyers' Guide

MULTIPLEX WIRELINE CARRIER SYSTEMS

***See* Communication Systems**

MULTIPLIER PHOTOTUBES

***See* Tubes—Photo**

MULTIPLIERS—ANALOG

ANALOG DEVICES INC CAMBRIDGE .... MASS
BELL, INC F W COLUMBUS .... OHIO
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
** DREXEL HILL .... PA**
HYBRID SYSTEMS CORP BURLINGTON MASS .. ADV PG 396
INTRONICS INC NEWTON MASS .... ADV PG 397
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
SYSTRON-DONNER CORP CONCORD .... CAL
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ .... U K
American Aerospace Controls Inc Farmingdale .... N Y
Analog Devices Inc Cambridge .... Mass
Analogic Corp Wakefield .... Mass
Applied Dynamics, Inc Ann Arbor .... Mich
Audn Corp Hamburg .... N Y
Avo Ltd Dover Kent .... England
Bell, Inc F W Columbus .... Ohio
Burr-Brown Research Corp Tucson .... Ariz
Clifton Div Litton Industries Litton Prec Prods Inc
  Drexel Hill .... Pa
Data Device Corp Hicksville .... N Y
Datum Inc Anaheim .... Cal
Defense Electronics Div DEI Industries Rockville .... Md
Doric Scientific Corp San Diego .... Cal
Fenlow Electronics Ltd Weybridge .... England
General Magnetics Inc Bloomfield .... N J
GPS Instrument Co Inc Framingham .... Mass
Hagan Computer Systems Div Westinghouse Pittsburgh ... Pa
Halmar Electronics Inc Columbus .... Ohio
Hybrid Systems Corp Burlington .... Mass
Industrial Electronetics Corp Satellite Beach .... Fla
Industrial Test Equipment Co Port Washington .... N Y
Intronics Inc Newton .... Mass
Maricopa Controls Scottsdale .... Ariz
Matrix Corp Beech Grove .... Ind
Motorola, Govt Electronics Div Scottsdale .... Ariz
North Hills Electronics Inc Glen Cove .... N Y
Nu-Devices Inc Norwalk .... Conn
Optical Electronics Inc Tuscon .... Ariz
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Philbrick/Nexus Research A Teledyne Co Dedham .... Mass
Redcor Corp Canoga Park .... Cal
Silicon General Inc Westminister .... Cal
Systron-Donner Corp Concord .... Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J

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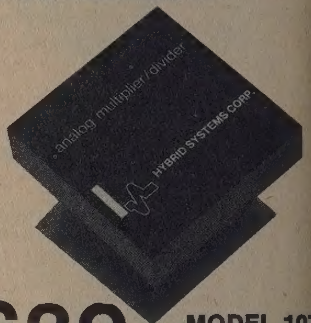

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M410/M	$95

WIDEBAND dc to 1 MHz

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M501

Transconductance multiplier with frequency response beyond 1 MHz, 1% accuracy, and 0.02%/°C temperature stability. Higher accuracy model M502. Military versions M501-M, M502-M.

M501	$195
M501/M	$295

WIDEBAND dc to 10 MHz

INTRONICS
ANALOG MULTIPLIER
M510

Transconductance multiplier featuring very fast operation: dc to 10 MHz and 5 MHz full output. Accuracy 1%, temperature stability 0.02%/°C, slew rate 300 V/μs.

M510	$295
M510/M	$395

GENERAL PURPOSE dc to 100 kHz

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ANALOG MULTIPLIER
M601

Medium priced transconductance multiplier featuring small signal response to 500 kHz, 1% accuracy, and 0.02%/°C temperature stability. Higher accuracy model M602. Military versions M601-M, M602-M.

M601	$ 95
M601/M	$165

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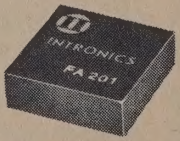

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Zonic Technical Labs Cincinnati .... Ohio

MULTIPLIERS—FREQUENCY

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BELL, INC F W COLUMBUS OHIO .... ADV PG 398
C M L INC PLAINFIELD .... N J
HEWLETT-PACKARD PALO ALTO .... CAL
INTRONICS INC NEWTON MASS .... ADV PG 397
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
MINI-CIRCUITS LAB BROOKLYN .... N Y
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
VARI-L CO INC STAMFORD .... CONN
ZETA LABORATORIES INC MOUNTAIN VIEW .... CAL
Aerospace Avionics Inc Bohemia .... NY
Aircom Inc Union .... N H
Alpha Industries Inc Newton Upper Falls .... Mass
Aluminum Design Corp Brookfield Ill
Amerac, Inc Beverly .... Mass
American Electronic Labs Inc Lansdale .... Pa
American Time Products, Elctns Div Bulova Watch Co Inc Woodside .... N Y
Applied Research, Inc Port Washington .... N Y
Bell, Inc F W Columbus .... Ohio
Beukers Labs Inc Hauppauge .... NY
Bradley Ltd G & E London NW 10 .... England
Bramco Controls Div Ledex Inc Piqua .... Ohio
California Microw Ave, Inc. Sunnyvale .... Cal
CEI Div, Watkins-Johnson Co Rockville .... Md
C M L Inc Plainfield .... N J
Conic Corp San Diego .... Cal
Consolidated Airborne Systems Carle Place .... N Y
Defense Electronics Div DEI Industries Rockville .... Md
Dorsett Electronics Inc Tulsa .... Okla
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
E F Assoc Inc Scotch Plains .... N J
Elastronics Labs Tarzana .... Cal
Electrac Inc Anaheim .... Cal
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Electronic Service Co Verona .... N J
Ferranti, Ltd Lancashire .... England
Frequency Electronics Inc New Hyde Park .... N Y
Frequency Engineering Labs Farmingdale .... N J
Gates Radio Co Quincy Ill
General Dynamics, Electronics Div Rochester .... N Y
General Radio Co West Concord .... Mass
GPS Instrument Co Inc Framingham .... Mass
Guide Industries Inc Sun Valley .... Cal
Hewlett-Packard Palo Alto .... Cal
Honig Laboratories Inc Westbury .... N Y
Hughes Aircraft Co, Electron Dynamics Div Torrance .... Cal
Intronics Inc Newton .... Mass
ITT Decca Marine Inc New York .... NY
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Lorch Electronics Corp Englewood .... N J
Magnetic Specialties Inc Trenton .... N J
Matrix Corp Beech Grove .... Ind
MCS Corp Monrovia .... Cal
Melabs Palo Alto .... Cal
Melpar Inc, Special Prods Dept Falls Church .... Va
Meridian Metalcraft Inc Whittier .... Cal
Microdot, Inc South Pasadena .... Cal
Micromega Div Bunker-Ramo Corp Venice .... Cal
Micro-Now Instrument Co Inc Chicago Ill
Micro State Electronics Oper Raytheon Co Murray Hill .... N J
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Microwave/Systems Inc East Syracuse .... N Y
Mini-Circuits Lab Brooklyn .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Nu-Devices Inc Norwalk .... Conn
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
Philco-Ford Corp Washington .... D C
Physical Electronics Labs Menlo Park .... Cal
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Resdel Engineering Corp Pasadena .... Cal
Riverbank Labs, Dept of Engrg Geneva Ill
RMS Engineering Inc Atlanta .... Ga
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Sanders Assoc Inc, Microwave Div Nashua .... N H
Simpson Electric Co Chicago Ill
Singer Co Instrumentation Div Bridgeport .... Conn
Solid State Microwave/Varian Beverly .... Mass
Somerset Radiation Lab Inc Arlington .... Va
Sonoma Engineering & Rsch Inc Santa Rosa .... Cal
Space Craft Inc Huntsville .... Ala
Spacekom Inc Goleta .... Cal
Spectral Dynamics Corp of San Diego San Diego .... Cal
Squires-Sanders Inc Liberty Corner .... N J
Sylvania - Electro-Optics Organization Mountain View .... Cal
Systron-Donner Corp Concord .... Cal
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach .... Cal
Topping Electronics Ltd Scarborough .... Ont
TRW Systems Group Redondo Beach .... Cal
Tyco Instrument Div Waltham .... Mass
Varian Palo Alto .... Cal
Vari-L Co Inc Stamford .... Conn
Vector Industries A Teledyne Co Palo Alto .... Cal
Western Microwave Labs Inc Los Gatos .... Cal
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY
Zeta Laboratories Inc Mountain View .... Cal

MULTIRANGE METERS

***See* Volt-Ohm-Milliammeters**

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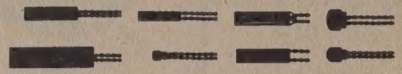

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MULTITESTERS

***See* Volt-Ohm-Milliammeters**

MULTIVIBRATORS

***See* Modules—Active**

NAMEPLATES

BRADY CO, W H MILWAUKEE ....
ELECTRICAL INSULATION CO INC COPIAGUE ....
UMEDA NAMEPLATE MFG CO LTD TOKYO JAPAN .... ADV PG
Acromark Co Berkeley Heights ....
Aikow Shoji Kaisha Ltd Osaka .... Ja
American Circuit-Tronics Corp Royal Oak ....
Anodyne, Inc N Miami Beach ....
Apahouser Corp of N E Boston ....
Atmar Engraving Co Inc Richmond Hill ....
Avionics Ltd Niagara-on-the-Lake ....
Best Mfg Co Kansas City ....
Brady Co, W H Milwaukee ....
Canrad Precision Industries Inc New York ....
Colbert Die Cast Co Inc South Gate ....
Devco Engineering Inc Fairfield (Caldwell) ....
Dietz Co Inc, Henry G Long Island City ....
Dura Plastics of N Y Inc Westport ....
Electrical Insulation Co Inc Copiague ....
Electro-Chemical Engraving Co Inc Bronx ....
Eljay Corp Columbia ....
Emeloid Co Inc Hillside ....
Ever Ready Label Corp Belleville ....
Feay Co, Neal Goleta ....
Fisher & Crome, Inc Philadelphia ....
Franklin Fibre-Lamitex Corp Wilmington ....
Graphtex Inc Lodi ....
Harva Co Inc Schoharie ....
Hermes Plastics Inc New York ....
Industrial Engravers Inc Jamaica ....
Insulating Fabricators of N E Inc Watertown ....
Keil Engineering Products Inc St Louis ....
Lake Erie Electric Mfg, Inc Erie ....
Laminated Fabricators San Bruno ....
Lek-Trol, Inc Grapevine ....
Markon Mfg Inc Englewood ....
Master Engraving East Paterson ....
Master Tape Printers Inc Chicago ....
Matthews & Co Jas H Pittsburgh ....
McMahon Electronic Engineering Res & Dev Lab San Pedro ....
Metal Etching Corp Freeport ....
Metalphoto Corp Cleveland ....
Midwest Cortland Schiller Park ....
Miller Dial & Name Plate Co El Monte ....
M-T Electronics Co San Leandro ....
Nameplate Inc Gardena ....
Northwoods Electronics Corp West Chicago ....
Numberall Stamp & Tool Co Staten Island ....
Panelgraphic Corp Caldwell ....
Photo Chemical Products Inc Santa Monica ....
Precision Crafts La Cresenta ....
Printloid Inc Long Island City ....
Qualitron Corp Danbury ....
Rye Industries, Inc Mamaroneck ....
Seton Name Plate Corp New Haven ....
Stafford Mfg Co Inc Brooklyn ....
Strandberg Engineering Labs Inc Greensboro ....
Tadco Mfg Inc Gloucester ....
Taylor Instrument Process Con Div Sybron Corp Rochester ....
Tech-Etch, Inc Hingham ....
Topflight Corp York ....
Umeda Nameplate Mfg Co Ltd Tokyo .... J
United States Radium Corp Morristown ....
Vacuum Metallizing Van Nuys ....
Waldom Electronics Inc Chicago ....
Westline Products Los Angeles ....
Zero Mfg Co Burbank ....

NAMEPLATES—PRESSURE SENSITIV

BRADY CO, W H MILWAUKEE ....
Acme Model Engineering Co Ridgefield ....
Acromark Co Berkeley Heights ....
Aikow Shoji Kaisha Ltd Osaka .... J
Anodyne, Inc N Miami Beach ....
Best Mfg Co Kansas City ....
Brady Co, W H Milwaukee ....
Canrad Precision Industries Inc New York ....
Dennison Mfg Co Framingham ....
Dietz Co Inc, Henry G Long Island City ....
Display Devices Inc Santa Monica ....
Dura Plastics of N Y Inc Westport ....
Electro-Chemical Engraving Co Inc Bronx ....
Ever Ready Label Corp Belleville ....
Feay Co, Neal Goleta ....
Franklin Fibre-Lamitex Corp Wilmington ....
Graphtex Inc Lodi ....
Hermes Plastics Inc New York ....
Industrial Engravers Inc Jamaica ....
Insulating Fabricators of N E Inc Watertown ....
Keil Engineering Products Inc St Louis ....
Kimball Systems Div Litton Industries Belleville ....
Markon Mfg Inc Englewood ....
Master Tape Printers Inc Chicago ....
Metalphoto Corp Cleveland ....
Midwest Cortland Schiller Park ....
Miller Dial & Name Plate Co El Monte ....
3M Company St Paul ....
Morgan Adhesives Co Stow ....
Nameplate Inc Gardena ....
Panelgraphic Corp Caldwell ....
Photo Chemical Products Inc Santa Monica ....

cision Crafts La Cresenta ....Cal
tloid Inc Long Island City ....N Y
Industries, Inc Mamaroneck ....N Y
on Name Plate Corp New Haven ....Conn
fford Mfg Co Inc Brooklyn ....N Y
anco Products Inc Chicago........Ill
andberg Engineering Labs Inc Greensboro ....N C
anson Engineering & Mfg Co Inglewood ....Cal
co Mfg Inc Gloucester ....Mass
flight Corp York ....Pa
uum Metallizing Van Nuys ....Cal
stline Products Los Angeles ....Cal

AVIGATION COMPUTERS

***See* Computers—Special**

AVIGATION RECEIVERS

***See* Receivers—Radio Navigation**

AVIGATION SYSTEMS

***See* Guidance Systems; Infrared; Radar**

AVIGATION TRANSMITTERS

***See* Transmitters—Radio Navigation**

EEDLES—CUTTING

atic Corp Conneaut ....Ohio
otone Co Inc Miami ....Fla
ler Mfg Co, M A Libertyville Ill
ser Jewel Co Perth Amboy ....N J
coton Corp Long Island City ....N Y

EEDLES—PLAYBACK

tatic Corp Conneaut ....Ohio
dio Dynamics Corp New Milford ....Conn
uce Diamond Corp Attleboro........Mass
ie Diamond Tool Co Inc Miami ....Fla
otone Co Inc Miami ....Fla
ectro-Voice Inc Sub Gulton Industries Buchanan ....Mich
pire Scientific Corp Garden City ....N Y
cona Corp Bellmore........NY
n-Tone Corp New York ....N Y
C Electronics Div, Hydrometals Inc Rockford Ill
ller Mfg Co, M A Libertyville Ill
kering & Co Inc Plainview ....N Y
coton Corp Long Island City ....N Y
ure Brothers Inc Evanston Ill
alco Electronics Div Walco-Linck Corp Clifton ....N J

ETWORKS—CROSSOVER

APTOR CORP TIPP CITY ....OHIO
ALE ELECTRONICS INC COLUMBUS ....NEB
PPON ELECTRIC CO LTD TOKYO ....JAPAN
erolite Electronics Corp Union City ....N J
aptor Corp Tipp City........Ohio
ale Electronics Inc Columbus ....Neb
etz Design Inc Belton ....Mo
nion Coil Co Inc Caledonia ....N Y
ectro Cube Inc San Gabriel ....Cal
ectro-Voice Inc Sub Gulton Industries Buchanan ....Mich
-Rad Mfg Co Chicago Ill
cona Corp Bellmore........NY
eed Transformer Co Inc Brooklyn ....N Y
T Research Inc Imlaystown ....N J
artley Products Corp Ho-Ho-Kus........NJ
ensen Mfg Div, The Muter Co Chicago Ill
ansing Sound Inc, James B Los Angeles ....Cal
ppon Electric Co Ltd Tokyo ....Japan
u-Devices Inc Norwalk ....Conn
hilmore Mfg Co Inc Richmond Hill ....N Y
T Electronics Inc Culver City........Cal
niversity Sound Div Ltv Ling Altec Inc Oklahoma City ....Okla
tah Electronics Div, Utah-American Corp Huntington ....Ind
T & T Corp Roslyn Heights ....NY

ETWORKS—MATCHING

LLEN AVIONICS INC,DIV A K ALLEN CO INC
MINEOLA ....N Y
APTOR CORP TIPP CITY ....OHIO
ALE ELECTRONICS INC COLUMBUS ....NEB
ISONIC INC OLATHE ....KAN
APPA NETWORKS INC CARTERET ....N J
IPPON ELECTRIC CO LTD TOKYO ....JAPAN
C L ELECTRONICS INC IRVINGTON ....N J
ECH LABORATORIES INC PALISADES PARK ....N J
erolite Electronics Corp Union City ....N J
irco Speer Electronic Components Dubois........Pa
lford Mfg Co Winchester ....Mass
llen Avionics Inc,Div A K Allen Co Inc Mineola ....N Y
merican Components, Inc Conshohocken ....Pa
naren Microwave Inc Syracuse........N Y
ngstrohm Precision, Inc Van Nuys ....Cal
nzac-Waltham, Div Adams-Russell Waltham ....Mass
strolab Inc Linden ....N J
anadian Marconi Co Montreal 16 ....Quebec
aptor Corp Tipp City........Ohio
ale Electronics Inc Columbus ....Neb
aven Div McGraw-Edison Co Manchester ....N H
ietz Design Inc Belton ....Mo
inion Coil Co Inc Caledonia ....N Y
Electro Cube Inc San Gabriel ....Cal
Electronics Communications Div Atlantic Research Corp
  Alexandria........Va
Freed Transformer Co Inc Brooklyn ....N Y
Gamble Industries, Charles T Riverside ....N J
General Instrument Corp F W Sickles Div Chicopee ....Mass
General Resistance Inc Div Chronetics Inc Mount Vernon ....N Y
Hisonic Inc Olathe ....Kan
Julie Research Labs, Inc New York........N Y
Kappa Networks Inc Carteret........N J
Kelvin Van Nuys ....Cal
Marstan Electronics Orange ....N J
Mepco Inc Morristown ....N J
Merrimac Research & Development Inc West Caldwell, ...N J
Microwave Associates Inc Burlington ....Mass
Nippon Electric Co Ltd Tokyo ....Japan
Nμ-Devices Inc Norwalk ....Conn
Nytronics Inc, Precision Resistor Div Kutztown ....Pa
Parzen Research Elctn Prods Gr Ovitron Corp Westbury ....N Y
Pyrofilm Resistor Co Inc Whippany ....N J
Rantec Div Emerson Electric Co Calabasas ....Cal
R C L Electronics Inc Irvington ....N J
Reon Resistor Corp Yonkers ....N Y
Resistance Products Co Harrisburg........Pa
Rho Engineering Co Los Angeles ....Cal
Stoddart Electro Systems Gardena ....Cal
Summit Engineering Corp Bozeman ....Mont
Tech Laboratories Inc Palisades Park ....N J
TT Electronics Inc Culver City........Cal
VP Co Pasadena........Cal
Y T & T Corp Roslyn Heights ....NY

NETWORKS—PHASING, DIRECTIONAL ANTENNA

SCIENTIFIC-ATLANTA INC ATLANTA ....GA
Aerospace Research, Inc Boston ....Mass
American Electronic Labs Inc Lansdale ....Pa
Anaren Microwave Inc Syracuse........N Y
Anzac-Waltham, Div Adams-Russell Waltham ....Mass
Artronic Instrument Co Silver Spring........Md
Canadian Marconi Co Montreal 16 ....Quebec
Freed Transformer Co Inc Brooklyn ....N Y
Meridian Metalcraft Inc Whittier ....Cal
Merrimac Research & Development Inc West Caldwell, ...N J
Microwave Associates Inc Burlington ....Mass
Microwave Development Labs Inc Needham Heights ....Mass
Motorola, Govt Electronics Div Scottsdale ....Ariz
Neico Microwave Co Waltham ....Mass
Parzen Research Elctn Prods Gr Ovitron Corp Westbury ....N Y
Phelps Dodge Communications Co North Haven ....Conn
Scientific-Atlanta Inc Atlanta ....Ga
Selenia - Industrie Elettroniche Assoc Rome ....Italy
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck ....N Y
VP Co Pasadena........Cal

NEUTRON COUNTERS

***See* Counters—Nuclear-Particle**

NICKEL & NICKEL ALLOYS

SUMITOMO SPECIAL METALS CO LTD OSAKA ....JAPAN
SUPERIOR TUBE CO NORRISTOWN ....PA
WALL CO, A T WARWICK........RI
Active Alloys, Inc Elizabeth ....N J
Alpha Metals Inc Jersey City........NJ
American Silver Co Div Flushing ....N Y
Anchor Alloys Inc Brooklyn........N Y
Anchor Metal Co, Inc Div Brooklyn ....N Y
Armco Steel Corp Middletown ....Ohio
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
  Corp Carle Place ....N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
  Roslyn Heights ....NY
Bemol Corp Newton........Mass
Bram Metallurgical Chemical Co Philadelphia ....Pa
Bristol Brass Co Bristol ....Conn
Brookfield Wire Co Inc Brookfield........Mass
Carpenter Technology Corp Reading........Pa
Cerac Inc Butler ....Wis
Chase Metals Service Div Chase Brass & Copper Co
  Cleveland ....Ohio
Colt Industries Inc, Crucible Inc Pittsburgh........Pa
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark ....N J
Driver-Harris Co Harrison........N J
Glidden Metals, SCM Corp Cleveland ....Ohio
Hamilton Precision Metals Div Hamilton Watch Co
  Lancaster ....Pa
Howmet Corp Alloy Div Dover ....N J
Howmet Corp Austenal Microcast Div Dover ....N J
Inter-Technical Group Inc Irvington-on-Hudson ....N Y
Janney Cylinder Co Sub Edgewater Corp Philadelphia ....Pa
Jelliff Corp, C O Southport........Conn
Kawecki Berylco Industries Inc New York ....N Y
Koch Light Labs Ltd Colnbrook, Bucks........England
Leach & Garner Co, Industrial Div Attleboro ....Mass
Mackay Inc, A D New York ....N Y
Magnetic Metals Co Camden ....N J
Magnetics Inc Butler........Pa
Materials Research Corp Orangeburg ....N Y
Metal Ceram Inc Mount Vernon ....N Y
Montgomery Co Windsor Locks........Conn
Pfizer Minerals, Pigments & Metals Div New York ....NY
Porter H K Co, Fabricated Metals Div Pittsburgh ....Pa
Rodney Metals A Teledyne Co New Bedford ....Mass
Roosevelt Metal Co Inc Brooklyn ....N Y
Semi-Alloys Inc Mt Vernon ....N Y
Semi-Elements Inc Saxonburg........Pa
Shieldalloy Corp Newfield........N J
Somers Thin Strip Inc Sub Olin Waterbury ....Conn
Special Metals Corp New Hartford ....NY
Steel Heddle Mfg Co Philadelphia........Pa
Sumitomo Special Metals Co Ltd Osaka ....Japan
Superior Tube Co Norristown........Pa
Uniform Tubes Inc Collegeville ....Pa
Union Carbide Corp, Materials Systems Div Kokomo ....Ind
United American Metals Div Brooklyn ....N Y
United Mineral & Chemical Corp New York ....N Y
Universal-Cyclops Specialty Steel Div Cyclops Corp
  Pittsburgh........Pa
Var-Lac-Oid Chemical Co Elizabeth ....N J
Ventron Corp. Metal Chemicals Div. Beverly ....Mass
Ventron Electronics Corp, Controls/Matls Div Bradford ....Pa
Vitro Labs Div Vitro Corp of America W Orange........N J
Wall Co, A T Warwick ....RI
Wallingford Steel Co Wallingford ....Conn
Westinghouse Elec. Corp., Specialty Metals Div Blairsville ....Pa
White Cross Labs New York ....NY
Wilkinson Co Westlake Village ....Cal

NICKEL-CADMIUM BATTERIES

***See* Batteries**

NIOBIUM

MOLYBDENUM CORP OF AMERICA NEW YORK ....N Y
Aceto Chemical Co, Inc Flushing ....NY
Active Alloys, Inc Elizabeth ....N J
American Silver Co Div Flushing ....N Y
Anchor Alloys Inc Brooklyn........N Y
Anchor Metal Co, Inc Div Brooklyn ....N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
  Corp Carle Place ....N Y
Bemol Corp Newton........Mass
Bram Metallurgical Chemical Co Philadelphia ....Pa
Cerac Inc Butler ....Wis
City Chemical Corp New York........N Y
Cross Co, H Weehawken........N J
Electronic Space Products Inc Los Angeles ....Cal
Fansteel Inc North Chicago........Ill
Hopt KG, R E Rottweil a Neckar ....Germany
Kawecki Berylco Industries Inc New York ....N Y
Kennametal Inc Latrobe ....Pa
Koch Light Labs Ltd Colnbrook, Bucks........England
Materials Research Corp Orangeburg ....N Y
Metal Ceram Inc Mount Vernon ....N Y
Molybdenum Corp of America New York........N Y
Nuclear Materials & Equipment Corp Apollo........Pa
Polysciences Inc Warrington ....Pa
Rembar Co Inc Dobbs Ferry ....N Y
Roosevelt Metal Co Inc Brooklyn ....N Y
Semi-Alloys Inc Mt Vernon ....N Y
Semi-Elements Inc Saxonburg........Pa
Shieldalloy Corp Newfield........N J
Uniform Tubes Inc Collegeville ....Pa
United American Metals Div Brooklyn ....N Y
United Mineral & Chemical Corp New York ....N Y
Var-Lac-Oid Chemical Co Elizabeth ....N J
Ventron Corp. Metal Chemicals Div. Beverly ....Mass
Ventron Electronics Corp, Controls/Matls Div Bradford ....Pa

NITROGEN

***See* Gases**

NOISE ANALYZERS

***See* Analyzers—Noise**

NOISE GENERATORS

***See* Generators—Noise**

NOISE MEASURING INSTRUMENTS

***See* Measuring Instruments—Microwave Noise**

NOTCH FILTERS

***See* Filters**

NUCLEAR-PARTICLE COUNTERS

***See* Counters—Nuclear Particle**

NUCLEAR RADIATION SHIELDING

***See* Shielding**

NUCLEAR-REACTOR SIMULATORS

***See* Simulators**

NUCLEAR SOURCES

***See* Sources—Radioactive**

NULL AMPLIFIERS

***See* Amplifiers—Instrumentation**

NULL DETECTORS, METERS & INDICATORS

***See* Indicators—Null**

NUMBERING MACHINES

***See* Machines—Marking & Numbering**

NUMERICAL CONTROL—MACHINE TOOL

***See* Controls—Machine Tool**

NUTS

CARR FASTENER CO DIV UNITED-CARR INC CAMBRIDGE MASS .... ADV PGS 250,251
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
STAR STAINLESS SCREW CO PATERSON .... N J
UNIVERSAL VOLTRONICS CORP MOUNT KISCO .... N Y
Abbott Products, Inc College Point .... N Y
Abscoa Industries Inglewood .... Cal
Aikow Shoji Kaisha Ltd Osaka .... Japan
Aircraft Components Inc Benton Harbor .... Mich
Allmetal Screw Products Co Inc Garden City .... N Y
Aluminum Co of America Pittsburgh .... Pa
Amatom Electronic Hardware New Rochelle .... N Y
Anti-Corrosive Metal Products Co, Inc Albany .... N Y
Atomite Electronics Corp Roosevelt .... N Y
Birnbach Co Inc Freeport .... N Y
Blinn Co Inc, Delbert Pomona .... Cal
Boots Aircraft Nut Div Townsend Co Santa Ana .... Cal
Carr Fastener Co Div United-Carr Inc Cambridge ...... Mass
Central Screw Co Broadview Ill
Chase Metals Service Div Chase Brass & Copper Co Cleveland .... Ohio
Circon Component Corp Goleta .... Cal
Continental Screw Co New Bedford .... Mass
Daburn Electronics & Cable Corp Bronx .... N Y
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Elastic Stop Nut Div Amerace Esna Corp Union .... N J
Elco Tool & Screw Corp Rockford Ill
Fastex Div Illinois Tool Works Des Plaines Ill
Federal Screw Products Inc Chicago Ill
Fischer Special Mfg Co Cincinnati .... Ohio
G C Electronics Div, Hydrometals Inc Rockford Ill
Gries Reproducer Co Div Coats & Clark Inc New Rochelle . . N Y
Harper Co, H M Morton Grove Ill
Heli-Coil Corp Insert Products Div Danbury .... Conn
H & H Screw Products Mfg Co Ashton .... R I
Hi-Shear Corp Torrance .... Cal
Hydro Molding Co Inc Plattsburgh .... N Y
Kaynar Mfg Co Inc Fullerton .... Cal
Lehigh Metal Products Corp Cambridge .... Mass
Mercury Div Whittaker Corp Los Angeles .... Cal
Microdot Inc. Troy .... Mich
Micro Parts Inc Los Angeles .... Cal
Midwest Sintered Products Corp Riverdale Ill
Morris Co, J I Southbridge .... Mass
Multi-Flex Seals Inc Bronx .... N Y
National Radio Co Inc Melrose .... Mass
Norrich Plastics Corp Roosevelt .... N Y
Nutmeg Screw Machine Products Co Waterbury .... Conn
Parker Metal Goods Co Worcester .... Mass
Penn Engineering & Mfg Corp Doylestown .... Pa
Pennwood Numechron Co Tymeter Electronics Pittsburgh . . Pa
PIC Design Corp East Rockaway .... N Y
Plastiglide Mfg Corp Santa Monica .... Cal
Polymer Corp Reading .... Pa
Product Components Corp Hastings-on-Hudson .... N Y
Republic Steel Corp Cleveland .... Ohio
Russell, Burdsall & Ward, Bolt & Nut Co Port Chester .... N Y
Shakeproof Div, Illinois Tool Works Inc Elgin Ill
Shigoto Industries Ltd New York .... N Y
Shur-Lok Corp Santa Ana .... Cal
Smith Inc, Herman H Brooklyn .... N Y
Standard Polymer Inc Van Nuys .... Cal
Standard Screw Co Bellwood Ill
Star Stainless Screw Co Paterson .... N J
Tekna Products Co Rochester .... N Y
Tinnerman Products Inc Sub Eaton Yale & Towne Cleveland .... Ohio
Townsend Co, TRS Div Braintree .... Mass
Trans National Fabricators Linden .... N J
Tridair Industries Fastener Div Torrance .... Cal
United-Carr Inc Boston .... Mass
Universal Voltronics Corp Mount Kisco .... N Y
Vector Electronic Co Inc Sylmar .... Cal
Waldom Electronics Inc Chicago Ill

NYLON

***See* Plastics**

OCEANOGRAPHIC EQUIPMENT

***See* Specific Listings, i.e. Depth Sounders; Magnetometers; Recorders—Temperature**

OHMMETERS—ANALOG

ASSOCIATED RESEARCH, INC CHICAGO ILL
HEATH CO BENTON HARBOR .... MICH
HEWLETT-PACKARD PALO ALTO .... CAL
SYSTRON-DONNER CORP CONCORD .... CAL
Associated Research, Inc Chicago Ill
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Duncan Electronics Inc Costa Mesa .... Cal
Heath Co Benton Harbor .... Mich
Hewlett-Packard Palo Alto .... Cal
Hipotronics Inc Brewster .... N Y

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Electronics Buyers' Guide

ey Instruments Inc Cleveland ....Ohio
ick/Nexus Research A Teledyne Co Dedham ......Mass
Inc East Orange ....N J
ross A Cutler-Hammer Co Selma ....N C
on Electric Co Chicago..........................Ill
hter Co Ardmore ....Okla
y Instruments Inc A W New York ....N Y
on-Donner Corp Concord ....Cal

MMETERS—DIGITAL

CIATED RESEARCH, INC CHICAGO ILL
ETT-PACKARD PALO ALTO...........................CAL
K ELECTRICAL INSTRUMENT CO CLEVELAND
O ....ADV PG 401
YWELL TEST INSTRUMENTS DIV DENVER
LO ....ADV PG 8
LINEAR SYSTEMS INC DEL MAR ....CAL
ata Systems Inc Rochester ....N Y
iated Research, Inc Chicago Ill
e Electrical Instrument Co, Inc Penacook ....N H
rnia Instruments Corp San Diego ....Cal
n Div Lear Siegler, Inc San Diego ....Cal
agnie Generale de Metrologie Haute Savoie .....France
Laboratories Inc Irvine...........................Cal
Technology Corp Palo Alto ....Cal
l Instruments Co Inc Shawnee-Mission ....Kans
Scientific Corp San Diego ....Cal
Corp Hicksville ....NY
G Inc Laboratory Prods Div Goleta ....Cal
ronic Associates Inc West Long Branch ....N J
ronic Design Labs Inc Philadelphia ....Pa
ro Scientific Industries Inc Portland ....Ore
hild Instrumentation Sunnyvale ....Cal
ral Radio Co West Concord ....Mass
ett-Packard Palo Alto ....Cal
k Electrical Instrument Co Cleveland ....Ohio
ywell Test Instruments Div Denver ....Colo
ument Displays Inc Sub Burns & Towne Inc
verhill ....Mass
ega Co Mountain View ....Cal
sui Electronics Corp
nagawa City ....Kanagawa Pref Japan
ano Electrical Instruments Co Ltd
wasaki ....Kanagawa Pref
Siegler Inc, Cimron Div San Diego ....Cal
Company St Paul ....Minn
port Labs Inc Santa Ana ....Cal
-Linear Systems Inc Del Mar.......................Cal
nd Electronics Ltd Surrey ....England
rtson Instrument Co Azusa ....Cal
e & Schwarz Sales Co USA Inc Passaic ....N J
eider Radio-Television Div Ivry ....France
son Electric Co Chicago Ill
da Riken Industry Co Ltd Tokyo ....Japan
ed Systems Corp Dayton ....Ohio
r Corp Mountain View..............................Cal

LS—DIELECTRIC

***See* Dielectrics—Liquid**

LS—LUBRICATING

***See* Lubricants**

TICAL CRYSTALS

***See* Crystals—Optical**

TICAL EQUIPMENT

***See* Specific Headings**

TICAL FILTERS

ion Optical Co Inc West Nyack ....N Y
rd-Atomic, Inc Cambridge ....Mass
ton Vacuum Inc Cherry Hill ....N J
ctrochrome Corp Plainview ....N Y
ctro Optics Assoc Palo Alto ....Cal
gis Equipment Co Morton Grove Ill
ertner Scientific Corp Chicago Ill
eral Laser Corp Natick ....Mass
eral Optics Inc Bloomfield ....N J
don Engineering Assoc Ann Arbor ....Mich
ser Optics Inc Danbury ....Conn
e Optical Co Spring Valley ....Cal
tical Coating Lab Inc Santa Rosa ....Cal
ectrum Systems, Inc Waltham ....Mass
ith Optical Laboratory Dobbs Ferry ....N Y

PTICAL LENSES

***See* Lenses—Optical**

PTICS—COATED

co Electronics Div Cincinnati ....Ohio
usch & Lomb Inc Rochester ....N Y
ndix Corp Electro Optics Div Ann Arbor ....Mich
oomer Research Corp Plainview ....N Y
hl Optical Co Pittsburgh ....Pa
herent Radiation Labs Palo Alto ....Cal
ystalab Products Corp Rochelle Park ....N J
vidson Optronics Inc West Covina ....Cal
nson Electronics Corp Rockville ....Conn
cona Corp Bellmore ....NY
irchild Space & Defense Sys Div Fairchild Cam & Inst Corp
El Segundo ....Cal

HICKOK

DMS 3200

DIGITAL MEASURING SYSTEM

(Fully solid state with IC's)

HICKOK DIGITAL SYSTEMS
POLARITY
RANGE
DISPLAY
CAL
MODEL DP 100
DC PLUG-IN

This all-solid-state precision measurement system offers unlimited expansion capability through plug-in additions, resulting in a specialized instrument for each type of measurement. New plug-ins now broaden the measurement capability of this field-proven unit. Over 10,000 are in use at present.

Scaling controls make possible resolution of up to seven digits on the three-digit display by utilizing the overrange capability of many of the plug-ins, thus providing high resolution and accuracy with minimum investment. Companion devices such as the PR 4900 Digital Printer and 1050 Digital Set-Point Controller further extend the utility of the DMS 3200 System.

NEW!
NEW!
NEW!
NEW!
MODEL DP 100 DC PLUG-IN
MODEL DP 130 AC VOLTMETER
MODEL DP 140 EVENT COUNTER
MODEL DP 150 1MC COUNTER
MODEL DP 210 TIME INTERVAL METER

DC VOLTMETER PLUG-IN DP 100 $175
00.1 mv to 999. volts
± 0.1% rdg ± 1 digit

DC MICROVOLTMETER PLUG-IN DP 110 $475
0.001 mv to 999.9 volts
± 0.05% rdg ± 1 digit
4-digit resolution

AC VOLTMETER PLUG-IN DP 130 $395
0.01 mv to 999. volts
± 0.1% rdg ± 1 digit
22 Hz to 1.0 MHz

EVENT COUNTER/SLAVE PLUG-IN DP 140 $100
Up to 1,000,000 counts/sec
Cascade with second DMS to obtain 6-digit display

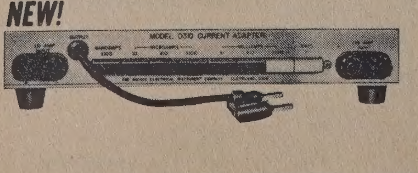
1 MHz COUNTER PLUG-IN DP 150A $255
00.1 Hz to 999. kHz
± 0.0005% rdg ± 1 digit
7-digit resolution

80 MHz COUNTER PLUG-IN DP 160 $395
00.1 Hz to 80.0 MHz
± 0.00005% rdg ± 1 digit
7-digit resolution

OHMMETER PLUG-IN DP 170 $295
.001 ohm to 999. megohms
± 0.1% rdg ± 1 digit
Microamp test current

CAPACITY METER PLUG-IN DP 200 $295
.001 picofarad to 9,999 mfd
± 0.1% rdg ± 1 digit
Low DC test voltage

TIME INTERVAL METER PLUG-IN DP 210 $295
0.01 ms to 999. seconds
± 0.0005% rdg ± 1 digit
Period or time interval



DC CURRENT METER ADAPTER D 310 $100
.0001 microamp to 9.99 amps
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FREQUENCY CONTROL PRODUCTS

OSCILLATORS

VCXO SERIES EROS-400

Typical Specifications:

Frequency: 10 kHz to 100 mHz
Frequency Adjustment: Adequate for 5 years of aging (5 ppm)
Deviation: up to 0.25%
Input Impedance: 100 k ohms
Sensitivity: Up to 3 kHz / volt
Deviation Rate: dc to 100 kHz
Distortion: 1%
Stability:
0 to 65° C. (non-ovenized) ±0.01%
0 to 65° C. (ovenized) ±0.0005%
−55° C. to 125° C. (non-ovenized) ±.05%
−55° C. to 125° C. (ovenized) ±.001%
Output: Zero dbm into 50 or 1000 ohm
Spurious: 60 db non harmonic, 40 db harmonic
Input Voltage: 15 v to 30 vdc, prefer 18 dvc
Oscillator Power: 10 ma max.
Oven Type: Proportional Control
Oven Power: 10 watt max., 4 watt average
Typical Sizes: without oven 2 x 2 x 1 h
with oven 2 x 2 x 4 h

TCXO SERIES EROS-600

Typical Specifications:

Frequency Range: 1 Hz to 100 mHz
Frequency Adjustment: Adequate for 5 years of aging (5 ppm)
Frequency Stability:
±5 ppm (−55° C. to 125° C.)
±0.5 ppm (−20° C. to 60° C.)
Short Term Stability:
5 x 10^{-10} / sec.
5 x 10^{-9} / day
Aging Rate: 1 ppm / year
Phase Jitter: 5 x 10^{-10} / sec.
Warm-up Time: Zero
Output: Zero dbm into 50 or 1000 ohm
Output Characteristics: Sine or Square wave
Rise Time: 20 nanosec. at 10 mHz or lower
Input Voltage: 10 to 28 vdc, prefer 18v
Input Current: 10 ma max.
Typical Sizes: 2 x 2 x 1 h, 2 x 2 x 2 h, 2 x 1 x 0.5 h

FREQUENCY STANDARD

SERIES EROS-800

Typical Specifications:

Frequency: 1mHz or 5mHz
Stability: 1 x 10^{-8} (0 to 60° C.)
Aging: 1 x 10^{-9} / day
Crystal Type: High precision, glass enclosed
Output Level: 1 volt rms into 500 ohn
Input Level: 26 volt dc, 500 ma max
Waveform: Square or Sine
External Trimming: Adjustment
Warm-up: 1 hour 1 x 10^{-8}
Oven: Proportional Control
Header: Octal
Size: 2.5 x 2.5 x 4.5

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Venner Electronics Ltd New Malden, Surrey . . . . .Eng

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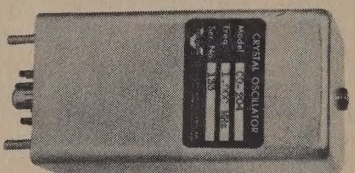
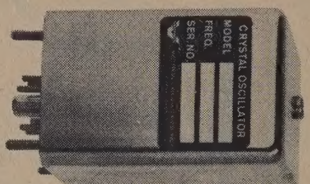
High Stability Crystal Oscillators (Oven Controlled)

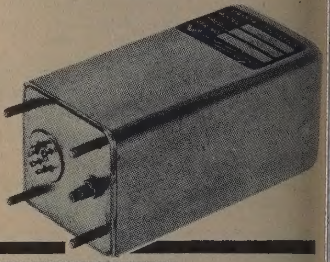
MODEL	CO-204	CO-203	CO-202	CO-201
AGING RATE	1x10–9/day	3x10–9/day	5x10–9/day	1x10–8/day
TEMPERATURE	0°C to +50°C: ±5x10–9 –20°C to +70°C: ±1x10–8 –55°C to +80°C: Optional			
FREQUENCY	1-15 MHz (lower and higher frequencies with inclusion of dividers or multipliers; have delivered units with output as low as 1 KHz)			
INPUT VOLTAGE	Oscillator: 5-32 VDC Oven: 5-32 VDC or 115 VAC			
OVEN CONTROL	Proportional (integrated circuit)			
SIZE	2"x2"x4"; octal plug-in (Other configurations available)			

MODEL	CO-214	CO-213	CO-212	CO-211
AGING RATE	1x10–8/day	3x10–8/day	5x10–8/day	1x10–7/day
TEMPERATURE	0°C to +50°C: ±5x10-8 –55°C to +75°C: Optional			
FREQUENCY	500 KHz to 50 MHz (lower frequencies with inclusion of dividers)			
INPUT VOLTAGE	Oscillator: 5-32 VDC Oven: 5-32 VDC or 115 VAC			
OVEN CONTROL	Proportional			
SIZE	2"x2"x3"; octal plug-in (Other configurations available)			

MODEL	CO-223	CO-222	CO-221
AGING RATE	2x10–8/day	5x10–8/day	1x10–7/day
TEMPERATURE	0°C to +50°C: ±1x10-7 –55°C to +80°C: Optional		
FREQUENCY	Up to 125 MHz		
INPUT VOLTAGE	Oscillator: 20-32 VDC Oven: 20-32 VDC		
OVEN CONTROL	Proportional (Integrated circuit)		
SIZE	2"x2"x4"; 7 pin header and rf connector		

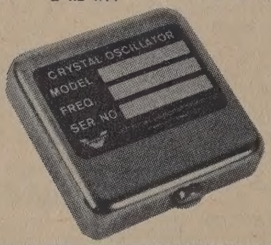






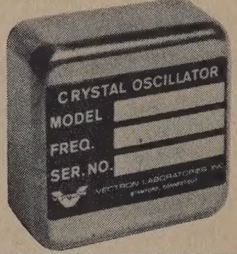
TCXOs

MODEL	CO-251	CO-252
FREQUENCY	250 KHz to 10 MHz	
TEMPERATURE	0°C to 50°C: ±1x10–6	–20°C to +70°C: ±1x10–6
AGING	1x10–6/year	1x10–6/year
OUTPUT	1 vrms into 1K (logic level optional)	
INPUT	5-32 VDC @<10 ma	12-32 VDC @<10 ma
SIZE	2"x2"x¾"	2"x2"x¾"



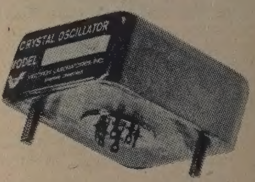
Clock Oscillators

MODEL	CO-231	CO-232	CO-233
FREQUENCY	0.1-25 MHz	3-25 MHz	25-125 MHz
TEMPERATURE	Standard: 0° to +70°C: ±.0025% –1 Option: –55°C to +85°C: ±.005% –2 Option: –55°C to +105°C: ±.005%		
OUTPUT	DTL/TTL	DTL/TTL	5mw into 50Ω
INPUT	5-32 VDC	5 VDC	15-30 VDC
SIZE	1½"x1½"x½"	1"x1"x½"	1½"x1½"x⅝"



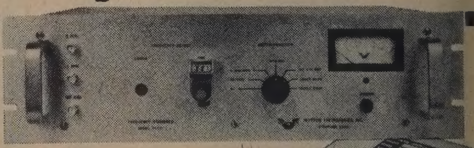
Typical VCXOs

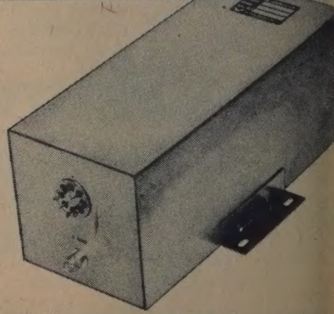
MODEL	CO-273V	CO-221V
FREQUENCY	1 MHz	100 MHz
VCXO RANGE	±0.1%	±1x10–5
LINEARITY	5%	5%
TEMPERATURE	0-50°C: ±.005%	–20°C to +65°C: ±5x10–7
SIZE	2"x2"x1"	2"x2"x4"



Frequency Standards

MODEL	FS-321A	CO-243
AGING RATE	5x10–10/day at shipment; 1x10–10/day typical after six months	
FREQUENCY	5 MHz, 1 MHz & 100 KHz	5 MHz
LEVEL	1 vrms into 50 ohms	
TEMPERATURE	0°C to 50°C: ±3x10–10	
INPUT	115/230 VAC or 22-30 VDC; includes rechargeable battery for 40 hours of operation.	22-30 VDC
SIZE	5¼"h x 19"w x 14"d	4"x4"x10"





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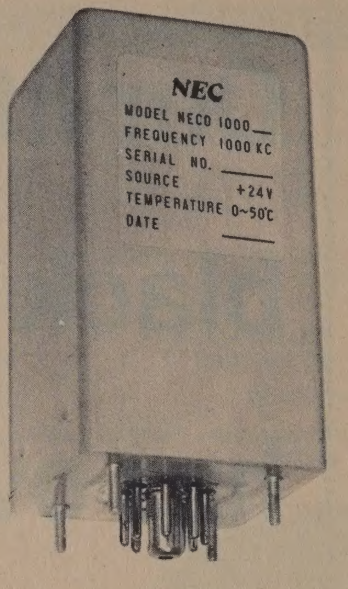

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FREQUENCY STABILITY

Condition	NEC—1000L
Aging rate	1×10^{-9}/day
Temperature —10~+65°C	1×10^{-10}/°C
Input voltage ±10%	$\pm 1 \times 10^{-9}$
Load ±20%	$\pm 1 \times 10^{-9}$

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Kruse-Storke Electronics Mountain View	Cal
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
McCoy Electronics Co, Sub Oak Electro/ Netics Corp Mount Holly Springs	Pa
Micromega Div Bunker-Ramo Corp Venice	Cal
Micronetics Div Teledyne Systems Co San Diego	Cal
Microwave Development Labs Inc Needham Heights	Mass
Microwave Products Group Inc Plainview	N Y
Microwave/ Systems Inc East Syracuse	N Y
Motorola Communications & Electronics Inc Chicago	Ill
Motorola, Govt Electronics Div Scottsdale	Ariz
Ovenaire Inc Charlottesville	Va
Racal Electronics Ltd Bracknell Berks	England
Raybond Electronics Inc Div Willcox & Gibbs Inc Norwood	Mass
Reeves-Hoffman Div Carlisle	Pa
RFD Inc Tampa	Fla
Robins Electronics La Mesa	Cal
Solid State Electronics Corp Sepulveda	Cal
Spectran Electronics Div Novatronics Inc Pompano Beach	Fla
Symetrics Engineering Corp Satellite Beach	Fla
Technical Materiel Corp Mamaroneck	N Y
Terra Corp Albuquerque	N M
T M C Systems (Ariz) Inc Tempe	Ariz
Topping Electronics Ltd Scarborough	Ont
Torotel, Inc Grandview	Mo
Transcom Electronics Inc La Mesa	Cal
TRW Electronic Components Div TRW Inc Camden	N J
Tyco Instrument Div Waltham	Mass
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Fork Standards Inc West Chicago Ill
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Frequency Sources Inc N Chelmsford . . . . Mass
General Devices Inc, Instrumentation Div Princeton . . . . . . N J
General Electric Co, ECSO Schenectady . . . . N Y
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
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Inductor Engineering Inc Lewes . . . . Del
Industrial Electronetics Corp Satellite Beach . . . . Fla
Interelectronics Corp Congers . . . . N Y
International Components Corp Asbury Park . . . . N J
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Kinelogic Corp Pasadena . . . . Cal
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Motorola, Govt Electronics Div Scottsdale . . . . Ariz
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Raybond Electronics Inc Div Willcox & Gibbs Inc Norwood . . . . Mass
Reeves-Hoffman Div Carlisle . . . . Pa
RFD Inc Tampa . . . . Fla
Sanders Assoc Inc, Microwave Div Nashua . . . . N H
Singer Co Instrumentation Div Bridgeport . . . . Conn
Solid State Electronics Corp Sepulveda . . . . Cal
Sonex Inc Philadelphia . . . . Pa
Symetrics Engineering Corp Satellite Beach . . . . Fla
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia . . . . Pa
Teledyne Telemetry Co Los Angeles . . . . Cal
T M C Systems (Ariz) Inc Tempe . . . . Ariz
Transystems Electronic Co Fort Lee . . . . N J
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Valpey-Fisher Corp Holliston . . . . Mass
Video Research Corp Rockville . . . . Md
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MEASUREMENTS A MCGRAW-EDISON DIV BOONTON . . N J
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REEVES-HOFFMAN DIV CARLISLE PA . . . . ADV PG 212
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SERVO CORP OF AMERICA HICKSVILLE . . . . N Y
Accutronics, Inc Geneva Ill
Advanced Measurement Instruments, Inc Somerville . . . . Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . . N Y
Amerac, Inc Beverly . . . . Mass
American Trans-Coil Corp Richmond Hill . . . . NY
Ando Electric Co Ltd Ohta-ku, Tokyo . . . . Japan
Anritsu Electric Co Ltd Tokyo . . . . Japan
Arenberg Ultrasonic Lab, Inc Jamaica Plain . . . . Mass
Astrolab Inc Linden . . . . N J
Avantek Inc Santa Clara . . . . Cal
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Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . . . N Y
California Microw Ave, Inc. Sunnyvale . . . . Cal
California Systems Components, Inc Chatsworth . . . . Cal
Carol Electronics Div Weeco Inc Martinsburg . . . . W Va
Central Coil Co Inc Martinsville . . . . Ind
Coilcraft Inc Cary Ill
Crystalab Products Corp Rochelle Park . . . . N J
Damon Engineering Inc, Elctns Div Needham Heights . . . . Mass
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Data Royal Corp San Diego . . . . Cal
Denson Electronics Corp Rockville . . . . Conn
Dewey Corp, G C New York . . . . N Y
Electronic Research co, A Textron Co Overland Park . . . . . Kan
Engelmann Microwave Co Montville . . . . NJ
Engineering Associates Dayton . . . . Ohio
Frequency Electronics Inc New Hyde Park . . . . N Y
Frequency Sources Inc N Chelmsford . . . . Mass
General Devices Inc, Instrumentation Div Princeton . . . . . . N J
General Dynamics, Electronics Div Rochester . . . . N Y
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
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J A C Electronics Ltd Camberley . . . . England
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Kruse-Storke Electronics Mountain View . . . . Cal
Lear Siegler Inc Santa Monica . . . . Cal
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Micro Power Inc Long Island City . . . . N Y
Microsonics Div Weymouth . . . . Mass
Microwave Associates Inc Burlington . . . . Mass
Microwave Products Group Inc Plainview . . . . N Y
Microwave/Systems Inc East Syracuse . . . . N Y
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Multronics Inc Rockville . . . . Md
Narda Microwave Corp Plainview . . . . N Y
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Omni Spectra Inc Farmington . . . . Mich
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Telonic Instruments Div Telonic Indus Inc Beech Grove . . . . Ind
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Tocco Div Park-Ohio Ind Inc Cleveland . . . . Ohio
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Winslow Tele-Tronics Inc Eatontown . . . . N J

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FORK STANDARDS INC WEST CHICAGO ILL
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HEWLETT-PACKARD PALO ALTO . . . . CAL
INTERNATIONAL CRYSTAL MFG CO INC OKLAHOMA CITY . . . . OKLA
REEVES-HOFFMAN DIV CARLISLE PA . . . . ADV PG 212
TOROTEL, INC GRANDVIEW . . . . MO
TRACOR INC AUSTIN . . . . TEX
VECTRON LABS INC STAMFORD CONN . . . . . . ADV PG 404
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Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . . . N Y
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Collins Radio Co, Electronic Components Newport Beach . . Cal
Electra/Midland Corp Kansas City . . . . Kan
Erie Technological Products Inc Erie . . . . Pa
Ferwalt Inc W H Lapwai . . . . Idaho
Fork Standards Inc West Chicago Ill
Frequency Electronics Inc New Hyde Park . . . . N Y
General Dynamics, Electronics Div Rochester . . . . N Y
General Electric Co, ECSO Schenectady . . . . N Y
Gibbs Mfg & Research Corp Janesville . . . . Wis
Greenray Industries Inc Mechanicsburg . . . . Pa
Hewlett-Packard Palo Alto . . . . Cal
Hill Electronics Inc Erie Freq Control Div Carlisle . . . . Pa
International Components Corp Asbury Park . . . . N J
International Crystal Mfg Co Inc Oklahoma City . . . . Okla
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Melpar Inc, Special Prods Dept Falls Church . . . . Va
Microwave Products Group Inc Plainview . . . . N Y
Nu-Devices Inc Norwalk . . . . Conn
Ovenaire Inc Charlottesville V
Racal Electronics Ltd Bracknell Berks . . . . Englar
Reeves-Hoffman Div Carlisle . . . . F
RO Associates Inc Menlo Park C
Robins Electronics La Mesa C
Sanders Assoc Inc, Microwave Div Nashua . . . . N
Sonex Inc Philadelphia . . . . F
Spectrum Technology Inc Goleta C
Standard Crystal Co Alhambra C
Symetrics Engineering Corp Satellite Beach . . . . F
Technical Materiel Corp Mamaroneck . . . . N
T M C Systems (Ariz) Inc Tempe . . . . Ar
Topping Electronics Ltd Scarborough . . . . O
Torotel, Inc Grandview . . . . N
Tracor Inc Austin . . . . T
Transcom Electronics Inc La Mesa C
Vectron Labs Inc Stamford . . . . Co
Western Microwave Labs Inc Los Gatos C

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FORK STANDARDS INC WEST CHICAGO ILL . . . ADV PG 4
WEINSCHEL ENGINEERING CO INC GAITHERSBURG . . . . N
Accutronics, Inc Geneva . . . .
Barden Co Los Angeles C
Fork Standards Inc West Chicago . . . .
Greenray Industries Inc Mechanicsburg . . . .
International Laser Systems Inc Orlando . . . . F
Melpar Inc, Special Prods Dept Falls Church . . . .
Meson Electronics Co, Inc Rochester . . . . N
Philamon Inc Westbury . . . . N
Solid State Electronics Corp Sepulveda C
Spectrum Technology Inc Goleta C
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HEWLETT-PACKARD PALO ALTO C
INTERELECTRONICS CORP CONGERS . . . . N
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Accutronics, Inc Geneva . . . .
Alcatel Paris 8eme . . . . Fra
American Time Products, Elctns Div Bulova Watch Co Inc Woodside . . . . N
Ando Electric Co Ltd Ohta-ku, Tokyo . . . . Jap
Argonaut Associates, Inc Beaverton . . . .
Audn Corp Hamburg . . . . N
Autronics Corp Pasadena . . . .
Beckwith Electric Co Inc Mt Prospect . . . .
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . . .
California Systems Components, Inc Chatsworth . . . .
C M L Inc Plainfield . . . .
Computer Devices Corp Commack . . . .
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Control Science Corp Alexandria . . . .
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Data Royal Corp San Diego . . . .
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Di/An Controls Inc Boston . . . . M
Douglas Randall Inc Westerly . . . .
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Electron-Radar Products Chicago . . . .
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Executive Electronics Inc. Denver . . . .
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Fork Standards Inc West Chicago . . . .
Frequency Electronics Inc New Hyde Park . . . .
General Devices Inc, Instrumentation Div Princeton . . . . . .
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General Radio Co West Concord . . . . M
Gibbs Mfg & Research Corp Janesville . . . .
Grafix Inc Albuquerque . . . . N M
Greenray Industries Inc Mechanicsburg . . . .
Hewlett-Packard Palo Alto . . . .
Hill Electronics Inc Erie Freq Control Div Carlisle . . . .
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Kikusui Electronics Corp Kanagawa City . . . . Kanagawa Pref Ja
Korfund Dynamics Corp Westbury . . . .
Krohn-Hite Corp Cambridge . . . . M
McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs . . . .
Melpar Inc, Special Prods Dept Falls Church . . . .
Meson Electronics Co, Inc Rochester . . . .
Metric Engineering Div Greenray Indus Inc Mechanicsburg .
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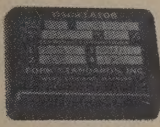
Fork Standards tuning fork and crystal oscillators provide high-accuracy outputs at frequencies from sub-audio through RF. Case sizes range from miniature PC board-mount types to plug-in, oven-stabilized frequency standards. Both square wave and sine wave outputs are available.

Tuning forks are limited to frequencies up to about 15 kHz, and are generally preferred for low-frequency applications because they require less frequency-division circuitry than an equivalent crystal unit. A low-frequency tuning fork oscillator is thus more compact, draws less current, and is usually less expensive and more reliable than a low-frequency crystal unit. However, for highest accuracy or for higher frequencies, crystals are preferred.

The Fork Standards oscillators which are specified most often are described below.

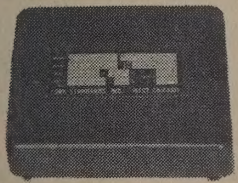
Model G, GQ
(base 1½" Sq.)



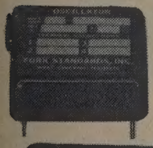
Model FO, FR
(base 1½" Sq.)

Model P, PQ
(base 1½" x 3½")

Model LO
(base 1½"x¾")



Model R, RQ
(base 3 3/16" Sq.)



Model UQ
(base 1½" Sq.)

Model DQ
(base 2" Sq.)

MODEL G: Plug-in general purpose unit with very-low-frequency capability. Also available with studs and solder hooks.

MODEL FO: Very compact, designed for printed circuit board applications. Use where space is at a premium.

MODEL P: Larger printed circuit board unit than Model FO. Increased capabilities and slightly lower unit cost. Can be chassis mounted.

MODEL LO: Smallest oscillator available, with square wave output only. PC board mount.

MODEL R: Largest PC board mount model, with lowest case profile at sub-audio frequencies.

MODEL FR: Tuning fork resonator in F case. For use where user provides oscillator circuitry, or as a highly selective audio filter element.

MODEL GQ: General-purpose plug-in crystal oscillator, with output frequencies down to .125 Hz. Can be supplied with studs and solder hooks.

MODEL UQ: Smallest crystal unit, designed for PC board mount. PC pins hold unit to board. Vernier frequency adjustment available.

MODEL PQ: General-purpose flat case unit for PC board or chassis mounting. Larger case volume than UQ.

MODEL RQ: Largest board-mounted crystal model, with lowest profile in sub-audio frequency range.

MODEL DQ: Available with either snap-action or proportional control oven, plug-in or stud-mounted base with solder hooks. Accuracy to .0005% or better over extreme temperatures.

TUNING FORK OSCILLATORS

Model	Frequency Range	Output	Height	Price
G	2 Hz to 15 kHz	Square	2½"	$ 59 up
	.017 Hz to 2 Hz	Square	3½"	134 up
	100 Hz to 15 kHz	Sine	2½"	74 up
	30 Hz to 100 Hz	Sine	3½"	119 up
FO	1 kHz to 15kHz	Square	⅜"	$ 65 up
	.25 Hz to 1 kHz	Square	.6"	80 up
	1 kHz to 15 kHz	Sine	½"	90 up
P	60 Hz to 15 kHz	Square	17/32"	$ 65 up
	.1 Hz to 60 Hz	Square	15/16"	95 up
	30 Hz to 15 kHz	Sine	15/16"	95 up
LO	1 kHz to 15 kHz	Square	⅜"	$ 75 up
R	.25 Hz to 15 kHz	Square	.6"	$ 65 up
	20 Hz to 15 kHz	Sine	.85"	95 up

TUNING FORK RESONATOR

FR	1000 Hz to 15 kHz	⅜"	$ 50 up

CRYSTAL OSCILLATORS

Model	Frequency Range	Output	Height	Price
GQ	32 Hz to 10 MHz	Square	2½"	$ 59 up
	.12 Hz to 32 Hz	Square	3½"	171 up
	800 Hz to 10 MHz	Sine	2½"	74 up
	16 Hz to 800 Hz	Sine	3½"	141 up
UQ	12 Hz to 10 MHz	Square	½" or	$ 59 up
	50 kHz to 10 MHz	Sine	.6"	74 up
PQ	32 kHz to 10 MHz	Square	17/32"	$ 59 up
	100 Hz to 32 kHz	Square	15/16"	81 up
	800 Hz to 10 MHz	Sine	15/16"	74 up
RQ	200 Hz to 10 MHz	Square	.6"	$ 59 up
	.125 Hz to 200 Hz	Square	.85"	148 up
	400 Hz to 10 MHz	Sine	.85"	74 up

OVEN-STABILIZED CRYSTAL OSCILLATOR

DQ	.125 Hz to 10 MHz	Either	4"	$134 up

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Wavetek San Diego . . . Cal
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See **Ultrasonic Equipment**

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FORK STANDARDS INC WEST CHICAGO . . . ILL
HEWLETT-PACKARD PALO ALTO . . . CAL
REACTION INSTRUMENTS INC VIENNA . . . VA
REEVES-HOFFMAN DIV CARLISLE PA . . . ADV PG 212
TELE-SIGNAL CORP SUB SINGER CO WOODBURY . . . N Y
TEXSCAN CORP INDIANAPOLIS . . . IND
VECTRON LABS INC STAMFORD CONN . . . ADV PG 404
Accutronics, Inc Geneva . . . Ill
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ . . . U K
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . N Y
Almond Instruments Co Covina . . . Cal
Alpha Industries Inc Newton Upper Falls . . . Mass
Applied Research, Inc Port Washington . . . N Y
Astrodata Inc Anaheim . . . Cal
Autronics Corp Pasadena . . . Cal
Belar Electronics Lab Inc Upper Darby . . . Pa
Betron-IRE-SpA Livorno . . . Italy
Bomac Div Varian Associates Beverly . . . Mass
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . . N Y
California Microw Ave, Inc. Sunnyvale . . . Cal
Chronetics Inc Mount Vernon . . . N Y
Cie De Signaux Et D'Entreprises Electriques Paris 17eme . . . France
Collins Radio Co, Electronic Components Newport Beach . . . Cal
Conic Corp San Diego . . . Cal
Control Logic Inc Natick . . . Mass
Data Royal Corp San Diego . . . Cal
Edwin Industries Corp Silver Spring . . . Md
Electro-Data Inc Garland . . . Tex
Electronic Design Labs Inc Philadelphia . . . Pa
Electronic Research co, A Textron Co Overland Park . . . Kan
EMR Div Weston Instruments Inc Princeton . . . N J
Erie Technological Products Inc Erie . . . Pa
Exact Electronics Inc Hillsboro . . . Ore
Ferwalt Inc W H Lapwai . . . Idaho
Fork Standards Inc West Chicago . . . Ill
Frequency Electronics Inc New Hyde Park . . . N Y
Frequency Sources Inc N Chelmsford . . . Mass
General Devices Inc, Instrumentation Div Princeton . . . N J
General Dynamics, Electronics Div Rochester . . . N Y
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Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis . . . France
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McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs . . . Pa
Micro Power Inc Long Island City . . . N Y
Micro State Electronics Oper Raytheon Co Murray Hill . . . N J
Microtek Electronics Inc Cambridge . . . Mass
Microwave Associates Inc Burlington . . . Mass
Microwave Products Group Inc Plainview . . . N Y
Monitor Products Co Inc South Pasadena . . . Cal
Moog Inc, R A Trumansburg . . . N Y
Motorola Communications & Electronics Inc Chicago . . . Ill
Motorola, Govt Electronics Div Scottsdale . . . Ariz
Nu-Devices Inc Norwalk . . . Conn
Nus Corp Paramus . . . N J
Omega Laboratories Inc Rowley . . . Mass
Optical Electronics Inc Tuscon . . . Ariz
Ovenaire Inc Charlottesville . . . Va
Physical Electronics Labs Menlo Park . . . Cal
Radix Electronics Corp Anaheim . . . Cal
Reaction Instruments Inc Vienna . . . Va
Reeves-Hoffman Div Carlisle . . . Pa
RF Amplifier Co Lake Grove . . . N Y
Richard Lee Co New Providence . . . N J
Ryka Scientific Inc Mountain View . . . Cal
Sanders Assoc Inc, Microwave Div Nashua . . . N H
Sensor Corp Greenwich . . . Conn
Solid State Electronics Corp Sepulveda . . . Cal
Sonex Inc Philadelphia . . . Pa
Spectral Dynamics Corp of San Diego San Diego . . . Cal
Sunshine Scientific Instruments Inc Philadelphia . . . Pa
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . N J
Teledyne Telemetry Co Los Angeles . . . Cal
Tele-Signal Corp Sub Singer Co Woodbury . . . N Y
Terra Corp Albuquerque . . . N M
Texscan Corp Indianapolis . . . Ind
T M C Systems (Ariz) Inc Tempe . . . Ariz
Transystems Electronic Co Fort Lee . . . N J
Vectron Labs Inc Stamford . . . Conn
Venus Scientific Inc Farmingdale . . . N Y
Vidar Corp Mountain View . . . Cal
Video Research Corp Rockville . . . Md
Waveforms North Hollywood . . . Cal
Wavetek San Diego . . . Cal
Western Microwave Labs Inc Los Gatos . . . Cal
Wiltek, Inc Wilton . . . Conn

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FORK STANDARDS INC WEST CHICAGO . . . ILL
HEWLETT-PACKARD PALO ALTO . . . CAL
INTERNATIONAL CRYSTAL MFG CO INC OKLAHOMA CITY . . . OKLA
REEVES-HOFFMAN DIV CARLISLE PA . . . ADV PG 212
R H G ELECTRONICS LAB INC FARMINGDALE . . . N Y
TOROTEL, INC GRANDVIEW . . . MO
VECTRON LABS INC STAMFORD CONN . . . ADV PG 404
Bliley Electric Co Erie . . . Pa
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside . . . N Y
California Microw Ave, Inc. Sunnyvale . . . Cal
Collins Radio Co, Electronic Components Newport Beach . . . Cal
Data Technology Corp Palo Alto . . . Cal
Erie Technological Products Inc Erie . . . Pa
Ferwalt Inc W H Lapwai . . . Idaho
Fork Standards Inc West Chicago . . . Ill
Frequency Electronics Inc New Hyde Park . . . N Y
Frequency Sources Inc N Chelmsford . . . Mass
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Gibbs Mfg & Research Corp Janesville . . . Wis
Greenray Industries Inc Mechanicsburg . . . Pa
Hewlett-Packard Palo Alto . . . Cal
International Components Corp Asbury Park . . . N J
International Crystal Mfg Co Inc Oklahoma City . . . Okla
ITT Europe Inc Components Gp Brussels 1 . . . Belgium
Kay Electric Co Pine Brook . . . N J
Microphase Corp Cos Cob . . . Conn
Microwave Associates Inc Burlington . . . Mass
Microwave Products Group Inc Plainview . . . N Y
Microwave/Systems Inc East Syracuse . . . N Y
Motorola, Govt Electronics Div Scottsdale . . . Ariz
Nus Corp Paramus . . . N J
Ovenaire Inc Charlottesville . . . Va
Reeves-Hoffman Div Carlisle . . . Pa
R H G Electronics Lab Inc Farmingdale . . . N Y
Sonex Inc Philadelphia . . . Pa
Spectrum Technology Inc Goleta . . . Cal
Standard Crystal Co Alhambra . . . Cal
T M C Systems (Ariz) Inc Tempe . . . Ariz
Torotel, Inc Grandview . . . Mo
Vectron Labs Inc Stamford . . . Conn
VP Co Pasadena . . . Cal
Washington Technological Assoc Inc Rockville . . . Md
Western Microwave Labs Inc Los Gatos . . . Cal

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Dynamco Ltd Chertsey Surrey . . . Eng
Geo Space Corp Houston . . . Tex
ITT Aerospace Optical Div Aerospace Oper San Fernando . . . Cal
Kikusui Electronics Corp Kanagawa City . . . Kanagawa Pref Japan
Litton Industries, Electron Tube Div San Carlos . . . Cal
Mandrel Industries Inc Houston . . . Tex
Systems Research Labs Inc Dayton . . . Ohio

OSCILLOGRAPHS, RECORDING—DIRECT WRITING

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND OHIO . . . ADV PGS 510,511
GEOTECH A TELEDYNE CO GARLAND . . . TEX
HEWLETT-PACKARD PALO ALTO . . . CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO . . . ADV PG 8
MECHANICS FOR ELECTRONICS INC CAMBRIDGE . . . MASS
NIHON KOHDEN KOGYO CO LTD TOKYO . . . 161 JAPAN
SIEMENS AMERICA INC NEW YORK . . . N Y
Adtrol Electronics Inc Philadelphia . . . Pa
Advanced Technology & Systems Corp Riverside . . . Conn
Allco S A Gentilly . . . France
Beckman Instruments Inc Fullerton, . . . Cal
Beckman Instruments Intl SA 1207 Geneva . . . Switzerland
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B & F Instruments, Inc Cornwells Heights . . . Pa
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Century Electronics & Instruments Inc Tulsa . . . Okla
Clevite Corp, Brush Instruments Div Cleveland . . . Ohio
Dresser Systems, Inc Houston . . . Tex
Epsco Inc Westwood . . . Mass
Esterline Angus Div Esterline Corp Indianapolis . . . Ind
Geo Space Corp Houston . . . Tex
Geotech A Teledyne Co Garland . . . Tex
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Hayakawa Electric Co Ltd Osaka . . . Japan
Hewlett-Packard Palo Alto . . . Cal
Honeywell Test Instruments Div Denver . . . Colo
Mandrel Industries Inc Houston . . . Tex
Measurement Technology Corp Canoga Park . . . Cal
Mechanics for Electronics Inc Cambridge . . . Mass
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Nihon Kohden Kogyo Co Ltd Tokyo . . . 161 Japan
Photron Instrument Co Cleveland . . . Ohio
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HONEYWELL TEST INSTRUMENTS DIV DENVER COLO . . . AD
SIEMENS AMERICA INC NEW YORK . . .
Adtrol Electronics Inc Philadelphia . . .
Allco S A Gentilly . . .
Bell & Howell Co, Elctn Instr Grp Pasadena . . .
B & F Instruments, Inc Cornwells Heights . . .
Century Electronics & Instruments Inc Tulsa . . .
Clevite Corp, Brush Instruments Div Cleveland . . .
Dixson Inc Electronic Instr Div Grand Junction . . .
Dowa Trading Co Ltd Kobe . . .
Dresser Systems, Inc Houston . . .
Geo Space Corp Houston . . .
Geotech A Teledyne Co Garland . . .
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Honeywell Test Instruments Div Denver . . .
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San-Ei Instrument Co Ltd Shinjuku-Ku Tokyo . . .
Siemens America Inc New York . . .

OSCILLOSCOPE CAMERAS

See **Cameras**

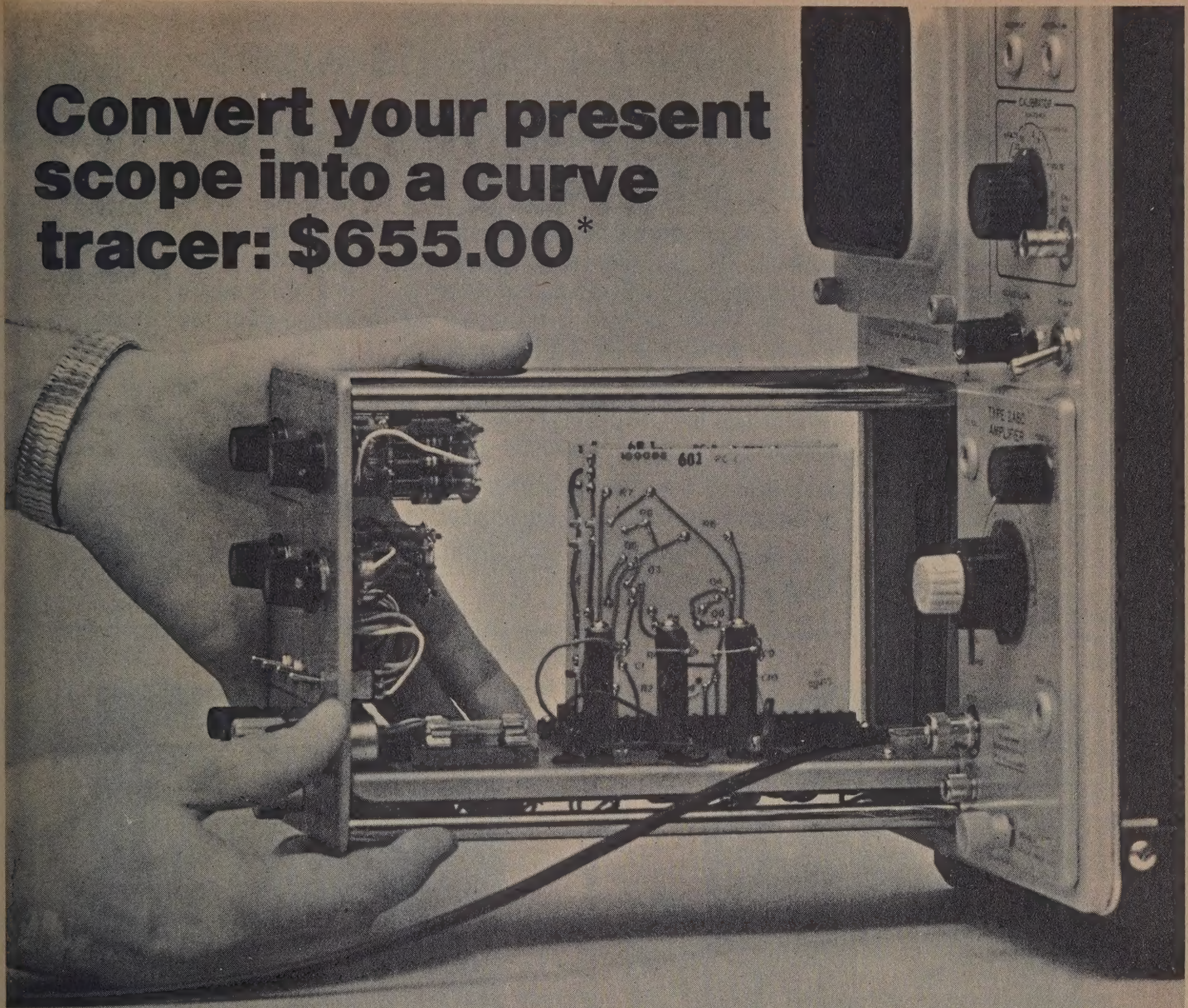
OSCILLOSCOPE DOLLIES

See **Dollies**

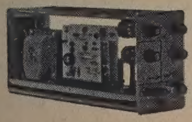
OSCILLOSCOPES—CURVE TRACER

U-TECH DIV INDUSTRIAL PHYSICS & ELCTNS CO. SALT LAKE CITY UTAH . . . ADV
U-Tech Div Industrial Physics & Elctns Co. Salt Lake City . . .

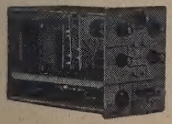
Convert your present scope into a curve tracer: $655.00*



The first plug-in unit that transforms an existing scope into a curve tracer—at ½ to ⅓ the cost!



U-Tech plug-in
Model 681: $655.00*.
For use with Tektronix 560 series Oscilliscopes.



U-Tech plug-in
Model 682: $675.00*.
For use with Tektronix 530, 540, 550, 580 series Oscilliscopes.

U-Tech Console
Model 683: $685.00*.
For use with any X-Y Oscilliscope.

*Prices apply to purchases and shipments within U.S.A. fob Salt Lake City, Utah

Now you can expand your present Oscilloscope to include curve tracer capabilities. U-Tech plug-in and console units enable any X-Y Oscilloscope to display the dynamic characteristics of both NPN and PNP transistors, N Channel and P Channel junctions, FETs, MOS-FETs, bipolars, unijunctions, diodes, tunnel diodes and SCRs.

So, if it wasn't in the budget before, now it can be, and even if you were planning for a curve tracer, you can now buy two, possibly three, of these units for the price of any other characteristic curve tracer.

Ask your distributor about these U-Tech curve tracer units or order direct.

U-TECH A Division of Industrial Physics and Electronics Company
4190 South State Street, Salt Lake City, Utah 84107 • Tel. (801) 262-2663

☐ Yes, send me curve tracer model ______________
Enclosed is: ☐ Check ☐ P.O. ☐ Bill me ☐ Send literature

Name______________________________ Title______________

Company Name______________________________

Company Address______________________________

City______________________ State______________ Zip______________

Telequipment Oscilloscopes

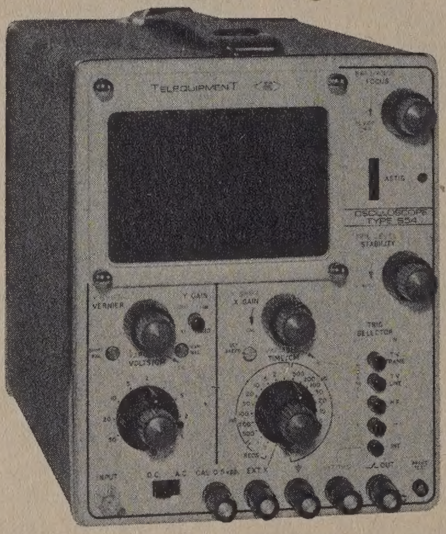
The Telequipment line of low-cost oscilloscopes is designed and manufactured in England, sold and serviced through the Tektronix marketing organization.

These instruments meet the requirements for affordable waveform measurements in education, service, and industry. The performance features include triggered sweep, 1-2-5 sequence step attenuators for vertical and horizontal deflection controls, calibration outputs, and 5-inch CRT's.

All Telequipment instruments are warranted against defective parts or workmanship for one year. Service and replacement parts are available through Tektronix field offices.

Below are examples of the Telequipment products, which also include plug-in oscilloscopes and bandwidths to 25 MHz.

The long-form catalog with full specifications and prices is available on request.

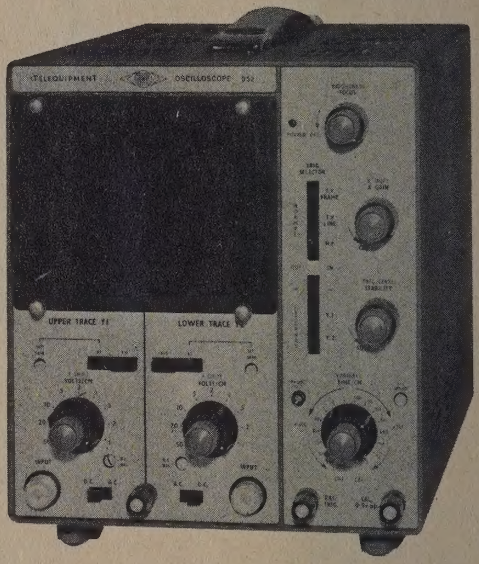


Type S54 Solid-State Oscilloscope

- Triggered sweep operation with TV frame or line capability
- DC to 10 MHz bandwidth
- 0.1 V/cm deflection factor, increasing to 10 mV/cm with X10 gain (DC to 4 MHz)
- Vertical attenuator and horizontal timing accurate within 5%
- 5-inch CRT, 6 x 10 cm illuminated graticule

Type S54 .... **$395**

US Sales Price — FOB Beaverton, Oregon



Type D52 Double-Beam Oscilloscope

- Triggered sweep operation with internal source from either channel plus TV sync capability
- Double-beam — two identical, independent vertical channels
- DC to 6 MHz bandwidth
- 0.1 V/cm deflection factor, 10 mV/cm with X10 gain (DC to 1 MHz)
- Vertical attenuators and horizontal timing accurate within 5%

Type D52 .... **$450**

US Sales Price — FOB Beaverton, Oregon

For information, contact your Tektronix field office or write: Tektronix, Inc., P. O. Box 500, Beaverton, Oregon 97005

TELEQUIPMENT ®

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CILLOSCOPES—D-C TO 10 MC

ED ELECTRONICS CORP CHICAGO	**ILL**
H CO BENTON HARBOR MICH	**ADV PG 413**
LETT-PACKARD PALO ALTO	**CAL**
OK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
COR ELECTRONICS INC GLENDALE	**N Y**
RONIX INC BEAVERTON ORE	**ADV PG 412**
QUIPMENT LTD SUB TEKTRONIX INC BEAVERTON E	**ADV PG 412**
nce Electronics Ltd Ilford Essex	England
S A Gentilly	France
Aircraft Radio Inc Elk Grove Village	Ill
Electronics Corp Chicago	Ill
y Electronics of Cal Div Avionic Structures Inc aheim	Cal
m, Inc Culver City	Cal
ley Ltd G & E London NW 10	England
rnia Instruments Corp San Diego	Cal
Electronics Div Weeco Inc Martinsburg	W Va
agnie Generale de Metrologie Haute Savoie	France
tructions Radioelectriques Et Electroniques Du Centre Saint-Etienne	France
Instrument Div Pennsauken	N J
on Electronics Products Co Dayton	Ohio
on Electronics Corp Rockville	Conn
ont Oscilloscope Labs Inc West Caldwell	N J
mco Ltd Chertsey Surrey	Eng
n Industries Corp Silver Spring	Md
Electronic Instrument Co Inc Brooklyn	NY
ronic Instrument Div Gen Atronics Corp Philadelphia	Pa
ane Electronics, Inc Long Valley	N J
h Co Benton Harbor	Mich
ett-Packard Palo Alto	Cal
k Electrical Instrument Co Cleveland	Ohio
k Teaching Systems Inc Woburn	Mass
Aerospace Optical Div Aerospace Oper San Fernando	Cal
su Electric Co Ltd Suginami-ku Tokyo	Japan
rotech, Inc Chicago	Ill
coni Instruments Div, English Electric Corp glewood	N J
sushita Communication Industrial Co Ltd kohama	Japan
sushita Electric Industrial Co Ltd Osaka	Japan
surement Control Devices Inc Philadelphia	Pa
ermaster, Inc Los Angeles	Cal
n Mfg Co Inc, James Malden	Mass
rola Communications & Electronics Inc Chicago	Ill
cal Electronics Inc Tuscon	Ariz
s Electronic Instruments, Test & Measuring Inst ount Vernon	NY
rtson Instrument Co Azusa	Cal
a Electric Co Ltd Woodside	N Y
son Electric Co Chicago	Ill
dcor Electronics Inc Glendale	N Y
hine Scientific Instruments Inc Philadelphia	Pa
et Electronics Inc Woodside	N Y
ica Elettronica Systems S a s Milan	Italy
ronix Inc Beaverton	Ore
quipment Ltd Sub Tektronix Inc Beaverton	Ore
erman Instrument Corp Hatboro	Pa

CILLOSCOPES—D-C TO OVER 10 MC

LETT-PACKARD PALO ALTO	**CAL**
OK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
DCOR ELECTRONICS INC GLENDALE	**N Y**
RONIX INC BEAVERTON ORE	**ADV PG 412**
QUIPMENT LTD SUB TEKTRONIX INC BEAVERTON E	**ADV PG 412**
ance Electronics Ltd Ilford Essex	England
tel Paris 8eme	France
Aircraft Radio Inc Elk Grove Village	Ill
pagnie Generale de Metrologie Haute Savoie	France
structions Radioelectriques Et Electroniques Du Centre Saint-Etienne	France
Instrument Div Pennsauken	N J
ton Electronics Products Co Dayton	Ohio
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lont Oscilloscope Labs Inc West Caldwell	N J
amco Ltd Chertsey Surrey	Eng
in Industries Corp Silver Spring	Md
tronic Instrument Div Gen Atronics Corp Philadelphia	Pa
neering Associates Dayton	Ohio
lett-Packard Palo Alto	Cal
ok Electrical Instrument Co Cleveland	Ohio
su Electric Co Ltd Suginami-ku Tokyo	Japan
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coni Instruments Div, English Electric Corp nglewood	N J
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surement Control Devices Inc Philadelphia	Pa
orola Communications & Electronics Inc Chicago	Ill
ps Electronic Instruments, Test & Measuring Inst ount Vernon	NY
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ica Elettronica Systems S a s Milan	Italy

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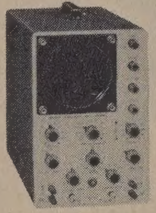
"Performance-Plus" Oscilloscopes

Five Inch Triggered-Sweep Delay Line DC Scope

• DC response to 8 MHz • 40 Nanoseconds rise time • High linearity delay lines • Calibrated vertical attenuation and time base • Z axis modulation input • Input for direct access to vertical deflection plates • Circuit board construction • Wiring options for 115/230, 50-60 Hz operation

Kit IO-14........................$275.00
Assembled IOW-14.............$399.00

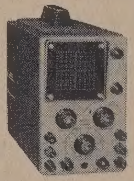


"Extra Duty" Wide Band 5" 'Scope

Here is a scope that has everything you need for all around work: 5 MHz bandwidth, a patented 10-500 kHz sweep circuit, two extra sweep positions which can be preset to often-used sweep positions, built-in peak-to-peak calibration reference, Z axis input, 2.5 mV sensitivity and more. Circuit board-wiring harness construction, a rugged power supply and wiring options that permit either 115 or 230 VAC, 50/60 Hz operation.

Kit IO-18.........................$92.50
Assembled IOW-18.............$149.95

Mini-Size Maxi-Value 3" DC Scope



The IO-10 is found in thousands of biomedical, industrial & general service applications, and no wonder. Identical vertical & horizontal amplifiers, DC bandwidth to 200 kHz, less than 5° relative phase shift, 5-50 kHz, four range recurrent sweep, switch selection of AC or DC coupling, capability of extremely slow sweep rates with the external capacitor binding posts, minimum trace distortion, high stability and easy to carry compact size.

Kit IO-10.........................$99.95
Assembled IOW-10.............$169.00

General Purpose 3" 'Scope

The value standard of the industry. 5 MHz bandwidth, 30 mV peak-to-peak sensitivity, recurrent sweep — 20 Hz to 200 kHz in four ranges, extra x50 frequency compensated vertical attenuator, front panel 1 V. reference voltage, horizontal sweep from internal, 60 Hz line or external source, automatic sync, shielded CRT, retrace blanking and new Heathkit styling. The solid-state power supply permits wiring for either 115 or 230 VAC, 50-60 Hz.

Kit IO-17.........................$79.95

For your FREE copy of the Heath 1969 Scientific Instrument catalog, write us on your school or company letterhead HEATH CO., Dept. 526-56, Benton Harbor, Michigan 49022

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HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND OHIO	**ADV PG 414**
NIHON KOHDEN KOGYO CO LTD TOKYO	**161 JAPAN**
SIEMENS AMERICA INC NEW YORK	**N Y**
SPEDCOR ELECTRONICS INC GLENDALE	**N Y**
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TEXSCAN CORP INDIANAPOLIS IND	**ADV PG 413**
Advance Electronics Ltd Ilford Essex	England
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Binary Electronics of Cal Div Avionic Structures Inc Anaheim	Cal
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Carol Electronics Div Weeco Inc Martinsburg	W Va
Central Scientific Co Chicago	Ill
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Electronic Measurements Corp New York	N Y
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Hewlett-Packard Palo Alto	Cal
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Hickok Teaching Systems Inc Woburn	Mass
ITT Aerospace Optical Div Aerospace Oper San Fernando	Cal
Iwatsu Electric Co Ltd Suginami-ku Tokyo	Japan
Kikusui Electronics Corp Kanagawa City	Kanagawa Pref Japan
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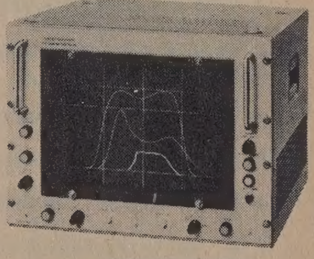
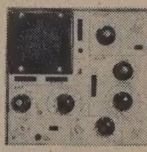
Nuclear Supplies Encino	Cal

Oscilloscopes

- MULTIPLE CHANNEL
- PORTABLE
- AC/DC BATTERY OPERATED
- LARGE SCREEN

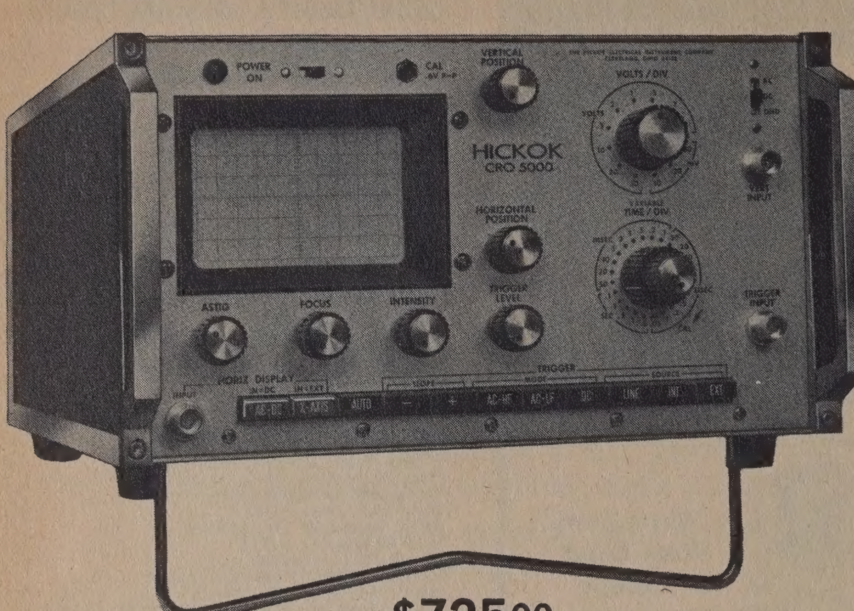




Texscan
Technical Products Division

7707 Records Street
Indianapolis, Indiana 46226
Phone (317) 545-2101
Telex: 27-2110 TWX: 810-341-3184

HICKOK CRO 5000 25 MHz Oscilloscope (all solid state)



$725.00

This high-precision laboratory oscilloscope equals the basic performance of higher priced, sophisticated 'scopes, yet meets the industry need for such performance in the $700 price range. Emphasis has been placed mainly upon those characteristics most important in precise measurements, eliminating some of the more exotic and somewhat superfluous functions found in higher priced instruments. The result is an all-solid-state instrument in the medium price range with extraordinary stability, sensitivity, bandwidth, sweep-speed range, trigger capability, reliability, and ruggedness.

- 25MHz vertical bandwidth (to 3db down points)
- Usable to 50MHz
- All solid state for high stability and reliability
- 12 calibrated vertical attenuator ranges 10 mv/div to 50 volts/div (±3.0% accuracy)
- 24 calibrated sweep ranges 0.05 microseconds/div to 2 sec/div (±3.0% accuracy)
- Vertical delay line assures viewing of full leading edge of pulses
- "Sweep Delay" of up to 40 divisions
- Sweep speed continuously variable between ranges
- X-axis channel bandwidth DC — 5MHz
- 4" flat-faced CRT, 6 x 10 division graticule
- 3.8 kv HV provides sharp, bright trace
- Vertical amplifier will handle overloads, with negligible distortion of waveforms increased to 5 times screen height
- Internal 1.0% calibration squarewave
- Fast, convenient push-button selection of trigger modes
- Positive, solid triggering on all displays
- Small — 11¼" W, 6⅞" H, 19" D; 24 pounds

HICKOK ELECTRICAL INSTRUMENT COMPANY, 10514 Dupont Ave., Cleveland, Ohio 44108

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  Mount Vernon ....N
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Roband Electronics Ltd Surrey ....Englar
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Sencore Inc Addison ....
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ....Japa
Siemens America Inc New York ....N
Simpson Electric Co Chicago ....
Singer Co Instru Div Gertsch Oper Los Angeles C
Solartron Electronic Group Ltd Farnbrough ....Englar
Spedcor Electronics Inc Glendale ....N
Sunshine Scientific Instruments Inc Philadelphia ....F
Taffet Electronics Inc Woodside ....N
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Tektronix Inc Beaverton ....O
Texscan Corp Indianapolis I
Waterman Instrument Corp Hatboro ....F
Wharton Unitools Moosup ....Co

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HEWLETT-PACKARD PALO ALTO ....CA
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TEKTRONIX INC BEAVERTON ORE ....ADV PG 4
TEXSCAN CORP INDIANAPOLIS ....IN
Allco S A Gentilly ....Fran
Allen Aircraft Radio Inc Elk Grove Village ....
Applied Magnetics Corp, Magnetic Tape Head Div Goleta ..C
Beckman Instruments Inc Fullerton, ...C
Binary Electronics of Cal Div Avionic Structures Inc
  Anaheim C
California Instruments Corp San Diego C
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Constructions Radioelectriques Et Electroniques Du Centre
  42 Saint-Etienne ....Fran
Data Instrument Div Pennsauken ....N
Dayton Electronics Products Co Dayton ....O
DuMont Oscilloscope Labs Inc West Caldwell ....N
Dynamco Ltd Chertsey Surrey ....E
Electronic Instrument Div Gen Atronics Corp Philadelphia ..
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City .U
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Hickok Electrical Instrument Co Cleveland ....O
Hickok Teaching Systems Inc Woburn ....M
Honeywell Test Instruments Div Denver C
ITT Aerospace Optical Div Aerospace Oper San Fernando .
Iwatsu Electric Co Ltd Suginami-ku Tokyo ....Ja
Kikusui Electronics Corp
  Kanagawa City ....Kanagawa Pref Ja
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Solartron Electronic Group Ltd Farnbrough ....Engl
Spedcor Electronics Inc Glendale ....
Statham Instruments Inc Oxnard ....
Systems Research Labs Inc Dayton ....(
Tektronix Inc Beaverton ....
Texscan Corp Indianapolis ....
Waterman Instrument Corp Hatboro ....

OSCILLOSCOPES—PORTABLE, DIRECT VIEWING

HEWLETT-PACKARD PALO ALTO ....
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ...(
NIHON KOHDEN KOGYO CO LTD TOKYO ......161 JA
SPEDCOR ELECTRONICS INC GLENDALE ....
TEKTRONIX INC BEAVERTON ORE ....ADV PG
Allen Aircraft Radio Inc Elk Grove Village ....
American Electronic Labs Inc Lansdale ....
Aul Instruments Inc Flushing ....
Beckman Instruments Inc Fullerton, ...
Binary Electronics of Cal Div Avionic Structures Inc
  Anaheim ....
Biocom, Inc Culver City ....
Bradley Ltd G & E London NW 10 ....En
Compagnie Generale de Metrologie Haute Savoie .....Fr
Constructions Radioelectriques Et Electroniques Du Centre
  42 Saint-Etienne ....Fr
Data Instrument Div Pennsauken ....
DuMont Oscilloscope Labs Inc West Caldwell ....
Dynamco Ltd Chertsey Surrey ....
EICO Electronic Instrument Co Inc Brooklyn ....
Electronic Instrument Div Gen Atronics Corp Philadelphia
Hewlett-Packard Palo Alto ....
Hickok Electrical Instrument Co Cleveland ....
I T I Electronics Inc Clifton ....
Iwatsu Electric Co Ltd Suginami-ku Tokyo ....J
Kikusui Electronics Corp
  Kanagawa City ....Kanagawa Pref J
Measurement Control Devices Inc Philadelphia ....
Mennen-Greatbatch Electronics Inc Clarence ....
Motorola Communications & Electronics Inc Chicago ...
Nihon Kohden Kogyo Co Ltd Tokyo 161
Nuclear Supplies Encino ....
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon ....
Radio Corp of America, Electronic Components Harrison
Robertson Instrument Co Azusa ....

re Inc Addison	Ill
ron Electronic Group Ltd Farnbrough	England
or Electronics Inc Glendale	N Y
ine Scientific Instruments Inc Philadelphia	Pa
nix Inc Beaverton	Ore
man Instrument Corp Hatboro	Pa
on Unitools Moosup	Conn
w Tele-Tronics Inc Eatontown	N J

ILLOSCOPES—PROJECTION

uctions Radioelectriques Et Electroniques Du Centre Saint-Etienne	France
Electronics Corp Norwood	N J

ILLOSCOPES—SAMPLING

ETT-PACKARD PALO ALTO	**CAL**
K ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
YWELL TEST INSTRUMENTS DIV DENVER O	**ADV PG 8**
ONIX INC BEAVERTON ORE	**ADV PG 412**
AN CORP INDIANAPOLIS	**IND**
ssociates Cambridge Ltd Cambridge Cb3 8EZ	U K
uctions Radioelectriques Et Electroniques Du Centre Saint-Etienne	France
esearch Labs Inc Oakland	Cal
tt-Packard Palo Alto	Cal
Electrical Instrument Co Cleveland	Ohio
well Test Instruments Div Denver	Colo
Electric Co Ltd Suginami-ku Tokyo	Japan
Electronic Instruments, Test & Measuring Inst int Vernon	NY
nix Inc Beaverton	Ore
an Corp Indianapolis	Ind

ILLOSCOPES—SIGNAL GENERATOR ILT-IN

H CO BENTON HARBOR	**MICH**
ONIX INC BEAVERTON ORE	**ADV PG 412**
Trading Co Ltd Kobe	Japan
Co Benton Harbor	Mich
erospace Optical Div Aerospace Oper San Fernando	Cal
Electric Co Ltd Suginami-ku Tokyo	Japan
tech, Inc Chicago	Ill
nix Inc Beaverton	Ore

ILLOSCOPES—STORAGE TYPE

ETT-PACKARD PALO ALTO	**CAL**
ONIX INC BEAVERTON ORE	**ADV PG 412**
d Magnetics Corp, Magnetic Tape Head Div Goleta	Cal
nco Ltd Chertsey Surrey	Eng
tt-Packard Palo Alto	Cal
u Electric Co Ltd Suginami-ku Tokyo	Japan
nd Dynamics Corp Westbury	N Y
ushita Communication Industrial Co Ltd ohama	Japan
urement Control Devices Inc Philadelphia	Pa
ern Scientific Inc Middleton	Wis
d Electronics Ltd Surrey	England
onix Inc Beaverton	Ore
el & Goltermann, W & G Instr Inc Hanover	N J

ILLOSCOPES—SWEEP GENERATOR

ETT-PACKARD PALO ALTO	**CAL**
RONIX INC BEAVERTON ORE	**ADV PG 412**
CAN CORP INDIANAPOLIS	**IND**
agnie Generale de Metrologie Haute Savoie	France
n Electronics Products Co Dayton	Ohio
se Electronics Div DEI Industries Rockville	Md
nco Ltd Chertsey Surrey	Eng
eering Associates Dayton	Ohio
tt-Packard Palo Alto	Cal
erospace Optical Div Aerospace Oper San Fernando	Cal
u Electric Co Ltd Suginami-ku Tokyo	Japan
ui Electronics Corp agawa City	Kanagawa Pref Japan
ro Denpa Sokki K K Meguro-ku, Tokyo	Japan
nal Camera Dept GA Englewood	Colo
Electronics Ltd Bracknell Berks	England
t Electronics Inc Woodside	N Y
onix Inc Beaverton	Ore
an Corp Indianapolis	Ind

ILLOSCOPES—SYNCHROSCOPES

ETT-PACKARD PALO ALTO	**CAL**
RONIX INC BEAVERTON ORE	**ADV PG 412**
Electric Co Ltd Ohta-ku, Tokyo	Japan
nstruments Inc Flushing	NY
ructions Radioelectriques Et Electroniques Du Centre Saint-Etienne	France
n Electronics Products Co Dayton	Ohio
ett-Packard Palo Alto	Cal
u Electric Co Ltd Suginami-ku Tokyo	Japan
ui Electronics Corp agawa City	Kanagawa Pref Japan
ushita Electric Industrial Co Ltd Osaka	Japan
Mfg Co Inc, James Malden	Mass
ar Supplies Encino	Cal
Electric Co Ltd Woodside	N Y
onix Inc Beaverton	Ore

OSCILLOSCOPES—TRAVELING WAVE

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
TEKTRONIX INC BEAVERTON ORE	**ADV PG 412**
Nippon Electric Co Ltd Tokyo	Japan
Tektronix Inc Beaverton	Ore

OUTPUT METERS

***See* Meters—Output**

OVENS—CRYSTAL

ELECTRONIC RESEARCH CO, A TEXTRON CO OVERLAND PARK KAN	**ADV PG 415**
INTERNATIONAL CRYSTAL MFG CO INC OKLAHOMA CITY	**OKLA**
NORTHERN ENGINEERING LABS INC BURLINGTON WIS	**ADV PG 211**
PETERSEN RADIO CO INC COUNCIL BLUFFS	**IOWA**
REEVES-HOFFMAN DIV CARLISLE PA	**ADV PG 212**
SPEDCOR ELECTRONICS INC GLENDALE	**N Y**
Accutronics, Inc Geneva	Ill
Betron-IRE-SpA Livorno	Italy
Bliley Electric Co Erie	Pa
Bulova Watch Co Inc Elctns Div Frequency Control Prods Woodside	N Y
Cathodeon Crystals Ltd Cambridge	Eng
Clark Crystal Corp Marlboro	Mass
Cox & Company, Inc New York	NY
CTS Corp Elkhart	Ind
CTS Electronics Inc South Pasadena	Cal
CTS Knights Inc Sandwich	Ill
Defense Electronics Div DEI Industries Rockville	Md
Dietz Design Inc Belton	Mo
Electro-Flex Heat Inc Bloomfield	Conn
Electronic Research co, A Textron Co Overland Park	Kan
Erie Technological Products Inc Erie	Pa
Frequency Electronics Inc New Hyde Park	N Y
Glentronics Inc Glendora	Cal
Harrel Inc East Norwalk	Conn
High Vacuum Equipment Corp Hingham	Mass
Hill Electronics Inc Erie Freq Control Div Carlisle	Pa
Hunt Co, Erie Freq Control Div Carlisle	Pa
International Crystal Mfg Co Inc Oklahoma City	Okla
Kahle Engineering Co Union City	N J
Kidde & Co Inc, Walter Belleville	N J
Kinsekisha Lab Ltd Tokyo	Japan
Lake Engineering Co Ltd Scarborough	Ont
Lindberg Hevi-Duty Div Sola Basic Industries Chicago	Ill
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
McCoy Electronics Co, Sub Oak Electro/Netics Corp Mount Holly Springs	Pa
Monitor Products Co Inc South Pasadena	Cal
Northern Engineering Labs Inc Burlington	Wis
Ovenaire Inc Charlottesville	Va
Oven Industries Mechanicsburg	Pa
Petersen Radio Co Inc Council Bluffs	Iowa
Piezo Crystal Co Carlisle	Pa
Plessey Co Ltd Ilford Essex	England
Reeves-Hoffman Div Carlisle	Pa
Robins Electronics La Mesa	Cal
Safeway Heat Elements Inc Middletown	Conn
Signet Scientific Co Burbank	Cal
Spedcor Electronics Inc Glendale	N Y
Standard Crystal Co Alhambra	Cal
Technical Materiel Corp Mamaroneck	N Y
Transcom Electronics Inc La Mesa	Cal
Valpey-Fisher Corp Holliston	Mass
Westcott Electronics Clifton	NJ
Winslow Tele-Tronics Inc Eatontown	N J

OVENS & DRYERS

BLUE M ENGINEERING CO BLUE ISLAND	**ILL**
GRANVILLE-PHILIPS CO BOULDER	**COLO**
KRESSILK PRODUCTS INC ELMSFORD	**N Y**
Abar Corp Feasterville	Pa
Advanced Technology Corp Chambersburg	Pa
American Instrument Co, Inc Silver Spring	Md
Associated Testing Labs, Inc Wayne	N J
Atlas Engineering Corp West Hartford	Conn
Auto-Control Labs Div Rucker Co Los Angeles	Cal
Baker Co, Inc Biddeford	Me
Blue M Engineering Co Blue Island	Ill
BTU Engineering Corp Waltham	Mass
Central Scientific Co Chicago	Ill
Clean Room Products Inc Farmingdale	N Y
Cleveland Process Corp Cleveland	Ohio
C M Mfg Co Bloomfield	N J
Cole-Parmer Instrument Co Chicago	Ill
Despatch Oven Co Minneapolis	Minn
De Vilbiss Co Toledo	Ohio
Electra Products Inc Montgomeryville	Pa
Feco A Bangor Punta Co Cleveland	Ohio
Forma Scientific Inc Marietta	Ohio
Fostoria-Fannon Inc Fostoria	Ohio
Gardner Lab Inc Bethesda	Md
Granville-Philips Co Boulder	Colo
Grieve Corp Chicago	Ill
Gruenberg Electric Co Inc Garden City	N Y
Gyrex Products, Varo Inc Santa Barbara	Cal
Hafstrom Technical Products Inc San Diego	Cal
Hayakawa Electric Co Ltd Osaka	Japan
Hayes Inc, C I Cranston	R I
Hirst Electric Industries Ltd Crawley, Sussex	England
Hotpack Corp Philadelphia	Pa
Hull Corp Hatboro	Pa
Huppert Co, K H South Holland	Ill
Industrial Refrigeration Co Inc Los Angeles	Cal
Infra-Red Systems Inc Riverdale	N J
Interlab Inc Pleasantville	N Y
Ipsen Industries Div Alco Standard Corp Cherry Valley	Ill

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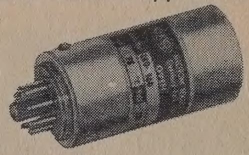

ERO—710 Solid State Adjustable

CAVITY: One HC-6/u
HEADER: Octal
TEMPERATURE SETTING: 50°C to 95°C
SETTING TOLERANCE: ± 0.1°C
WARM-UP: 30 min. from — 30°C
VOLTAGE: 6 to 120 volt AC, 12 to 28 volt DC
POWER: 6 watts
SIZE: 1.437 x 1.875 x 3.437

ERO 800-133, Component

CONTROL: Solid State Proportional
VOLTAGE: 28 Vdc
CAVITY TEMP: 90° C ± 2° C
CAVITY REGULATION: ± 1° C stability over ambient (— 55° C to + 85° C)
WARM-UP: 20 min. from — 55° C within ± 2° of set point
SIZE: 1.50 x 1.75 x 1.75 ht.

ERO—160 Solid State SCR

CAVITY: One HC-6/u
HEADER: Octal
TEMPERATURE SETTING: 60°C, 75°C, 85°C are standard
SETTING TOLERANCE: ± 2.5°C at 25°C ambient
WARM-UP: Within 0.1°C in 15 min. at 25°C ambient
VOLTAGE: 6 thru 120 volts AC
POWER: 2 watts average
SIZE: 1.5 OD x 2.75 seated

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Jelrus Instrument Corp New Hyde Park .... N Y
Jersey Technical Consultants Morristown .... NJ
Kahle Engineering Co Union City .... N J
Kahn & Co Inc Wethersfield .... Conn
Kepro Circuit Systems Inc St Louis .... Mo
Kewaunee Scientific Equipment Adrian .... Mich
Kirk & Blum Mfg Co Cincinnati .... Ohio
Kressilk Products Inc Elmsford .... N Y
Lab-Line Instruments Inc Melrose Park Ill
Larose & Assoc Inc, W T Cohoes .... NY
Lindberg Hevi-Duty Div Sola Basic Industries Chicago Ill
Lindsay Structures Div, Intl Steel Co Evansville .... Ind
Litton Industries, Atherton Div Minneapolis .... Minn
Merco Products Inc Eugene .... Ore
Michigan Oven Co Romulus .... Mich
Norton Vacuum Equipment Div, Columbus Plant Columbus .... Ohio
Nuclear Equipment Chemical Corp Farmingdale .... N Y
OAL Associates Inc Westbury .... N Y
Oven Industries Mechanicsburg .... Pa
Podgor Co Inc, Joseph E Philadelphia .... Pa
Precision Scientific Co Sub GCA Corp Chicago Ill
Precision Systems Co, Inc Somerville .... NJ
Ramyr Mfg Co Buena Park .... Cal
Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
Red Point Corp Burbank .... Cal
Reeve Electronics Inc Chicago Ill
REF Dynamics Div UOP Mineola .... N Y
Sanders Associates, Inc Nashua .... N H
Sanyo Electric Co Ltd Osaka .... Japan
Selas Corp of America Dresher .... Pa
Standard Cabinet Co Inc Totowa .... N J
Taylor-Winfield Corp Warren .... Ohio
Tenvac, Inc Pembroke .... Mass
T-M Vacuum Products Riverton .... N J
Trent Inc Philadelphia .... Pa
Trought Associates Inc Belleville .... N J
Vacuum/Atmospheres Corp N Hollywood .... Cal

PACKAGED CIRCUITS

See **Modules**

PACKAGING MATERIALS

FLEX PRODUCTS CORP CARLSTADT N J .... ADV PG 416
PANTA-PAK DIV PANTASOTE CO NEW YORK NY .... ADV PG 417
Advanced Purification System Co Inc Great Neck .... N Y
Akro-Mils, Inc Akron .... Ohio
Alessi Industries El Segundo .... Cal
Aluminum Co of America Pittsburgh .... Pa
American Latex Fibre Corp Lawrence .... Mass
Anchor Plastics Co Inc Long Island City .... N Y
Avisun Corp Philadelphia .... Pa
Baker Castor Oil Co Bayonne .... N J
Barry Controls Div Barry Wright Corp Watertown .... Mass
Bemis Co, Inc Minneapolis .... Minn
Borden Chemical Div Borden Inc New York .... N Y
Bostitch Div Textron Inc East Greenwich .... R I
Celanese Plastics Co Newark .... NJ
Clean Room Products Inc Farmingdale .... N Y
Clevepak Corp New York .... NY
Corning Glass Works Corning .... N Y
Corrugated Paper Products Inc Roosevelt .... N Y
Cryo-Therm Inc Fogelsville .... Pa
Cryplex Industries Inc Flushing .... N Y
Crystal-X Corp Darby .... Pa
Daubert Chemical Co Oak Brook Ill
Dayton Aircraft Products Inc Fort Lauderdale .... Fla
Dow Chemical Co Midland .... Mich
Dow Corning Corp Midland .... Mich
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Extrudapak Div Valor Instruments Inc Torrance .... Cal
Federal Package Corp Minneapolis .... Minn
Flex Products Corp Carlstadt .... N J
Fox Co, C J Providence .... R I
Furane Plastics Inc Los Angeles .... Cal
General Binding Corp Northbrook Ill
General Electric Co Silicone Prods Dept Waterford .... N Y
Isochem Resins Co Lincoln .... RI
Koppers Co Inc Pittsburgh .... Pa
Mason Mfg. Co. East Providence .... R I
Master Tape Printers Inc Chicago Ill
MB Bedding Co Wilkes-Barre .... Pa
Minigrip, Inc Orangeburg .... N Y
3M Company St Paul .... Minn
Muckle Mfg Co Owatonna .... Minn
Nopco Chemical Div Diamond Shamrock Chem Co Newark .... N J
Owens-Illinois Consumer & Tech Products Div Toledo .... Ohio
Panel Controls Corp Detroit .... Mich
Panta-Pak Div Pantasote Co New York .... NY
Peter Partition Corp Brooklyn .... N Y
Plastofilm Inc Wheaton Ill
Porter H K Co Inc, Thermoid Div Pittsburgh .... Pa
Pres-On Products Co Addison Ill
Rectico Inc Cedar Grove .... N J
Republic Steel Corp Cleveland .... Ohio
Schjeldahl Co, G T Northfield .... Minn
Smith Inc, Herman H Brooklyn .... N Y
Stauffer Chemical Co, Plastics Div New York .... N Y
Stevens Products Inc East Orange .... N J
Stevens Tubing Corp East Orange .... N J
Topper Plastics Inc Covina .... Cal
Transene Co Inc Rowley .... Mass
Union Carbide Corp Chemicals & Plastics New York .... N Y
United Mineral & Chemical Corp New York .... N Y
United Packaging Corp Georgetown .... Mass
Vector Electronic Co Inc Sylmar .... Cal
Zero Mfg Co Burbank .... Cal

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Alessi Industries El Segundo ....
Amatom Electronic Hardware New Rochelle ....
American Cable Electronic Supply Inc Sacramento ....
American Latex Fibre Corp Lawrence ....
Analog Technology Corp Pasadena ....
Bal Corp, William Elizabeth ....
Barry Controls Div Barry Wright Corp Watertown ....
Brown Engineering-A Teledyne Co Huntsville ....
Canoga Industries Los Angeles ....
Castall Research Lab Inc Brockton ....
Clean Room Products Inc Farmingdale ....
Corning Glass Works Corning ....
Cryplex Industries Inc Flushing ....
Crystal-X Corp Darby ....
Dayton Aircraft Products Inc Fort Lauderdale ....
Eugene Engineering Co Inc Rockland ....
Hardman Incorporated Belleville ....
Hightemp Resins Inc Stamford ....
Lance Antenna Corp Sylmar ....
MB Bedding Co Wilkes-Barre ....
Miller-Stephenson Chemical Co Inc Danbury ....
Minigrip, Inc Orangeburg ....
3M Company St Paul ....
Mitronics Inc Murray Hill ....
Mutron Corp Brockton ....
Paraplegics Mfg Co Inc Bensenville ....
Parker Metal Goods Co Worcester ....
Peter Partition Corp Brooklyn ....
Plastofilm Inc Wheaton ....
Rectico Inc Cedar Grove ....
Research Instrument Co Inc Westbury ....
Rockland Labs Inc Blauvelt ....
Rye Industries, Inc Mamaroneck ....
Stauffer Chemical Co, Plastics Div New York ....
Topper Plastics Inc Covina ....
Tra-Con, Inc Medford ....
United Packaging Corp Georgetown ....
Waldom Electronics Inc Chicago ....
Western Coil & Electrical Co Racine ....

PAGING SYSTEMS

See **Sound Systems**

PAINTS—LUMINOUS

Black Light Products Chicago ....
Canrad Precision Industries Inc New York ....
Carboline Co St Louis ....
G C Electronics Div, Hydrometals Inc Rockford ....
Illinois Bronze Powder & Paint Co Lake Zurich ....
Micro-Circuits Co New Buffalo ....
3M Company St Paul ....
Product Techniques, Inc Downey ....
Shannon Luminous Materials Co Hollywood ....
Stroblite Co Inc New York ....
Ultra-Violet Products Inc San Gabriel ....

PAINTS & PRIMERS—METAL

See Also **Lacquers**

Allaco Products Braintree ....
Barrett Varnish Co Cicero ....
Carboline Co St Louis ....
Castall Research Lab Inc Brockton ....
Chemical Products Corp E Providence ....
Conap Inc Allegany ....
Conversion Chemical Corp Rockville ....
Du Pont De Nemours & Co Inc E I Wilmington ....
Emerson & Cuming Inc Canton ....
G C Electronics Div, Hydrometals Inc Rockford ....
Holbrook Merrill Co Sunnyvale ....
Illinois Bronze Powder & Paint Co Lake Zurich ....
Insl-X Products Corp Yonkers ....
Koppers Co Inc Pittsburgh ....
Markal Co Chicago ....
Mereco Prods Inc, Div Metachem Resins Corp Cransto
Miller-Stephenson Chemical Co Inc Danbury ....
3M Company St Paul ....
Photo Chemical Products Inc Santa Monica ....
Podgor Co Inc, Joseph E Philadelphia ....
Product Techniques, Inc Downey ....
Schenectady Chemicals Inc Schenectady ....
Sperex Corp Los Angeles ....
Sterling Div. Reichhold Chemicals Inc. Sewickley ....
Vacuum Metallizing Van Nuys ....
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin ....
Wornow Process Paint Co Los Angeles ....

PAINTS, PRINTED CIRCUIT—CONDUCTIVE

KRESSILK PRODUCTS INC ELMSFORD ....
Acheson Colloids Co Port Huron ....
Acme Chemicals & Insulation New Haven ....
Anchor Alloys Inc Brooklyn ....
Anchor Metal Co, Inc Div Brooklyn ....
Chomerics, Inc Arlington ....
Conap Inc Allegany ....
Cramco Solder Alloys Scarborough ....
Du Pont De Nemours & Co Inc E I Wilmington ....
Dynaloy, Inc Hanover ....
Electro Science Labs Inc Philadelphia ....
Emerson & Cuming Inc Canton ....
Fansteel Inc North Chicago ....
Huron Industries Port Huron ....

nem Resins Co Lincoln	RI
silk Products Inc Elmsford	N Y
bert Co, Inc Boston	Mass
n Co, Henry Cornwell Heights	Pa
erials for Electronics, Inc Jamaica	N Y
eco Prods Inc, Div Metachem Resins Corp Cranston	RI
aplast Electrochemicals Corp Bronx	N Y
o-Circuits Co New Buffalo	Mich
gor Co Inc, Joseph E Philadelphia	Pa
uct Techniques, Inc Downey	Cal
evelt Metal Co Inc Brooklyn	N Y
hine Scientific Instruments Inc Philadelphia	Pa
ura Seisakusho Co, Ltd Nerima-Ku, Tokyo	Japan
form Labs Inc Venice	Cal
ni-Tool Inc Philadelphia	Pa
Con, Inc Medford	Mass
sene Co Inc Rowley	Mass
ed American Metals Div Brooklyn	N Y
now Process Paint Co Los Angeles	Cal

INTS, PRINTED CIRCUIT—RESISTIVE

SSILK PRODUCTS INC ELMSFORD	**N Y**
eson Colloids Co Port Huron	Mich
all Research Lab Inc Brockton	Mass
ap Inc Allegany	N Y
nco Solder Alloys Scarborough	Ont
Chemicals Dresher	Pa
aloy, Inc Hanover	N J
tro Materials Corp of America Mamaroneck	N Y
tro Science Labs Inc Philadelphia	Pa
rson & Cuming Inc Canton	Mass
eral Research Inc Sparta	Mich
Chemical Corp, Philip A Palisades Park	N J
on Industries Port Huron	Mich
X Products Corp Yonkers	N Y
hem Resins Co Lincoln	RI
ro Circuit Systems Inc St Louis	Mo
silk Products Inc Elmsford	N Y
bert Co, Inc Boston	Mass
don Chemical Co Inc Bensenville	Ill
eco Prods Inc, Div Metachem Resins Corp Cranston	RI
ro-Circuits Co New Buffalo	Mich
er-Stephenson Chemical Co Inc Danbury	Conn
-Dar Co Chicago	Ill
nsylvania Industrial Chemical Corp Clairton	Pa
gor Co Inc, Joseph E Philadelphia	Pa
co Chemical Corp Plainview	N Y
duct Techniques, Inc Downey	Cal
nform Labs Inc Venice	Cal
per Mfg Co Inc Great Neck	NY

INTS—TEMPERATURE INDICATING

DY CO, W H MILWAUKEE	**WIS**
dy Co, W H Milwaukee	Wis
tall Research Lab Inc Brockton	Mass
don Co Claud S Richmond	Ill
Inc E Vernon San Francisco	Cal
X Products Corp Yonkers	N Y
n Co, Henry Cornwell Heights	Pa
kal Co Chicago	Ill
pil Div Big Three Ind Gas & Equip Co New York	N Y

LLADIUM

CO, J M BLOOMFIELD	**CONN**
HNIC INC CRANSTON	**RI**
LIAMS GOLD REFINING CO INC PRECIOUS METALS DIV UFFALO	**N Y**
erican Silver Co Div Flushing	N Y
hor Alloys Inc Brooklyn	N Y
hor Metal Co, Inc Div Brooklyn	N Y
nergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg orp Carle Place	N Y
inin Corp Mt Vernon	NY
m Metallurgical Chemical Co Philadelphia	Pa
Chemical Corp New York	N Y
tern Smelting & Refining Corp Lynn	Mass
tronic Space Products Inc Los Angeles	Cal
tro Science Labs Inc Philadelphia	Pa
elhard Minerals & Chemicals Corp, Engelhard Indus Div ewark	N J
roved Seamless Wire Co Providence	R I
nson Matthey & Mallory Ltd Toronto 15	Ont
h Light Labs Ltd Colnbrook, Bucks	England
ch & Garner Co, Industrial Div Attleboro	Mass
ckay Inc, A D New York	N Y
terials Research Corp Orangeburg	N Y
tsunaga Mfg Co Ltd Tokyo	Japan
tthey Bishop Inc Malvern	Pa
al Ceram Inc Mount Vernon	N Y
z Refining Co South Plainfield	N J
Co, J M Bloomfield	Conn
sciences Inc Warrington	Pa
sevelt Metal Co Inc Brooklyn	N Y
ni-Alloys Inc Mt Vernon	N Y
ni-Elements Inc Saxonburg	Pa
mons Refining Corp Chicago	Ill
hnic Inc Cranston	RI
ted American Metals Div Brooklyn	N Y
ted Mineral & Chemical Corp New York	N Y
ted Refining & Smelting Co Franklin Park	Ill
-Lac-Oid Chemical Co Elizabeth	N J
tron Electronics Corp, Controls/Matls Div Bradford	Pa
stern Gold & Platinum Co Belmont	Cal
kinson Co Westlake Village	Cal
iams Gold Refining Co Inc Precious Metals Div Buffalo	N Y

ANEL LAMPS

***See* Lamps**

PANEL METERS

***See* Meters—Panel**

PANELS—INSTRUMENT

BORG-WARNER CORP, INGERSOLL PRODUCTS DIV (EMCOR) CHICAGO	**ILL**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
KINETRON CORP ASBURY PARK	**NJ**
Abtronics, Inc Livermore	Cal
Acromark Co Berkeley Heights	N J
Acro Products Corp Chicago	Ill
Aerolite Electronics Corp Union City	N J
Aerospace Systems A Teledyne Co Fairmont	Minn
Aetna Electronics Corp North Branch	N J
Alden Products Co, Inc Brockton	Mass
Amco Engineering Co Chicago	Ill
American Aluminium Co Mountainside	N J
American Cable Electronic Supply Inc Sacramento	Cal
American Engraving Inc Mangum	Okla
Anchor Specialty Mfg Co Inc Teterboro	N J
Anodyne, Inc N Miami Beach	Fla
Apahouser Corp of N E Boston	Mass
Atmar Engraving Co Inc Richmond Hill	N Y
Audn Corp Hamburg	N Y
Bailey Meter Co Wickliffe	Ohio
Baltic Metal Products Co Brooklyn	N Y
Barth Corp Cleveland	Ohio
Beckman Instruments Inc Fullerton,	Cal
Best Mfg Co Kansas City	Mo
Binary Electronics of Cal Div Avionic Structures Inc Anaheim	Cal
Bodnar Products Corp New Rochelle	N Y
Borg-Warner Corp, Ingersoll Products Div (EMCOR) Chicago	Ill
Calcor Space Facility Inc Whittier	Cal
California Chassis Co Lynwood	Cal
Canoga Industries Los Angeles	Cal
Canrad Precision Industries Inc New York	N Y
CBC Industries Inc Philadelphia	Pa
Churchill Corp Melrose	Mass
Compudyne Corp Hatboro	Pa
Computer Metal Reg'd Montreal 376	Que
Consolidated Electric Corp Seattle	Wash
Control Products Corp Chicago	Ill
Corry Jamestown Corp Div Singer Co Corry	Pa
Cosmos Industries Inc Brooklyn	N Y
Dahlstrom Mfg Corp Jamestown	N Y
Dalto Electronics Corp Norwood	N J
Devco Engineering Inc Fairfield (Caldwell)	N J
Dietz Co Inc, Henry G Long Island City	N Y
Dixson Inc Meter Div Grand Junction	Colo
Drake Mfg Co Harwood Heights	Ill
Dynalectron Corp Aerospace Prods Div San Leandro	Cal
Edison, Thomas A Industries, Instr Div West Orange	N J
Electro-Chemical Engraving Co Inc Bronx	N Y
Electronic Control Systems Inc Fairmont	W Va
Electrorack Products Co Anaheim	Cal
Eljay Corp Columbia	Md
Elzee Metal Products Co Inc Brooklyn	N Y
Epco Plastics Corp Glen Cove	NY
Equipto Enclosure Systems Div Equipto Elctns Corp Aurora	Ill
Eugene Engineering Co Inc Rockland	Mass
Ever Ready Label Corp Belleville	N J
Falstrom Co Passaic	N J
Feay Co, Neal Goleta	Cal
Fisher & Crome, Inc Philadelphia	Pa
F & M Systems Co, Div Fischbach & Moore, Inc Dallas	Tex
Fuji Electric Co Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
Gentape Corp Bloomfield	N J
Golden Technology Inc Santa Rosa	Cal
Golding Mfg Co North Arlington	N J
Graphtex Inc Lodi	N J
Hersey-Sparling Meter Co El Monte	Cal
Hoffman Engineering Co, Div Fed Cartridge Corp Anoka	Minn
Holbrook Merrill Co Sunnyvale	Cal
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Honeywell Industrial Div Fort Washington	Pa
Horlick Co Inc, William I Boston	Mass
Industrial Components Inc Div Welsh Corp Beaverton	Ore
Industrial Engravers Inc Jamaica	N Y
Insulating Fabricators Inc East Rutherford	N J
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Markon Mfg Inc Englewood	Colo
Marlin Mfg Corp Cleveland	Ohio
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Metal Etching Corp Freeport	N Y
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Mid-West Metal Products Inc Kansas City	Kans
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Molecular Research Inc Palm Beach Gardens	Fla
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Muckle Mfg Co Owatonna	Minn
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Numar Corp New York	N Y
Pabst Engineering Equipment Co Inc Elizabeth	NJ
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  Meriden .... Conn
ADC Products Minneapolis .... Minn
Aerolite Electronics Corp Union City .... N J
Aetna Electronics Corp North Branch .... N J
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Apahouser Corp of N E Boston .... Mass
Audio Accessories, Inc Gilsum .... N H
Ava Electronics & Machine Corp Upper Darby .... Pa
Bayly Engineering Ltd Ajax .... Ont
Best Mfg Co Kansas City .... Mo
Cambridge Thermionic Corp Cambridge .... Mass
CBC Industries Inc Philadelphia .... Pa
Control Products Corp Chicago Ill
Cooke Engineering Co Alexandria .... Va
Co-Ord Div LVC Industries Inc Corona .... NY
Devco Engineering Inc Fairfield (Caldwell) .... N J
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Eljay Corp Columbia .... Md
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Fisher & Crome, Inc Philadelphia .... Pa
Glesco Electronics Inc Rockford Ill
Impectron Inc New York .... N Y
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Jensen Mfg Div, The Muter Co Chicago Ill
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Markon Mfg Inc Englewood .... Colo
Marlin Mfg Corp Cleveland .... Ohio
Methode Electronics Inc Chicago Ill
Mid-West Metal Products Inc Kansas City .... Kans
Mobil Electronics Inc Anderson .... Ind
M-T Electronics Co San Leandro .... Cal
Omega Engineering Inc Stamford .... Conn
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Rowe Co, L L Boston .... Mass
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Tele-Signal Corp Sub Singer Co Woodbury .... N Y
Transitron Electronic Corp Wakefield .... Mass
Trompeter Electronics Inc Chatsworth .... Cal
Tru-Connector Corp Peabody .... Mass
United States Radium Corp Morristown .... N J
Vector Electronic Co Inc Sylmar .... Cal
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VP Co Pasadena .... Cal
Whistler Electronics Inc Northridge .... Cal

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Plessey Co Ltd Ilford Essex .... England

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Atmar Engraving Co Inc Richmond Hill .... N Y
Best Mfg Co Kansas City .... Mo
Bodnar Products Corp New Rochelle .... N Y
Canrad Precision Industries Inc New York .... N Y
CBC Industries Inc Philadelphia .... Pa
Coastal Dynamics Corp Venice .... Cal
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Dialight Corp Brooklyn .... N Y
Dura Plastics of N Y Inc Westport .... Conn
Eljay Corp Columbia .... Md
Felsenthal Instruments Co Chicago Ill
Gentape Corp Bloomfield .... N J
Grimes Mfg Co Urbana .... Ohio
Industrial Engravers Inc Jamaica .... N Y
Markon Mfg Inc Englewood .... Colo

Master Engraving East Paterson .... N J
McCullough Aero Corp Hawthorne .... Cal
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Opcalite Inc Santa Ana .... Cal
Oppenheimer, Inc Willow Grove .... Pa
Panob Corp Port Chester .... N Y
Photo Chemical Products Inc Santa Monica .... Cal
Stafford Mfg Co Inc Brooklyn .... N Y
Sun Dial & Panel Corp Caldwell .... N J
Symbolic Displays Inc Orange .... Cal
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VENT-RAK INC INDIANAPOLIS IND .... ADV PG 68
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ADC Products Minneapolis .... Minn
Aerolite Electronics Corp Union City .... N J
Aetna Electronics Corp North Branch .... N J
Amco Engineering Co Chicago Ill
Anchor Specialty Mfg Co Inc Teterboro .... N J
Apahouser Corp of N E Boston .... Mass
Aracon Electronics Inc New York .... N Y
Baltic Metal Products Co Brooklyn .... N Y
Barth Corp Cleveland .... Ohio
Best Mfg Co Kansas City .... Mo
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  Anaheim .... Cal
Bogen Communications Div Lear Siegler Inc Paramus .... N J
Borg-Warner Corp, Ingersoll Products Div (EMCOR)
  Chicago Ill
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California Chassis Co Lynwood .... Cal
Canoga Industries Los Angeles .... Cal
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Churchill Corp Melrose .... Mass
Compudyne Corp Hatboro .... Pa
Control Products Corp Chicago Ill
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Electrorack Products Co Anaheim .... Cal
Eljay Corp Columbia .... Md
Elzee Metal Products Co Inc Brooklyn .... N Y
Enclosure Corp Pennsauken .... N J
Equipment & Service Co Dallas .... Tex
Equipto Enclosure Systems Div Equipto Elctns Corp Aurora Ill
Eugene Engineering Co Inc Rockland .... Mass
Feay Co, Neal Goleta .... Cal
Friedel Electronics Panel Co South Gate .... Cal
General Electric Co, ECSO Schenectady .... N Y
Golding Mfg Co North Arlington .... N J
Hartman Electrical Mfg Co Mansfield .... Ohio
Holbrook Merrill Co Sunnyvale .... Cal
Honeywell Inc Apparatus Controls Div Minneapolis .... Minn
Honeywell Industrial Div Fort Washington .... Pa
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Kirk & Blum Mfg Co Cincinnati .... Ohio
Markon Mfg Inc Englewood .... Colo
Metal Works Inc Hermann .... Mo
Mid-West Metal Products Inc Kansas City .... Kans
Miller Dial & Name Plate Co El Monte .... Cal
Mobil Electronics Inc Anderson .... Ind
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Panob Corp Port Chester .... N Y
Par-Metal Products Div EON Corp Long Island City .... N Y
Premier Metal Products Co Bronx .... N Y
Private Tele Communications Inc Chicago Ill
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REF Dynamics Div UOP Mineola .... N Y
Riester & Thesmacher Co Cleveland .... Ohio
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Vent-Rak Inc Indianapolis .... Ind

PAPER—CAPACITOR

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Pellon Corp, Ind Div Lowell .... Mass
Schweitzer, Peter J, Div, Kimberly-Clark Corp Lee .... Mass
Stevens Paper Mills Inc Windsor .... Conn
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***See* Facsimile Equipment**

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Fitchburg Coated Products Inc Scranton .... Pa
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Gasket Mfg Co Inc Carson .... Cal
G C Electronics Div, Hydrometals Inc Rockford Ill

Insulating Fabricators Inc East Rutherford ....
Insulating Fabricators of N E Inc Watertown .... Ma
Leed Insulator Corp Los Angeles ....
3M Company St Paul .... M
NVF Co Wilmington ....
Penn Fibre & Specialty Co Philadelphia ....
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Staff Gasket Mfg Corp New York ....

PAPER, GRAPH—IMPEDANCE CHART

DRANETZ ENGINEERING LABS INC PLAINFIELD ....
Alford Mfg Co Winchester .... M
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Dranetz Engineering Labs Inc Plainfield ....
General Radio Co West Concord .... M
Graphic Controls Corp Buffalo ....
Rantec Div Emerson Electric Co Calabasas ....
Techni-Rite Electronics Inc Warwick ....

PAPER, GRAPH—LOGARITHMIC

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NVF Co Wilmington ....
Pellon Corp, Ind Div Lowell ....
Penn Fibre & Specialty Co Philadelphia ....
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Schweitzer, Peter J, Div, Kimberly-Clark Corp Lee .... M
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PAPER—MOLDED PARTS

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n Palo Alto	Cal

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ro Inc Div Felt Products Mfg Co Skokie	Ill
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Co Wilmington	Del
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PHASE-ANGLE METERS

***See* Meters—Phase-Angle**

PHASE COMPARATORS

***See* Comparators**

PHASE MODULATORS

***See* Modulators**

PHASE-SEQUENCE INDICATORS

***See* Indicators—Phase-Sequence**

PHASE SHIFTERS

***See* Shifters—Phase**

PHASING NETWORKS—DIRECTIONAL ANTENNA

***See* Networks**

PH CONTROLS

***See* Controls—pH**

PHENOLIC LAMINATES

***See* Laminates—Copper-Clad**

PHENOLICS

***See* Plastics**

PH INDICATORS

***See* Indicators—pH**

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PHOSPHIDES

***See* Intermetallics**

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Brush Beryllium Co Cleveland .... Ohio
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Chase Metals Service Div Chase Brass & Copper Co
  Cleveland .... Ohio
General Findings Co Industrial Div Attleboro .... Mass
Hamilton Precision Metals Div Hamilton Watch Co
  Lancaster .... Pa
Janney Cylinder Co Sub Edgewater Corp Philadelphia ..... Pa
Leach & Garner Co, Industrial Div Attleboro .... Mass
Mackay Inc, A D New York .... N Y
Metal Ceram Inc Mount Vernon .... N Y
Mitsubishi Electric Corp Tokyo .... Japan
Montgomery Co Windsor Locks .... Conn
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Revere Copper & Brass, Inc New York ....
Saxton Products Inc Congers ....
Semi-Alloys Inc Mt Vernon ....
Somers Thin Strip Inc Sub Olin Waterbury C
Steel Heddle Mfg Co Philadelphia ....
Unibraze Corp White Plains ....
Uniform Tubes Inc Collegeville ....

PHOSPHOROUS—HIGH PURITY

Anchor Alloys Inc Brooklyn ....
Anchor Metal Co, Inc Div Brooklyn ....
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical
  Corp Carle Place ....
City Chemical Corp New York ....
Electronic Space Products Inc Los Angeles ....
Griffiths Electronics Inc Linden ....
Koch Light Labs Ltd Colnbrook, Bucks .... Engl
Mackay Inc, A D New York ....
Metal Ceram Inc Mount Vernon ....
Rocky Mountain Research Inc Denver ....
Roosevelt Metal Co Inc Brooklyn ....
Semi-Alloys Inc Mt Vernon ....
Semi-Elements Inc Saxonburg ....
Shannon Luminous Materials Co Hollywood ....
Transene Co Inc Rowley .... M
United American Metals Div Brooklyn ....
United Mineral & Chemical Corp New York ....
Var-Lac-Oid Chemical Co Elizabeth ....
Ventron Electronics Corp, Controls/Matls Div Bradford ..

PHOSPHORS

***See* Fluorescent Compounds**

PHOTOCELLS

***See* Cells—Photoelectric**

PHOTOCONDUCTIVE CELLS

***See* Cells—Photoelectric**

PHOTOCOPY MACHINES

***See* Machines—Copying**

PHOTODIODES

***See* Diodes—Crystal**

PHOTOELECTRIC CELLS

***See* Cells—Photoelectric**

PHOTOELECTRIC CHOPPERS

***See* Choppers**

PHOTOELECTRIC CONTROLS

***See* Controls—Photoelectric**

PHOTOELECTRIC COUNTERS

***See* Counters—Photoelectric**

PHOTOELECTRIC DENSITY CONTROLS

***See* Controls—Density**

PHOTOELECTRIC DIMENSION GAGES

***See* Gages—Dimension**

PHOTOELECTRIC PANELS

***See* Panels Photoelectric**

PHOTOELECTRIC PUNCHED-TAPE READERS

***See* Readers**

PHOTOELECTRIC SOURCE LAMPS

***See* Lamps**

PHOTO-ETCHED COMPONENTS

***See* Etching Services**

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A V Electronics, Inc Fresno C

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& G Inc, Electronic Prods Div Boston ..... Mass
tro Powerpacs Corp Cambridge ..... Mass
nini-Voltex-Radex-Irvine Whittier ..... Cal
ro Products Div Dillingham Corp San Diego ..... Cal
rnational Light Inc Newburyport ..... Mass
Electro-Systems Inc Hicksville ..... N Y
er Tool Corp. Framingham ..... Mass
omechanisms Inc Plainview ..... N Y
e Instruments Inc White Plains ..... N Y
G I E 75 Paris 19e ..... France
on Co Medford ..... Mass

IOTOFLASH TUBES

See **Lamps**

IOTOGRAPHIC FILM RECORDERS

See **Recorders—Film**

IOTOGRAPHIC FILMS

See **Films**

IOTOMETERS

ronics, Inc Livermore ..... Cal
erican Astrionics Inc Palo Alto ..... Cal
erican Instrument Co, Inc Silver Spring ..... Md
log Technology Corp Pasadena ..... Cal
nes Engineering Co Def & Space Div Stamford ..... Conn
kman Instruments Inc Fullerton, ... Cal
nic Instruments Inc Bala Cynwyd ..... Pa
adian Research Institute Don Mills ..... Ont
tra/Physics International Mountain View ..... Cal
ital Instruments Co Inc Shawnee-Mission ..... Kans
& G Inc, Electronic Prods Div Boston ..... Mass
orado Electronics Concord ..... Cal
ley Lab Inc Newport ..... R I
ona Corp Bellmore ..... NY
nma Scientific Inc San Diego ..... Cal
dner Lab Inc Bethesda ..... Md
A Technology Div GCA Corp Bedford ..... Mass
ce Electronics Inc Cleveland ..... Ohio
dro Products Div Dillingham Corp San Diego ..... Cal
trumentation Lab Inc Lexington ..... Mass
trument Development Labs Div Kollmorgen Corp
ttleboro ..... Mass
ernational Light Inc Newburyport ..... Mass
nl Scientific Instrument Corp El Cajon ..... Cal
er Tool Corp. Framingham ..... Mass
ds & Northrup Co North Wales ..... Pa
tra Labs Inc Div Kriser Corp College Point ..... N Y
Kee-Pedersen Instruments Danville ..... Cal
hols Co Ltd, R H Downsview ..... Ont
clear Enterprises Ltd Edinburgh ..... Scotland
tron Corp Industrial Syst Div Cheshire ..... Conn
cific Photometric Instruments Berkeley ..... Cal
enix Precision Instrument Co, Inc Philadelphia ..... Pa
oto Research Corp Burbank ..... Cal
nceton Applied Research Corp Princeton ..... N J
ocess & Instruments Corp Brooklyn ..... N Y
yco Instruments Inc Menlo Park ..... Cal
hoeffel Instrument Corp Westwood ..... NJ
lid State Radiations Inc Los Angeles ..... Cal
chnical Operations Inc Burlington ..... Mass
chnicon Corp Tarrytown ..... N Y
th Century Electronics Ltd
New Addington Croydon Cr 90 BG ..... England
ss Inc, Carl New York ..... N Y

HOTOMULTIPLIER TUBES

See **Tubes—Photo**

HOTON COUNTERS

See **Counters—Photon**

HOTOTRANSISTORS

See **Transistors**

HOTOTUBES

See **Tubes—Photo**

HOTOVOLTAIC CELLS

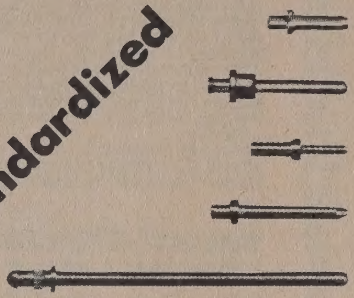
See **Cells—Photoelectric**

H RECORDERS

See **Recorders—pH**

ICKUPS—PHONOGRAPH

IMO CO LTD TOKYO ..... JAPAN
tatic Corp Conneaut ..... Ohio
dio Dynamics Corp New Milford ..... Conn
mponents Specialties Inc Freeport ..... N Y
smocord Ltd Waltham Cross ..... Hertfordshire UK



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Electro-Voice Inc Sub Gulton Industries Buchanan ..... Mich
Elpa Mktg Industries Inc New Hyde Park ..... N Y
Empire Scientific Corp Garden City ..... N Y
Fen-Tone Corp New York ..... N Y
Gulton Industries Inc Metuchen ..... N J
Iwatsu Electric Co Ltd Suginami-ku Tokyo ..... Japan
Linden Labs Inc State College ..... Pa
Philmore Mfg Co Inc Richmond Hill ..... N Y
Pickering & Co Inc Plainview ..... N Y
Plessey Co Ltd Ilford Essex ..... England
Primo Co Ltd Tokyo ..... Japan
Radio Corp of America, Comml Elctn Prods Div Camden ..... N J
Sanyo Electric Co Ltd Osaka ..... Japan
Shigoto Industries Ltd New York ..... N Y
Shure Brothers Inc Evanston Ill
Sony Corp Tokyo ..... Japan

PIEZOELECTRIC CRYSTALS

See **Crystal Blanks; Crystals—Piezoelectric, Raw**

PILOT LAMP ASSEMBLIES

See **Lamp Assemblies**

PILOT LAMPS

See **Lamps**

PINS—TUBE BASE

See **Tube Parts**

PINS

ART WIRE & STAMPING CO NEWARK N J ..... ADV PG 727
CONCORD ELECTRONICS CORP NEW YORK N Y . ADV PG 421
STAR STAINLESS SCREW CO PATERSON ..... N J
Allmetal Screw Products Co Inc Garden City ..... N Y
Art Wire & Stamping Co Newark ..... N J
Atomite Electronics Corp Roosevelt ..... N Y
Auto-Swage Products, Inc Shelton ..... Conn
Bead Chain Mfg Co Bridgeport ..... Conn
Berg Electronics, Inc New Cumberland ..... Pa
Cambridge Thermionic Corp Cambridge ..... Mass
Elastic Stop Nut Div Amerace Esna Corp Union ..... N J
Eyelematic Mfg Co Inc Watertown ..... Conn
Gillen Co, John Cicero Ill
Groov-Pin Corp Ridgefield ..... N J
Metal Ceram Inc Mount Vernon ..... N Y
Norrich Plastics Corp Roosevelt ..... N Y
O'Hara Metal Products Co San Francisco ..... Cal
Precision Metal Products Co of Malden Inc Stoneham ..... Mass
Rex Chainbelt Inc Milwaukee ..... Wis
Richards Metal Products Inc Wolcott ..... Conn
Semi-Alloys Inc Mt Vernon ..... N Y
Star Stainless Screw Co Paterson ..... N J
Sylvania Electric Prods Inc, Parts Div Warren ..... Pa

PIRANI GAGES

See **Gages—Vacuum**

PLANAR TUBES

See **Tubes—Planar**

PLANES—MEMORY

See **Memories—Computer**

PLASMA GENERATORS

See **Machines Metalizing, Molten Spray**

PLASTIC BEADS

See **Beads**

PLASTIC BOBBINS

See **Bobbins**

PLASTIC BOXES

See **Boxes**

PLASTIC CABINETS

See **Cabinets—Plastic**

PLASTIC FABRIC PARTS

See **Fabric Parts**

PLASTIC FABRICS

See **Fabrics**

PLASTIC FIBERS

See **Fibers**

PLASTIC FORMS

See **Forms—Coil & Resistor; Forms—Epoxy, Encapsulating**

PLASTIC INSULATION PARTS

See **Plastics—Finished Parts**

PLASTIC MOLDING SERVICES

AIRFLYTE ELECTRONICS CO BAYONNE . . . . N J
BARNES CORP LANSDOWNE . . . . PA
ELECTRONIC HARDWARE CORP JAMAICA . . . . NY
ICA LABORATORIES INC FORT LEE . . . . NJ
Acme Chemicals & Insulation New Haven . . . . Conn
Adronics/Inc, Elrob Mfg Corp Verona . . . . N J
Aerospace Systems A Teledyne Co Fairmont . . . . Minn
Aikow Shoji Kaisha Ltd Osaka . . . . Japan
Airflyte Electronics Co Bayonne . . . . N J
Akro-Mils, Inc Akron . . . . Ohio
Anchor Alloys Inc Brooklyn . . . . N Y
Anchor Metal Co, Inc Div Brooklyn . . . . N Y
Atlantic Instruments & Electronics, Inc Watertown . . . . . Mass
Auburn Plastics, Inc Auburn . . . . N Y
Bacon Industries, Inc Watertown . . . . Mass
Barnes Corp Lansdowne . . . . Pa
BeMan Mfg, Inc New Cumberland . . . . Pa
Beowulf Connector & Cable Corp Huntsville . . . . Ala
Blinn Co Inc, Delbert Pomona . . . . Cal
Boonton Molding Co Inc Boonton . . . . N J
B P Plastics Co Titusville . . . . Fla
Buckeye Bobbin & Mfg Div Prec Paper Tube Co Westlake . Ohio
Canoga Industries Los Angeles . . . . Cal
Castall Research Lab Inc Brockton . . . . Mass
Celanese Plastics Co Newark . . . . NJ
Chemelec Products, Inc Cherry Hill . . . . N J
Chemplast Inc Wayne . . . . N J
Clover Industries Div GTI Corp Tonawanda . . . . N Y
Conap Inc Allegany . . . . N Y
Cosmocord Ltd Waltham Cross . . . . Hertfordshire UK
Cryplex Industries Inc Flushing . . . . N Y
Dbm Research Corp Cocoa Beach . . . . Fla
D-Cemco Inc Burbank . . . . Cal
Detoronics Corp S El Monte . . . . Cal
Dixon Corp Bristol . . . . R I
Electrical Plastics Corp Lyndhurst . . . . N J
Electronic Hardware Corp Jamaica . . . . NY
Eljay Corp Columbia . . . . Md
Emeloid Co Inc Hillside . . . . N J
Emerson Plastics Corp Bronx . . . . New York
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City . Utah
EPD Industries Inc Long Beach . . . . Cal
Epoxy Products Co Div Allied Prod Inc New Haven . . . . . . Conn
Essex Intl Corp, Terminal Sales Chicago Ill
Ethylene Corp Murray Hill . . . . N J
Fastex Div Illinois Tool Works Des Plaines Ill
Ferranti, Ltd Lancashire . . . . England
First Electronics Corp Boston . . . . Mass
Flow Electronic Cable Corp Cambridge . . . . Mass
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
Gibson-Egan CO Arcadia . . . . Cal
G-L Industries Inc, G-L Electronics Div Westville . . . . N J
Grayhill Moldtronics Inc Downers Grove Ill
Gries Reproducer Co Div Coats & Clark Inc New Rochelle . . N Y
Harvey Hubbell Inc Bridgeport . . . . Conn
Hastings Plastics Inc Santa Monica . . . . Cal
Haveg Industries, Inc, Precision Molding Div Taunton . . . Mass
Haysite Reinforced Plastics Div Hays Mfg Co. Erie . . . . Pa
Hightemp Resins Inc Stamford . . . . Conn
ICA Laboratories Inc Fort Lee . . . . NJ
Industrial Devices Inc Edgewater . . . . N J
Industrial Electronic Rubber Co Twinsburg . . . . Ohio
Insulating Shapes Inc Bronx . . . . N Y
Isochem Resins Co Lincoln . . . . RI
Isolation Products Mountain View . . . . Cal
Jones Inc, Norman South Merrimack . . . . N H
Keiser's Industries Inc Mt Holly Springs . . . . Pa
Kerrco Inc Lincoln . . . . Nebr
Loranger Mfg Corp Warren . . . . Pa
Manger Electric Co Inc Stamford . . . . Conn
Maryland Lava Co Inc Bel Air . . . . Md
Midwest Molding & Mfg Co Gurnee Ill
Mutron Corp Brockton . . . . Mass
Nopco Chemical Div Diamond Shamrock Chem Co Newark . N J
Northwest Plastics Inc St Paul . . . . Minn
Ny-Glass Co Paramount . . . . Cal
Nylomatic Corp Morrisville . . . . Pa
Occo Mfg Corp South Hackensack . . . . N J
Omega Laboratories Inc Rowley . . . . Mass
Orega Electronique & Mecanique Vincennes, Seine . . . . France
Panel Controls Corp Detroit . . . . Mich
Peco Inc Portland . . . . Ore
Pelmor Labs Inc Newtown . . . . Pa
Permali Inc Mt Pleasant . . . . Pa
Plastiglide Mfg Corp Santa Monica . . . . Cal
Plessey Co Ltd Ilford Essex . . . . England
Precision Paper Tube Co Wheeling Ill
Product Components Corp Hastings-on-Hudson . . . . N Y
Profile Electronics Inc Concord . . . . N H
Quantum-Joclin Wallingford . . . . Conn
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Remler Co San Francisco . . . . Cal
Research Instrument Co Inc Westbury . . . . N Y
Robinson-Nugent Inc New Albany . . . . Ind
Roosevelt Metal Co Inc Brooklyn . . . . N Y
Ross Co, Milton Southampton . . . . Pa
Rostone Corp Lafayette . . . . Ind
Rye Industries, Inc Mamaroneck . . . . N Y
Sanders Assoc Inc, Microwave Div Nashua . . . . N H
Shamban & Co, W S Los Angeles . . . . Cal
Shaw Insulator Co Berkeley Heights . . . . N J
Sierra Electric Div Sola Basic Ind Gardena . . . . Cal
Slocum Industries Reseda . . . . Cal
Smith Inc, Herman H Brooklyn . . . . N Y
Sparta Mfg Co Dover . . . . Ohio
Staffall, Inc Providence . . . . R I
Standard Polymer Inc Van Nuys . . . . Cal
Stanwyck Winding Div San Fernando Elec Mfg Co Inc Newburgh . . . . N Y
Sta-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington . . . . Mo
STM Corp Oakland . . . . Cal
Subminiature Instruments Corp Riverside . . . . Cal
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
Textool Products Inc Irving . . . . Tex
Thermotech Industries Inc Hopkins . . . . Minn
Unex Labs Inc Hathorne . . . . Mass
United American Metals Div Brooklyn . . . . N Y
United-Carr Inc Boston . . . . Mass
U S Dielectric Inc Worcester . . . . Mass
Upson Tools Inc Rochester . . . . N Y
USECO Div, Litton Industries Van Nuys . . . . Cal
Victor Metal Products Corp Harrisonburg . . . . Va
Wakefield Engineering Inc Wakefield . . . . Mass
Warren Components Corp Warren . . . . Pa
Weckesser Co Inc Chicago Ill
Welco Electric Corp South Bend . . . . Ind
Wells Electronics Inc, Plastics Div South Bend . . . . Ind
Western Coil & Electrical Co Racine . . . . Wisc
Westinghouse Electric Corp, Industrial Micarta Div Hampton . . . . S C
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe . . . . . . Pa
White S S Div, Pennwalt Corp New York . . . . N Y
Winslow Tele-Tronics Inc Eatontown . . . . N J

PLASTICS—ENCAPSULATING RESIN PREFORMS & SHELLS

GRAYHILL INC LA GRANGE ILL
ICA LABORATORIES INC FORT LEE . . . . NJ
Communications Technology Corp Los Angeles . . . . Cal
Continental Device Corp Hawthorne . . . . Cal
Dano Electric Co Winsted . . . . Conn
EPD Industries Inc Long Beach . . . . Cal
Fansteel Inc North Chicago Ill
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
Grayhill Inc La Grange Ill
Grayhill Moldtronics Inc Downers Grove Ill
ICA Laboratories Inc Fort Lee . . . . NJ
Precision Paper Tube Co Wheeling Ill
Resdel Corp Rio Grande . . . . N J
Robison Electronics Inc Gardena . . . . Cal
Ross Co, Milton Southampton . . . . Pa
Rostone Corp Lafayette . . . . Ind
Staffall, Inc Providence . . . . R I
Stevens Products Inc East Orange . . . . N J
STM Corp Oakland . . . . Cal
Wells Electronics Inc, Plastics Div South Bend . . . . Ind

PLASTICS, FILM—CAPACITOR

Avisun Corp Philadelphia . . . . Pa
Cadillac Plastic & Chemical Co Detroit . . . . Mich
Celanese Plastics Co Newark . . . . NJ
Dilectrix Corp Farmingdale . . . . N Y
Du Pont De Nemours & Co Inc E I Wilmington . . . . Del
Emerson Plastics Corp Bronx . . . . New York
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
Gilbreth Co Philadelphia . . . . Pa
Insulating Shapes Inc Bronx . . . . N Y
3M Company St Paul . . . . Minn
Natvar Corp Woodbridge . . . . N J
Paul & Stein Bros Inc, F H New York . . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Port Plastics Inc Montebello . . . . Cal
Saunders Corp Los Angeles . . . . Cal
Schweitzer, Peter J, Div, Kimberly-Clark Corp Lee . . . . . Mass

PLASTICS, FILM—INSULATING

Adam Spence Corp Edison . . . . NJ
American Lamotite Corp Cleveland . . . . Ohio
Arlin Mfg Co Inc Lowell . . . . Mass
Auburn Mfg Co Middletown . . . . Conn
Avisun Corp Philadelphia . . . . Pa
Budd Co Polychem Div Newark . . . . Del
Cadillac Plastic & Chemical Co Detroit . . . . Mich
Celanese Plastics Co Newark . . . . NJ
Chase & Sons Inc Randolph . . . . Mass
Chemplast Inc Wayne . . . . N J
Crystal-X Corp Darby . . . . Pa
Dilectrix Corp Farmingdale . . . . N Y
Dixon Corp Bristol . . . . R I
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls . . . . N Y
Emerson Plastics Corp Bronx . . . . New York
Fansteel Inc North Chicago Ill
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
General Electric Co Silicone Prods Dept Waterford . . . . . . N Y
Gilbreth Co Philadelphia . . . . Pa
Hitemp Div Simplex Wire & Cable Co Westbury . . . . N Y
Insulating Fabricators Inc East Rutherford . . . . N J
Insulating Fabricators of N E Inc Watertown . . . . Mass
Insulating Shapes Inc Bronx . . . . N Y
Koppers Co Inc Pittsburgh . . . . Pa
Laminated Sheet Products Corp Norwood . . . . Mass
Leed Insulator Corp Los Angeles . . . . Cal
3M Company St Paul . . . . Minn
National Laminating Mfg Co Beverly Hills . . . . Cal
New England Laminates Co Inc Stamford . . . . Conn
Penn Fibre & Specialty Co Philadelphia . . . . Pa
Polymer Corp Reading . . . . Pa
Port Plastics Inc Montebello C
Saunders Corp Los Angeles C
Schjeldahl Co, G T Northfield . . . . Mi
Schweitzer, Peter J, Div, Kimberly-Clark Corp Lee . . . . . Ma
Shamban & Co, W S Los Angeles C
Sparta Mfg Co Dover . . . . Oh
Staff Gasket Mfg Corp New York . . . . N
Standard Polymer Inc Van Nuys C
Stevens Paper Mills Inc Windsor . . . . Co
Union Carbide Corp Chemicals & Plastics New York . . . . . N
Zippertubing Co Los Angeles C

PLASTICS, FINISHED PARTS—CAST

Aerospace Systems A Teledyne Co Fairmont . . . . Mi
Bacon Industries, Inc Watertown . . . . Ma
Budd Co Polychem Div Newark . . . .
Cadillac Plastic & Chemical Co Detroit . . . . Mi
Canoga Industries Los Angeles . . . .
Castall Research Lab Inc Brockton . . . . Ma
Conap Inc Allegany . . . . N
Crystal-X Corp Darby . . . .
Dan-L Inc E Northport . . . . N
Eljay Corp Columbia . . . .
Emerson & Cuming Inc Canton . . . . Ma
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City . Ut
EpoxyCast Electronic Case Co Yonkers . . . . N
Franklin Fibre-Lamitex Corp Wilmington . . . .
Goodyear Aerospace Corp Akron . . . . O
Gries Reproducer Co Div Coats & Clark Inc New Rochelle . .
Insulating Shapes Inc Bronx . . . . N
Isolation Products Mountain View . . . .
Jones Inc, Norman South Merrimack . . . .
Laminated Sheet Products Corp Norwood . . . . M
Leed Insulator Corp Los Angeles . . . .
Long Inc, Thomas J Carle Place . . . .
Marblette Co Div Allied Prods Corp Long Island City . . . . .
Miller Industries Inc, R A Grand Haven . . . . M
Plessey Co Ltd Ilford Essex . . . . Engl
Polymer Corp Reading . . . .
Resdel Corp Rio Grande . . . .
Shamban & Co, W S Los Angeles . . . .
Standard Polymer Inc Van Nuys . . . .
United-Carr Inc Boston . . . . M
U S Dielectric Inc Worcester . . . . M
Waldom Electronics Inc Chicago . . . .

PLASTICS, FINISHED PARTS—EXTRUDED

Abesto Corp Bloomfield . . . .
Ace Plastic Co Jamaica . . . .
Adam Spence Corp Edison . . . .
Aikow Shoji Kaisha Ltd Osaka . . . . Ja
Anchor Plastics Co Inc Long Island City . . . .
Auburn Plastics, Inc Auburn . . . .
Blinn Co Inc, Delbert Pomona . . . .
Budd Co Polychem Div Newark . . . .
Cadillac Plastic & Chemical Co Detroit . . . .
Calmont Wire & Cable Inc Santa Ana . . . .
Celanese Plastics Co Newark . . . .
Chemplast Inc Wayne . . . .
Commercial Plastics Co Mundelein . . . .
Crane Packing Co Morton Grove . . . .
Crystal-X Corp Darby . . . .
Dixon Corp Bristol . . . .
ECP Corp Cleveland . . . .
Eljay Corp Columbia . . . .
Emeloid Co Inc Hillside . . . .
Emerson & Cuming Inc Canton . . . .
Engineered Plastics Inc Gibsonville . . . .
Ethylene Corp Murray Hill . . . .
Franklin Fibre-Lamitex Corp Wilmington . . . .
General Tire & Rubber Co Akron . . . .
Glastic Corp Cleveland . . . .
Goodrich Industrial Prods Co, B F Akron . . . .
Harvel Plastics Inc Easton . . . .
Hydro Molding Co Inc Plattsburgh . . . .
Insulating Shapes Inc Bronx . . . .
Jody Mfg Co Utica . . . .
Jones Inc, Norman South Merrimack . . . .
Laminated Sheet Products Corp Norwood . . . .
Microdot Inc. Troy . . . .
Natvar Corp Woodbridge . . . .
Penntube Plastics Co Clifton Heights . . . .
Plastiglide Mfg Corp Santa Monica . . . .
Plessey Co Ltd Ilford Essex . . . . En
Polymer Corp Reading . . . .
Precision Paper Tube Co Wheeling . . . .
Pyramid Plastics Inc Palatine . . . .
Revere Electronic Div Wallingford . . . .
Shamban & Co, W S Los Angeles . . . .
Shigoto Industries Ltd New York . . . .
Sierra Electric Div Sola Basic Ind Gardena . . . .
Sparta Mfg Co Dover . . . .
Standard Polymer Inc Van Nuys . . . .
Suflex Corp Woodside . . . .
Taylor Electric Inc Howell . . . .
United Packaging Corp Georgetown . . . .
Weckesser Co Inc Chicago . . . .
Westlake Plastics Co Lenni . . . .
Zeus Industrial Products Inc Princeton . . . .

PLASTICS, FINISHED PARTS—FABRICATED

ACCURATE ELECTRONICS CORP ELYRIA . . . .
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN . . . .
ELECTRICAL INSULATION CO INC COPIAGUE . . . .
ELECTRONIC HARDWARE CORP JAMAICA . . . .
Abacus Electronics Corp Dobbs Ferry . . . .

to Corp Bloomfield	N J
rate Electronics Corp Elyria	Ohio
Plastic Co Jamaica	N Y
n Spence Corp Edison	NJ
nics Inc, Elrob Mfg Corp Verona	N J
nced Development Corp Gardena	Cal
space Systems A Teledyne Co Fairmont	Minn
ri-Tech Inc Nutley	N J
tom Electronic Hardware New Rochelle	N Y
or Plastics Co Inc Long Island City	N Y
or Specialty Mfg Co Inc Teterboro	N J
Corrosive Metal Products Co, Inc Albany	N Y
ouser Corp of N E Boston	Mass
Mfg Co Inc Lowell	Mass
s & Merrill Inc Reinforced Plastic Div Marlboro	Mass
ar Engraving Co Inc Richmond Hill	N Y
rn Mfg Co Middletown	Conn
Co, N S Hillside	N J
Mfg Co Kansas City	Mo
ek Inc Tulsa	Okla
lac Plastic & Chemical Co Detroit	Mich
ga Industries Los Angeles	Cal
all Research Lab Inc Brockton	Mass
nelec Products, Inc Cherry Hill	N J
nplast Inc Wayne	N J
tal Dynamics Corp Venice	Cal
ronics Inc Buena Park	Cal
co Plastics Inc Richmond Hill	N Y
p Inc Allegany	N Y
e Packing Co Morton Grove	Ill
tal-X Corp Darby	Pa
L Inc E Northport	N Y
Products Inc Tempe	Ariz
o Engineering Inc Fairfield (Caldwell)	N J
trix Corp Farmingdale	N Y
n Corp Bristol	R I
ge Industries Sub Oak Electro/ Netics Corp osick Falls	N Y
o Electronics Inc Compton	Cal
Plastics of N Y Inc Westport	Conn
e-Picher Industries Inc, Electronics Div Joplin	Mo
aft Industries Inc Linden	N J
trical Insulation Co Inc Copiague	N Y
tronic Components Corp Addison	Ill
tronic Hardware Corp Jamaica	NY
y Corp Columbia	Md
loid Co Inc Hillside	N J
rson & Cuming Inc Canton	Mass
rson Plastics Corp Bronx	New York
neered Plastics Inc Gibsonville	N C
Plastics Corp Glen Cove	NY
Industries Inc Long Beach	Cal
kyCast Electronic Case Co Yonkers	N Y
ky Products Co Div Allied Prod Inc New Haven	Conn
lene Corp Murray Hill	N J
ene Engineering Co Inc Rockland	Mass
ard Tap & Die Corp Bronx	N Y
steel Inc North Chicago	Ill
ex Div Illinois Tool Works Des Plaines	Ill
enthal Instruments Co Chicago	Ill
er & Crome, Inc Philadelphia	Pa
ro-Plastics Inc Philadelphia	Pa
vay Industries Inc Woodbury	N J
nklin Fibre-Lamitex Corp Wilmington	Del
eral Gaskets Inc Middletown	Conn
eral Tire & Rubber Co Akron	Ohio
Industries Inc, G-L Electronics Div Westville	N J
e Electrical Mfg Co Sub Bell Elctn Corp Gardena	Cal
e Plastics Inc Pomona	Cal
dyear Aerospace Corp Akron	Ohio
pden Mfg Co Inc Thompsonville	Conn
va Co Inc Schoharie	N Y
vel Plastics Inc Easton	Pa
eg Industries, Inc, Precision Molding Div Taunton	Mass
H Screw Products Mfg Co Ashton	R I
strial Circuits Co Fairfield	N J
strial Electronic Hardware Corp New York	N Y
strial Engravers Inc Jamaica	N Y
lating Fabricators Inc East Rutherford	N J
lating Fabricators of N E Inc Watertown	Mass
lating Shapes Inc Bronx	N Y
ation Products Mountain View	Cal
on Mfg Co Chicago	Ill
es Electronics, Hiram Burbank	Cal
Engineering Products Inc St Louis	Mo
stone Electronics Corp New York	N Y
pers Co Inc Pittsburgh	Pa
inair, Inc Los Angeles	Cal
inated Fabricators San Bruno	Cal
inated Sheet Products Corp Norwood	Mass
d Insulator Corp Los Angeles	Cal
rty Mirror Div Libbey-Owens Ford Co Brackenridge	Pa
g Inc, Thomas J Carle Place	N Y
yland Lava Co Inc Bel Air	Md
Bedding Co Wilkes-Barre	Pa
Cullough Aero Corp Hawthorne	Cal
Millan Radiation Labs Inc Ipswich	Mass
adows Terminal Boards Cupertino	Cal
ro Contacts, Inc Hicksville	N Y
west Cortland Schiller Park	Ill
-West Metal Products Inc Kansas City	Kans
er Dial & Name Plate Co El Monte	Cal
er Industries Inc, R A Grand Haven	Mich
ional Tel-Tronics Corp Yonkers	N Y
hols Products Co, Inc Moorestown	N J
rich Plastics Corp Roosevelt	N Y
F Co Wilmington	Del
Glass Co Paramount	Cal
ogrip Products Waltham	Mass
omatic Corp Morrisville	Pa
enheimer, Inc Willow Grove	Pa
el Controls Corp Detroit	Mich
elgraphic Corp Caldwell	N J
ob Corp Port Chester	N Y
n Fibre & Specialty Co Philadelphia	Pa
ntube Plastics Co Clifton Heights	Pa
fectaire Equipment Co Cambridge	Mass
mali Inc Mt Pleasant	Pa
monite Mfg Co Chicago	Ill
to Chemical Products Inc Santa Monica	Cal
Plessey Co Ltd Ilford Essex	England
Polymer Corp Reading	Pa
Precision Metal Products Co of Malden Inc Stoneham	Mass
Precision Paper Tube Co Wheeling	Ill
Printloid Inc Long Island City	N Y
Product Components Corp Hastings-on-Hudson	N Y
Ramyr Mfg Co Buena Park	Cal
Ray Products Inc Alhambra	Cal
REF Dynamics Div UOP Mineola	N Y
Richardson Company Melrose Park	Ill
Robinson-Nugent Inc New Albany	Ind
Robison Electronics Inc Gardena	Cal
Ryerson & Son Inc, J T Chicago	Ill
Seastrom Mfg Co Inc Glendale	Cal
Seelye Plastic Fab Inc Minneapolis	Minn
Seton Name Plate Corp New Haven	Conn
Severna Div Bunker-Ramo Corp Roseland	N J
Shamban & Co, W S Los Angeles	Cal
Sherwood Industries Flexco Div Bell Gardens	Cal
Sierra Electric Div Sola Basic Ind Gardena	Cal
Slocum Industries Reseda	Cal
Smith Inc, Herman H Brooklyn	N Y
Sparta Mfg Co Dover	Ohio
Spaulding Fibre Co Inc Tonawanda	N Y
Spruce Pine Mica Co Inc Spruce Pine	N C
Standard Polymer Inc Van Nuys	Cal
Stevens Products Inc East Orange	N J
Superior Plastics Inc Paramount	Cal
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Synthane-Taylor Corp Valley Forge	Pa
Taffet Electronics Inc Woodside	N Y
Taylor Electric Inc Howell	Mich
Textool Products Inc Irving	Tex
Thermotech Industries Inc Hopkins	Minn
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
Tri-Dex Co Visalia	Cal
Tri-Point Industries Inc Commack	NY
Union Carbide Corp Chemicals & Plastics New York	N Y
United Packaging Corp Georgetown	Mass
UOP Norplex Div LaCrosse	Wis
Upson Tools Inc Rochester	N Y
USECO Div, Litton Industries Van Nuys	Cal
Utility Communication Systems Inc West Chester	Pa
Waldom Electronics Inc Chicago	Ill
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe	Pa
Wickes Industries Inc Camden	N J
Wilmington Fibre Specialty Co New Castle	Del

PLASTICS, FINISHED PARTS— LAMINATED

ACCURATE ELECTRONICS CORP ELYRIA	**OHIO**
ELECTRICAL INSULATION CO INC COPIAGUE N Y	**ADV PG 423**
MANDEX MFG CO INC CHICAGO	**ILL**
Abacus Electronics Corp Dobbs Ferry	N Y
Abesto Corp Bloomfield	N J
Accurate Electronics Corp Elyria	Ohio
American Lamotite Corp Cleveland	Ohio
Anchor Plastics Co Inc Long Island City	N Y
Arlin Mfg Co Inc Lowell	Mass
Atkins & Merrill Inc Reinforced Plastic Div Marlboro	Mass
Auburn Mfg Co Middletown	Conn
Best Mfg Co Kansas City	Mo
Budd Co Polychem Div Newark	Del
Cadillac Plastic & Chemical Co Detroit	Mich
Canoga Industries Los Angeles	Cal
Castall Research Lab Inc Brockton	Mass
Coastal Dynamics Corp Venice	Cal
Crystal-X Corp Darby	Pa
Devco Engineering Inc Fairfield (Caldwell)	N J
Dilectrix Corp Farmingdale	N Y
Dodge Industries Sub Oak Electro/ Netics Corp Hoosick Falls	N Y
Electrical Insulation Co Inc Copiague	N Y
Electronized Chemicals Corp Burlington	Mass
Eljay Corp Columbia	Md
Emeloid Co Inc Hillside	N J
Emerson & Cuming Inc Canton	Mass
Emerson Plastics Corp Bronx	New York
Engineered Plastics Inc Gibsonville	N C
Epco Plastics Corp Glen Cove	NY
Fansteel Inc North Chicago	Ill
Feay Co, Neal Goleta	Cal
Felsenthal Instruments Co Chicago	Ill
Flexible Circuits Inc Warrington	Pa
Franklin Fibre-Lamitex Corp Wilmington	Del
Glastic Corp Cleveland	Ohio
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena	Cal
Goodyear Aerospace Corp Akron	Ohio
Harva Co Inc Schoharie	N Y
Haysite Reinforced Plastics Div Hays Mfg Co. Erie	Pa
Insulating Fabricators of N E Inc Watertown	Mass
Insulating Shapes Inc Bronx	N Y
Jetron Mfg Co Chicago	Ill
Koppers Co Inc Pittsburgh	Pa
Laminair, Inc Los Angeles	Cal
Laminated Sheet Products Corp Norwood	Mass
Leed Insulator Corp Los Angeles	Cal
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge	Pa
Long Inc, Thomas J Carle Place	N Y
Mandex Mfg Co Inc Chicago	Ill
McCullough Aero Corp Hawthorne	Cal
McMillan Radiation Labs Inc Ipswich	Mass
Midwest Cortland Schiller Park	Ill
Miller Industries Inc, R A Grand Haven	Mich
3M Company St Paul	Minn
National Tel-Tronics Corp Yonkers	N Y
Norrich Plastics Corp Roosevelt	N Y
NVF Co Wilmington	Del
Ny-Glass Co Paramount	Cal
Parabam Inc Compton	Cal
Penn Fibre & Specialty Co Philadelphia	Pa
Permonite Mfg Co Chicago	Ill
Printloid Inc Long Island City	N Y
Ramyr Mfg Co Buena Park	Cal
Richardson Company Melrose Park	Ill
Ryerson & Son Inc, J T Chicago	Ill
Schjeldahl Co, G T Northfield	Minn
Seastrom Mfg Co Inc Glendale	Cal
Seton Name Plate Corp New Haven	Conn
Shamban & Co, W S Los Angeles	Cal
Spaulding Fibre Co Inc Tonawanda	N Y
Spruce Pine Mica Co Inc Spruce Pine	N C
Stamptronics Inc Azusa	Cal
Standard Polymer Inc Van Nuys	Cal
Stevens Products Inc East Orange	N J
Synthane-Taylor Corp Valley Forge	Pa
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton	N J
United Packaging Corp Georgetown	Mass
U S Dielectric Inc Worcester	Mass
Utility Communication Systems Inc West Chester	Pa
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C

Fabricating Specialists in

LAMINATED PHENOLICS
ALL PLASTICS AND
GLASS POLYESTERS
MACHINING - PUNCHING
CUTTING - MILLING
DRILLING - ENGRAVING

Local Stock of . . .

- SHEETS
- RODS
- TUBES

ELECTRICAL INSULATION CO. INC.
1245 Marconi Blvd.
Copiague, L. I.
AM 4-6190

PLASTICS, FINISHED PARTS— MACHINED

ACCURATE ELECTRONICS CORP ELYRIA	**OHIO**
CONCORD ELECTRONICS CORP NEW YORK	**N Y**
EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN	**MO**
ELECTRICAL INSULATION CO INC COPIAGUE	**N Y**
ELECTRONIC HARDWARE CORP JAMAICA	**NY**
FEDERAL SCREW PRODUCTS INC CHICAGO	**ILL**
Abacus Electronics Corp Dobbs Ferry	N Y
Abesto Corp Bloomfield	N J
Accurate Electronics Corp Elyria	Ohio
Ace Plastic Co Jamaica	N Y
Adam Spence Corp Edison	NJ
Advanced Development Corp Gardena	Cal
Alch Instrument Co, Inc Westbury	N Y
Allegri-Tech Inc Nutley	N J
Amatom Electronic Hardware New Rochelle	N Y
Anchor Plastics Co Inc Long Island City	N Y
Anchor Specialty Mfg Co Inc Teterboro	N J
Anti-Corrosive Metal Products Co, Inc Albany	N Y
Atmar Engraving Co Inc Richmond Hill	N Y
Atomite Electronics Corp Roosevelt	N Y
Auburn Mfg Co Middletown	Conn
Baer Co, N S Hillside	N J
Beemer Engineering Co Fort Washington	Pa
Best Mfg Co Kansas City	Mo
Bodnar Products Corp New Rochelle	N Y
Boonton Molding Co Inc Boonton	N J
Budd Co Polychem Div Newark	Del
Burtek Inc Tulsa	Okla
Cadillac Plastic & Chemical Co Detroit	Mich
Canoga Industries Los Angeles	Cal
Castall Research Lab Inc Brockton	Mass
Chemplast Inc Wayne	N J
Coastal Dynamics Corp Venice	Cal
Comco Plastics Inc Richmond Hill	N Y

Concord Electronics Corp New York . . . . .N Y
Cox Mfg Co San Antonio . . . . .Tex
Crane Packing Co Morton Grove Ill
Crystal-X Corp Darby . . . . .Pa
DEA Products Inc Tempe . . . . .Ariz
Devco Engineering Inc Fairfield (Caldwell) . . . . .N J
Dixon Corp Bristol . . . . .R I
Dodge Industries Sub Oak Electro/Netics Corp
  Hoosick Falls . . . . .N Y
Dorco Electronics Inc Compton .Cal
Dura Plastics of N Y Inc Westport . . . . .Conn
Eagle-Picher Industries Inc, Electronics Div Joplin . . . . . . .Mo
Edcraft Industries Inc Linden . . . . .N J
Electrical Insulation Co Inc Copiague . . . . .N Y
Electronic Hardware Corp Jamaica . . . . .NY
Eljay Corp Columbia . . . . .Md
Emeloid Co Inc Hillside . . . . .N J
Emerson & Cuming Inc Canton .Mass
Emerson Plastics Corp Bronx . . . . New York
Engineered Plastics Inc Gibsonville . . . . .N C
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City .Utah
Epco Plastics Corp Glen Cove . . . . .NY
EpoxyCast Electronic Case Co Yonkers . . . . .N Y
Ethylene Corp Murray Hill . . . . .N J
Eugene Engineering Co Inc Rockland . . . . .Mass
Everard Tap & Die Corp Bronx . . . . .N Y
Fansteel Inc North Chicago Ill
Federal Screw Products Inc Chicago Ill
Felsenthal Instruments Co Chicago Ill
Fisher & Crome, Inc Philadelphia . . . . .Pa
Flexible Products Inc Lakeville . . . . .Minn
Fluoro-Plastics Inc Philadelphia .Pa
Forway Industries Inc Woodbury .N J
Franklin Fibre-Lamitex Corp Wilmington . . . . .Del
G-L Industries Inc, G-L Electronics Div Westville . . . . .N J
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena . . . . .Cal
Globe Plastics Inc Pomona . . . . .Cal
Hampden Mfg Co Inc Thompsonville . . . . .Conn
Harva Co Inc Schoharie . . . . .N Y
Haydu Products Inc Opa Locka . . . . .Fla
H & H Screw Products Mfg Co Ashton . . . . .R I
Industrial Engravers Inc Jamaica . . . . .N Y
Insulating Fabricators Inc East Rutherford . . . . .N J
Insulating Fabricators of N E Inc Watertown . . . . .Mass
Insulating Shapes Inc Bronx . . . . .N Y
Isolation Products Mountain View . . . . .Cal
Jetron Mfg Co Chicago Ill
Jones Electronics, Hiram Burbank . . . . .Cal
Jones Inc, Norman South Merrimack . . . . .N H
Keystone Electronics Corp New York . . . . .N Y
Koppers Co Inc Pittsburgh . . . . .Pa
Laminair, Inc Los Angeles . . . . .Cal
Laminated Fabricators San Bruno . . . . .Cal
Laminated Sheet Products Corp Norwood . . . . .Mass
Leed Insulator Corp Los Angeles .Cal
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge . . .Pa
Long Inc, Thomas J Carle Place .N Y
Maryland Lava Co Inc Bel Air . . . . .Md
McCullough Aero Corp Hawthorne . . . . .Cal
McNally Bros Machine & Gear Inc Minneapolis . . . . .Minn
Meadows Terminal Boards Cupertino . . . . .Cal
Mid-West Metal Products Inc Kansas City . . . . .Kans
Miller Industries Inc, R A Grand Haven . . . . .Mich
Moody Machine Products Co Inc Providence . . . . .R I
National Tel-Tronics Corp Yonkers . . . . .N Y
Nichols Products Co, Inc Moorestown . . . . .N J
Norrich Plastics Corp Roosevelt .N Y
NVF Co Wilmington . . . . .Del
Ny-Glass Co Paramount . . . . .Cal
Nylogrip Products Waltham . . . . .Mass
Nylomatic Corp Morrisville . . . . .Pa
Omega Laboratories Inc Rowley . . . . .Mass
Oppenheimer, Inc Willow Grove . . . . .Pa
Panob Corp Port Chester . . . . .N Y
Pelmor Labs Inc Newtown . . . . .Pa
Penntube Plastics Co Clifton Heights . . . . .Pa
Permonite Mfg Co Chicago Ill
Plessey Co Ltd Ilford Essex .England
Polymer Corp Reading . . . . .Pa
Precision Metal Products Co of Malden Inc Stoneham . . .Mass
Printloid Inc Long Island City . . . . .N Y
Product Components Corp Hastings-on-Hudson . . . . .N Y
Ramyr Mfg Co Buena Park . . . . .Cal
Ray Products Inc Alhambra . . . . .Cal
Richardson Company Melrose Park Ill
Robinson-Nugent Inc New Albany . . . . .Ind
Rostone Corp Lafayette . . . . .Ind
Seastrom Mfg Co Inc Glendale . . . . .Cal
Seelye Plastic Fab Inc Minneapolis . . . . .Minn
Seton Name Plate Corp New Haven . . . . .Conn
Severna Div Bunker-Ramo Corp Roseland . . . . .N J
Shamban & Co, W S Los Angeles . . . . .Cal
Smith Inc, Herman H Brooklyn . . . . .N Y
Sparta Mfg Co Dover . . . . .Ohio
Spaulding Fibre Co Inc Tonawanda . . . . .N Y
Spruce Pine Mica Co Inc Spruce Pine . . . . .N C
Stamptronics Inc Azusa . . . . .Cal
Standard Polymer Inc Van Nuys .Cal
Superior Plastics Inc Paramount .Cal
Synthane-Taylor Corp Valley Forge . . . . .Pa
Taffet Electronics Inc Woodside .N Y
Tec Seal Corp Wilmington . . . . .Cal
Textool Products Inc Irving . . . . .Tex
Thermotech Industries Inc Hopkins . . . . .Minn
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton . . . .N J
Tri-Dex Co Visalia . . . . .Cal
Tri-Point Industries Inc Commack . . . . .NY
United Packaging Corp Georgetown . . . . .Mass
UOP Norplex Div LaCrosse . . . . .Wis
Upson Tools Inc Rochester . . . . .N Y
USECO Div, Litton Industries Van Nuys . . . . .Cal
Wilmington Fibre Specialty Co New Castle . . . . .Del

PLASTICS, FINISHED PARTS—METALLIZED

CARR FASTENER CO DIV UNITED-CARR INC CAMBRIDGE
** MASS . . . . ADV PGS 250,251**
Anchor Plastics Co Inc Long Island City . . . . .N Y
Boonton Molding Co Inc Boonton .N J
Cadillac Plastic & Chemical Co Detroit . . . . .Mich
Cambridge Plating Co Inc Belmont . . . . .Mass
Carr Fastener Co Div United-Carr Inc Cambridge . . . . . .Mass
Chomerics, Inc Arlington . . . . .Mass
Dilectrix Corp Farmingdale . . . . .N Y
Emerson Plastics Corp Bronx . . . . New York
Film Components Div Reon Resister Corp Yonkers . . . . . . .N Y
Franklin Fibre-Lamitex Corp Wilmington . . . . .Del
Insulating Shapes Inc Bronx . . . . .N Y
Jetron Mfg Co Chicago Ill
Jones Inc, Norman South Merrimack . . . . .N H
Laminair, Inc Los Angeles . . . . .Cal
Lash Labs, Inc San Diego . . . . .Cal
Leed Insulator Corp Los Angeles .Cal
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge . . . .Pa
Metaplast Electrochemicals Corp Bronx . . . . .N Y
Pacific Universal Products Corp Pasadena . . . . .Cal
Plessey Co Ltd Ilford Essex .England
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy . . . . .Mass
Robison Electronics Inc Gardena .Cal
Romar Plastics Inc St Charles Ill
Sealectro Corp Mamaroneck . . . . .N Y
Standard Polymer Inc Van Nuys .Cal
Subminiature Instruments Corp Riverside . . . . .Cal
Sylvania Electric Prods Inc, Parts Div Warren . . . . .Pa
United-Carr Inc Boston . . . . .Mass
Vacuum Metallizing Van Nuys . . . . .Cal

PLASTICS, FINISHED PARTS—MOLDED

AIRFLYTE ELECTRONICS CO BAYONNE . . . . .N J
CARR FASTENER CO DIV UNITED-CARR INC CAMBRIDGE
** MASS . . . . ADV PGS 250,251**
DIMCO-GRAY CO DAYTON . . . . .OHIO
ELECTRONIC HARDWARE CORP JAMAICA . . . . .NY
GRAYHILL INC LA GRANGE ILL
ICA LABORATORIES INC FORT LEE . . . . .NJ
ROGAN BROTHERS INC SKOKIE .ILL
Acme Chemicals & Insulation New Haven . . . . .Conn
Adronics Inc, Elrob Mfg Corp Verona . . . . .N J
Aerospace Systems A Teledyne Co Fairmont . . . . .Minn
Airflyte Electronics Co Bayonne . . . . .N J
Anti-Corrosive Metal Products Co, Inc Albany . . . . .N Y
Ark-Les Switch Corp Watertown . . . . .Mass
Atlantic Instruments & Electronics, Inc Watertown . . . . .Mass
Auburn Plastics, Inc Auburn . . . . .N Y
Bacon Industries, Inc Watertown . . . . .Mass
Beemer Engineering Co Fort Washington . . . . .Pa
Bivar Inc Santa Ana . . . . .Cal
Blinn Co Inc, Delbert Pomona . . . . .Cal
Boonton Molding Co Inc Boonton .N J
B P Plastics Co Titusville . . . . .Fla
Buckeye Bobbin & Mfg Div Prec Paper Tube Co Westlake .Ohio
Budd Co Polychem Div Newark . . . . .Del
Canoga Industries Los Angeles . . . . .Cal
Carr Fastener Co Div United-Carr Inc Cambridge . . . . . .Mass
Carter Mfg Corp Hudson . . . . .Mass
Castall Research Lab Inc Brockton . . . . .Mass
Chemelec Products, Inc Cherry Hill . . . . .N J
Chemplast Inc Wayne . . . . .N J
Chicago Molded Products Corp Chicago Ill
Cincinnati Milling Machine Co Cimastra Div Cincinnati . . .Ohio
Clover Industries Div GTI Corp Tonawanda . . . . .N Y
Coastal Dynamics Corp Venice . . . . .Cal
Commercial Plastics Co Mundelein Ill
Conap Inc Allegany . . . . .N Y
Cosmocord Ltd Waltham Cross . . . . Hertfordshire UK
Cosmo Plastics Co Cleveland . . . . .Ohio
Counting Instruments Ltd Hertfordshire . . . . .England
Crane Packing Co Morton Grove Ill
Dan-L Inc E Northport . . . . .N Y
D-Cemco Inc Burbank . . . . .Cal
Detoronics Corp S El Monte . . . . .Cal
Dimco-Gray Co Dayton . . . . .Ohio
Dixon Corp Bristol . . . . .R I
Electrical Plastics Corp Lyndhurst . . . . .N J
Electronic Components Corp Addison Ill
Electronic Hardware Corp Jamaica . . . . .NY
Eljay Corp Columbia . . . . .Md
Emeloid Co Inc Hillside . . . . .N J
Emerson & Cuming Inc Canton .Mass
Emerson Plastics Corp Bronx . . . . New York
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City .Utah
EPD Industries Inc Long Beach . . . . .Cal
Epoxy Products Co Div Allied Prod Inc New Haven . . . . . .Conn
Essex Intl Corp, Terminal Sales Chicago Ill
Ethylene Corp Murray Hill . . . . .N J
Fansteel Inc North Chicago Ill
Fastex Div Illinois Tool Works Des Plaines Ill
Federal Stampings, Div Doric Corp Minneapolis . . . . .Minn
Fluoro-Plastics Inc Philadelphia . . . . .Pa
Forney Industries Inc Fort Collins . . . . .Colo
Forway Industries Inc Woodbury .N J
Franklin Fibre-Lamitex Corp Wilmington . . . . .Del
General Electric Co Lamp Metals & Components Dept
  Cleveland . . . . .Ohio
General Products Corp Union Springs . . . . .N Y
General Tire & Rubber Co Akron . . . . .Ohio
Gibson-Egan CO Arcadia . . . . .Cal
Glastic Corp Cleveland . . . . .Ohio
G-L Industries Inc, G-L Electronics Div Westville . . . . .N J
Globe Plastics Inc Pomona . . . . .Cal
Goodrich Industrial Prods Co, B F Akron . . . . .Ohio
Goodyear Aerospace Corp Akron . . . . .Ohio
Grayhill Inc La Grange Ill
Grayhill Moldtronics Inc Downers Grove Ill
Gries Reproducer Co Div Coats & Clark Inc New Rochelle . .N Y
Griffith Plastic Products Co Burlingame . . . . .Cal
Grimes Mfg Co Urbana . . . . .Ohio
Harvel Plastics Inc Easton . . . . .Pa
Haveg Industries, Inc, Precision Molding Div Taunton . . .Mass
Haysite Reinforced Plastics Div Hays Mfg Co. Erie . . . . . . .Pa
Hydro Molding Co Inc Plattsburgh . . . . .N Y
ICA Laboratories Inc Fort Lee . . . . .NJ
Industrial Devices Inc Edgewater .N J
Industrial Electronic Rubber Co Twinsburg . . . . .O
Industrial Electronic Hardware Corp New York . . . . .N
Industrial Instruments Ltd Bromley Kent . . . . Engla
Insulating Shapes Inc Bronx . . . . .N
Jones Inc, Norman South Merrimack . . . . .N
Kerrco Inc Lincoln . . . . .Ne
Koppers Co Inc Pittsburgh . . . .
Koppers Co Reinforced Plastics Div Pittsburgh . . . .
Leed Insulator Corp Los Angeles . . . .
Leslie Mfg Corp San Marcos . . . .
Loranger Mfg Corp Warren . . . .
Maryland Lava Co Inc Bel Air . . . .
Master Dynamics Sunnyvale . . . .
McMillan Radiation Labs Inc Ipswich . . . . .M
Midwest Molding & Mfg Co Gurnee . . . .
Millen Mfg Co Inc, James Malden . . . . .M
Miller Industries Inc, R A Grand Haven . . . . .M
Morris Enterprises Inc Sepulveda . . . .
Northwest Plastics Inc St Paul . . . . .M
NVF Co Wilmington . . . .
Ny-Glass Co Paramount . . . .
Nylomatic Corp Morrisville . . . .
Omega Laboratories Inc Rowley .M
Orega Electronique & Mecanique Vincennes, Seine . . . .Fra
Pacific Electricord Co Gardena . . . .
Panel Controls Corp Detroit . . . . .M
Pearce-Simpson Inc Div Gladding Corp Miami . . . .
Peco Inc Portland . . . .
Pelmor Labs Inc Newtown . . . .
Permali Inc Mt Pleasant . . . .
Plastiglide Mfg Corp Santa Monica . . . .
Plessey Co Ltd Ilford Essex . . . . .Engl
Polymer Corp Reading . . . .
Precision Paper Tube Co Wheeling . . . .
Product Components Corp Hastings-on-Hudson . . . .
Quality Components Inc St Marys . . . .
Ramyr Mfg Co Buena Park . . . .
Ratel Inc Goleta . . . .
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy . . . . .M
Research Instrument Co Inc Westbury . . . .
Revere Electronic Div Wallingford C
Reynolds Industries Inc Santa Monica . . . .
Richardson Company Melrose Park . . . .
Robinson-Nugent Inc New Albany . . . .
Robison Electronics Inc Gardena . . . .
Rogan Brothers Inc Skokie . . . .
Romar Plastics Inc St Charles . . . .
Ross Co, Milton Southampton . . . .
Rostone Corp Lafayette . . . .
Shamban & Co, W S Los Angeles . . . .
Shaw Insulator Co Berkeley Heights . . . .
Shigoto Industries Ltd New York . . . .
Sierra Electric Div Sola Basic Ind Gardena . . . .
Skydyne Inc Port Jervis . . . .
Slocum Industries Reseda . . . .
Space Products Inc Long Beach . . . .
Staffall, Inc Providence . . . .
Standard Plastics Co Inc Attleboro . . . . .M
Standard Polymer Inc Van Nuys . . . .
Stanwyck Winding Div San Fernando Elec Mfg Co Inc
  Newburgh . . . .
Sta-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington . . .
Stevens Products Inc East Orange . . . .
Subminiature Instruments Corp Riverside . . . .
Sylvania Electric Prods Inc, Parts Div Warren . . . .
Synthane-Taylor Corp Valley Forge . . . .
Tekna Products Co Rochester . . . .
Textool Products Inc Irving . . . .
Thermalloy Co Dallas . . . .
Thermotech Industries Inc Hopkins . . . .
Tinnerman Products Inc Sub Eaton Yale & Towne
  Cleveland . . . .
Transitron Electronic Corp Wakefield . . . .
Tri-Point Industries Inc Commack . . . .
Unex Labs Inc Hathorne . . . .
Union Carbide Corp Chemicals & Plastics New York . . . .
United Fabricators & Electronics Inc Stillwater . . . .
United Packaging Corp Georgetown . . . .
U S Dielectric Inc Worcester . . . .
U S Precision Lens & Plastics Inc Cincinnati . . . .
Upson Tools Inc Rochester . . . .
USECO Div, Litton Industries Van Nuys . . . .
Victor Metal Products Corp Harrisonburg . . . .
Vlchek Plastics Co Middlefield . . . .
Waldom Electronics Inc Chicago . . . .
Warren Components Corp Warren . . . .
Weckesser Co Inc Chicago . . . .
Wells Electronics Inc, Plastics Div South Bend . . . .
Westinghouse Electric Corp, Industrial Micarta Div
  Hampton . . . .
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe . . . .
Whitso Inc Schiller Park . . . .
Winslow Tele-Tronics Inc Eatontown . . . .

PLASTICS, FINISHED PARTS—STAMPINGS & PUNCHINGS

ACCURATE ELECTRONICS CORP ELYRIA . . . .
ELECTRICAL INSULATION CO INC COPIAGUE . . . . . .
MANDEX MFG CO INC CHICAGO . . . .
Abacus Electronics Corp Dobbs Ferry . . . .
Abesto Corp Bloomfield . . . .
Accurate Electronics Corp Elyria . . . .
Acme Model Engineering Co Ridgefield . . . .
Adam Spence Corp Edison . . . .
Allegri-Tech Inc Nutley . . . .
Amatom Electronic Hardware New Rochelle . . . .
American Lamotite Corp Cleveland . . . .
Anchor Plastics Co Inc Long Island City . . . .
Anti-Corrosive Metal Products Co, Inc Albany . . . .
Apahouser Corp of N E Boston . . . .
Auburn Mfg Co Middletown . . . .
Baer Co, N S Hillside . . . .
Bishop Graphics, Inc North Hollywood . . . .
Cadillac Plastic & Chemical Co Detroit . . . .
Chemelec Products, Inc Cherry Hill . . . .

plast Inc Wayne ... N J
co Plastics Inc Richmond Hill ... N Y
Mfg Co San Antonio ... Tex
e Packing Co Morton Grove ... Ill
n Corp Bristol ... R I
e Industries Sub Oak Electro/ Netics Corp
osick Falls ... N Y
o Electronics Inc Compton ... Cal
icon Co Inc Westboro ... Mass
trical Insulation Co Inc Copiague ... N Y
Corp Columbia ... Md
loid Co Inc Hillside ... N J
rson & Cuming Inc Canton ... Mass
rson Plastics Corp Bronx ... New York
neered Plastics Inc Gibsonville ... N C
Plastics Corp Glen Cove ... NY
lene Corp Murray Hill ... N J
ne Engineering Co Inc Rockland ... Mass
ard Tap & Die Corp Bronx ... N Y
Co, Neal Goleta ... Cal
ral Stampings, Div Doric Corp Minneapolis ... Minn
er & Crome, Inc Philadelphia ... Pa
ible Products Inc Lakeville ... Minn
ro-Plastics Inc Philadelphia ... Pa
vay Industries Inc Woodbury ... N J
klin Fibre-Lamitex Corp Wilmington ... Del
et Mfg Co Inc Carson ... Cal
ral Compounds Co, Div Kai R Kuhl Co Los Angeles ... Cal
ral Gaskets Inc Middletown ... Conn
Industries Inc, G-L Electronics Div Westville ... N J
e Electrical Mfg Co Sub Bell Elctn Corp Gardena ... Cal
pden Mfg Co Inc Thompsonville ... Conn
a Co Inc Schoharie ... N Y
strial Electronic Hardware Corp New York ... N Y
lating Fabricators Inc East Rutherford ... N J
lating Fabricators of N E Inc Watertown ... Mass
lating Shapes Inc Bronx ... N Y
on Mfg Co Chicago ... Ill
stone Electronics Corp New York ... N Y
inated Sheet Products Corp Norwood ... Mass
Insulator Corp Los Angeles ... Cal
g Inc, Thomas J Carle Place ... N Y
dex Mfg Co Inc Chicago ... Ill
dows Terminal Boards Cupertino ... Cal
ro Contacts, Inc Hicksville ... N Y
west Cortland Schiller Park ... Ill
-West Metal Products Inc Kansas City ... Kans
ional Tel-Tronics Corp Yonkers ... N Y
Co Wilmington ... Del
Glass Co Paramount ... Cal
grip Products Waltham ... Mass
matic Corp Morrisville ... Pa
ara Metal Products Co San Francisco ... Cal
el Controls Corp Detroit ... Mich
n Fibre & Specialty Co Philadelphia ... Pa
ntube Plastics Co Clifton Heights ... Pa
monite Mfg Co Chicago ... Ill
sey Co Ltd Ilford Essex ... England
mer Corp Reading ... Pa
cision Paper Tube Co Wheeling ... Ill
duct Components Corp Hastings-on-Hudson ... N Y
Products Inc Alhambra ... Cal
hardson Company Melrose Park ... Ill
inson-Nugent Inc New Albany ... Ind
nar Plastics Inc St Charles ... Ill
strom Mfg Co Inc Glendale ... Cal
mban & Co, W S Los Angeles ... Cal
rra Electric Div Sola Basic Ind Gardena ... Cal
cum Industries Reseda ... Cal
arta Mfg Co Dover ... Ohio
aulding Fibre Co Inc Tonawanda ... N Y
uce Pine Mica Co Inc Spruce Pine ... N C
aff Gasket Mfg Corp New York ... N Y
mptronics Inc Azusa ... Cal
ndard Polymer Inc Van Nuys ... Cal
-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington ... Mo
aver Co Inc Bay Shore ... N Y
vania Electric Prods Inc, Parts Div Warren ... Pa
thane-Taylor Corp Valley Forge ... Pa
ffet Electronics Inc Woodside ... N Y
okol Chemical Corp Panelyte Plt Chem Div Trenton ... N J
-Point Industries Inc Commack ... NY
P Norplex Div LaCrosse ... Wis
son Tools Inc Rochester ... N Y
lity Communication Systems Inc West Chester ... Pa
ctor Electronic Co Inc Sylmar ... Cal
lmington Fibre Specialty Co New Castle ... Del
ungwood Electronic Metals Inc Youngwood ... Pa

LASTICS, FINISHED PARTS—VACUUM FORMED

esto Corp Bloomfield ... N J
dillac Plastic & Chemical Co Detroit ... Mich
mco Plastics Inc Richmond Hill ... N Y
ystal-X Corp Darby ... Pa
niels Inc, C R Daniels ... Md
plicon Co Inc Westboro ... Mass
ra Plastics of N Y Inc Westport ... Conn
craft Industries Inc Linden ... N J
jay Corp Columbia ... Md
meloid Co Inc Hillside ... N J
merson Plastics Corp Bronx ... New York
gineered Plastics Inc Gibsonville ... N C
sco Medical Div Fluidics Prod & Sls Inc Salt Lake City ... Utah
thylene Corp Murray Hill ... N J
anklin Fibre-Lamitex Corp Wilmington ... Del
eneral Tire & Rubber Co Akron ... Ohio
odyear Aerospace Corp Akron ... Ohio
ampden Mfg Co Inc Thompsonville ... Conn
arva Co Inc Schoharie ... N Y
sulating Fabricators of N E Inc Watertown ... Mass
sulating Shapes Inc Bronx ... N Y
aminair, Inc Los Angeles ... Cal
aminated Sheet Products Corp Norwood ... Mass
ansky Die Cutting Corp Long Island City ... N Y
eed Insulator Corp Los Angeles ... Cal

Long Inc, Thomas J Carle Place ... N Y
McMillan Radiation Labs Inc Ipswich ... Mass
NVF Co Wilmington ... Del
Panel Controls Corp Detroit ... Mich
Parabam Inc Compton ... Cal
Plastofilm Inc Wheaton ... Ill
Plessey Co Ltd Ilford Essex ... England
Ray Products Inc Alhambra ... Cal
REF Dynamics Div UOP Mineola ... N Y
Shamban & Co, W S Los Angeles ... Cal
United Packaging Corp Georgetown ... Mass
Victor Metal Products Corp Harrisonburg ... Va
Vlchek Plastics Co Middlefield ... Ohio
Western Coil & Electrical Co Racine ... Wisc

PLASTICS—FOAM

American Latex Fibre Corp Lawrence ... Mass
Anchor Alloys Inc Brooklyn ... N Y
Anchor Metal Co, Inc Div Brooklyn ... N Y
Auburn Mfg Co Middletown ... Conn
Avionics, Inc South Bend ... Ind
Bacon Industries, Inc Watertown ... Mass
Baker Castor Oil Co Bayonne ... N J
Castall Research Lab Inc Brockton ... Mass
Chemical Products Corp E Providence ... R I
Conap Inc Allegany ... N Y
Corning Glass Works Corning ... N Y
Dbm Research Corp Cocoa Beach ... Fla
Dow Chemical Co Midland ... Mich
Dow Corning Corp Midland ... Mich
Durez Div Hooker Chemical Corp North Tonawanda ... N Y
Eljay Corp Columbia ... Md
Emerson & Cuming Inc Canton ... Mass
Emerson Plastics Corp Bronx ... New York
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City ... Utah
Federal Package Corp Minneapolis ... Minn
Franklin Fibre-Lamitex Corp Wilmington ... Del
Furane Plastics Inc Los Angeles ... Cal
General Tire & Rubber Co Akron ... Ohio
Goodrich Industrial Prods Co, B F Akron ... Ohio
Hastings Plastics Inc Santa Monica ... Cal
Haveg Industries, Inc, Precision Molding Div Taunton ... Mass
Insulating Shapes Inc Bronx ... N Y
Isochem Resins Co Lincoln ... RI
Kirkhof Mfg Corp Grand Rapids ... Mich
Koppers Co Inc Pittsburgh ... Pa
Marblette Co Div Allied Prods Corp Long Island City ... N Y
MB Bedding Co Wilkes-Barre ... Pa
Midwest Cortland Schiller Park ... Ill
3M Company St Paul ... Minn
Morgan Adhesives Co Stow ... Ohio
Nopco Chemical Div Diamond Shamrock Chem Co Newark ... N J
Norrich Plastics Corp Roosevelt ... N Y
Pervel Industries, Inc Plainfield ... Conn
Plessey Co Ltd Ilford Essex ... England
PPG Industries Pittsburgh ... Pa
Pres-On Products Co Addison ... Ill
Reichhold Chemicals Inc White Plains ... N Y
Roosevelt Metal Co Inc Brooklyn ... N Y
Tra-Con, Inc Medford ... Mass
Union Carbide Corp Chemicals & Plastics New York ... N Y
United American Metals Div Brooklyn ... N Y
United Mineral & Chemical Corp New York ... N Y
United Packaging Corp Georgetown ... Mass
Witco Chemical Corp Isocyanate Prods Div New Castle ... Del
Zero Mfg Co Burbank ... Cal

PLASTICS—MOLDING MACHINES

***See* Machines—Plastic Molding**

PLASTICS—RAW

ICA LABORATORIES INC FORT LEE ... NJ
Acme Resin Co Div Corn Products Co Forest Park ... Ill
Allaco Products Braintree ... Mass
American Cyanamid Co Wayne ... N J
Ampacet Corp Mt Vernon ... N Y
Atomite Electronics Corp Roosevelt ... N Y
Bacon Industries, Inc Watertown ... Mass
Baker Castor Oil Co Bayonne ... N J
Castall Research Lab Inc Brockton ... Mass
Celanese Plastics Co Newark ... NJ
Chemical Products Corp E Providence ... R I
Ciba Products Co Summit ... N J
Conap Inc Allegany ... N Y
Dolph Co, John C Monmouth Junction ... N J
Dow Chemical Co Midland ... Mich
Dow Corning Corp Midland ... Mich
Du Pont De Nemours & Co Inc E I Wilmington ... Del
Dura Plastics of N Y Inc Westport ... Conn
Durez Div Hooker Chemical Corp North Tonawanda ... N Y
Dynaloy, Inc Hanover ... N J
EPD Industries Inc Long Beach ... Cal
Epoxylite Corp South El Monte ... Cal
Essex Intl Corp, Terminal Sales Chicago ... Ill
Ethylene Corp Murray Hill ... N J
Fiberfil Div Rexall Chemical Co Evansville ... Ind
Furane Plastics Inc Los Angeles ... Cal
General Compounds Co, Div Kai R Kuhl Co Los Angeles ... Cal
General Tire & Rubber Co Akron ... Ohio
Hardman Incorporated Belleville ... N J
Harva Co Inc Schoharie ... N Y
Hastings Plastics Inc Santa Monica ... Cal
Hightemp Resins Inc Stamford ... Conn
ICA Laboratories Inc Fort Lee ... NJ
Isochem Resins Co Lincoln ... RI
Koppers Co Inc Pittsburgh ... Pa
LNP Corp Malvern ... Pa
Marblette Co Div Allied Prods Corp Long Island City ... N Y
Mereco Prods Inc, Div Metachem Resins Corp Cranston ... RI
3M Company St Paul ... Minn
Monsanto Co St Louis ... Mo
Morton Chemical Co Div Morton Intl Inc Chicago ... Ill

Norrich Plastics Corp Roosevelt ... N Y
Pacific Resins & Chemicals Inc, Plastics Div Milwaukee ... Wis
Plastic Wire & Cable Corp Sub Triangle Indus Inc
Jewett City ... Conn
Plessey Co Ltd Ilford Essex ... England
Polysciences Inc Warrington ... Pa
PPG Industries Pittsburgh ... Pa
Produits Chimiques Pechiney St Gobain
92 Neuilly Iseine ... France
Quantum-Joclin Wallingford ... Conn
Rector Engineering & Plastics Co Washington ... D C
Reichhold Chemicals Inc White Plains ... N Y
Roberts & Associates Inc, E V Culver City ... Cal
Rogers Corp Rogers ... Conn
Shell Chemical Co New York ... N Y
Standard Polymer Inc Van Nuys ... Cal
Tra-Con, Inc Medford ... Mass
Union Carbide Corp Chemicals & Plastics New York ... N Y
Uniroyal Chemical Div Uniroyal Inc Naugatuck ... Conn
Welco Electric Corp South Bend ... Ind

PLASTICS—ROD & TUBING

ELECTRICAL INSULATION CO INC COPIAGUE ... N Y
FLEX PRODUCTS CORP CARLSTADT ... N J
Abacus Electronics Corp Dobbs Ferry ... N Y
Abesto Corp Bloomfield ... N J
Ace Plastic Co Jamaica ... N Y
Acme Model Engineering Co Ridgefield ... N J
Actioncraft Products Inc Port Washington ... N Y
Adam Spence Corp Edison ... NJ
Amatom Electronic Hardware New Rochelle ... N Y
American Cable Electronic Supply Inc Sacramento ... Cal
American Mica Insulation Co Manasquan ... N J
Anchor Plastics Co Inc Long Island City ... N Y
Atomite Electronics Corp Roosevelt ... N Y
Auburn Plastics, Inc Auburn ... N Y
Baer Co, N S Hillside ... N J
B & C Insulation Products, Inc Iselin ... N J
Beemer Engineering Co Fort Washington ... Pa
Bentley-Harris Mfg Co Conshohocken ... Pa
Brand-Rex Div Amer Enka Corp Willimantic ... Conn
Buckeye Bobbin & Mfg Div Prec Paper Tube Co Westlake ... Ohio
Budd Co Polychem Div Newark ... Del
Cadillac Plastic & Chemical Co Detroit ... Mich
Calmont Wire & Cable Inc Santa Ana ... Cal
Castall Research Lab Inc Brockton ... Mass
Celanese Plastics Co Newark ... NJ
Chemplast Inc Wayne ... N J
Comco Plastics Inc Richmond Hill ... N Y
Commercial Plastics Co Mundelein ... Ill
Conap Inc Allegany ... N Y
Crane Packing Co Morton Grove ... Ill
Crystal-X Corp Darby ... Pa
Dixon Corp Bristol ... R I
Dorco Electronics Inc Compton ... Cal
Dow Corning Corp Midland ... Mich
Dura Plastics of N Y Inc Westport ... Conn
Electrical Insulation Co Inc Copiague ... N Y
Electronized Chemicals Corp Burlington ... Mass
Eljay Corp Columbia ... Md
Emerson & Cuming Inc Canton ... Mass
Emerson Plastics Corp Bronx ... New York
Engineered Plastics Inc Gibsonville ... N C
Ethylene Corp Murray Hill ... N J
Flex Products Corp Carlstadt ... N J
Fluoro-Plastics Inc Philadelphia ... Pa
Formica Corp Cincinnati ... Ohio
Franklin Fibre-Lamitex Corp Wilmington ... Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles ... Cal
General Electric Co Laminated Products Dept Coshocton ... Ohio
General Scientific Equipment Co Philadelphia ... Pa
Glastic Corp Cleveland ... Ohio
G-L Industries Inc, G-L Electronics Div Westville ... N J
Goodrich Industrial Prods Co, B F Akron ... Ohio
Harva Co Inc Schoharie ... N Y
Harvel Plastics Inc Easton ... Pa
Hysol Div, The Dexter Corp Olean ... N Y
Icore Electro-Plastics Sunnyvale ... Cal
Ideal-Hellerman Canada Ltd Ajax ... Ontario
Insulating Fabricators Inc East Rutherford ... N J
Insulating Fabricators of N E Inc Watertown ... Mass
Insulating Shapes Inc Bronx ... N Y
Kirkhill Rubber Co Brea ... Cal
Koppers Co Inc Pittsburgh ... Pa
Koppers Co Reinforced Plastics Div Pittsburgh ... PA
Laminated Fabricators San Bruno ... Cal
Laminated Sheet Products Corp Norwood ... Mass
Leed Insulator Corp Los Angeles ... Cal
Long Inc, Thomas J Carle Place ... N Y
Marblette Co Div Allied Prods Corp Long Island City ... N Y
Markel & Sons Inc L Frank Norristown ... Pa
Maryland Lava Co Inc Bel Air ... Md
3M Company St Paul ... Minn
Natvar Corp Woodbridge ... N J
Norrich Plastics Corp Roosevelt ... N Y
NVF Co Wilmington ... Del
Penn Fibre & Specialty Co Philadelphia ... Pa
Penntube Plastics Co Clifton Heights ... Pa
Permali Inc Mt Pleasant ... Pa
Polymer Corp Reading ... Pa
Port Plastics Inc Montebello ... Cal
Precision Paper Tube Co Wheeling ... Ill
Pyramid Plastics Inc Palatine ... Ill
Resdel Corp Rio Grande ... N J
Richardson Company Melrose Park ... Ill
Ryerson & Son Inc, J T Chicago ... Ill
Saunders Corp Los Angeles ... Cal
Severna Div Bunker-Ramo Corp Roseland ... N J
Shamban & Co, W S Los Angeles ... Cal
Sparta Mfg Co Dover ... Ohio
Spaulding Fibre Co Inc Tonawanda ... N Y
Standard Polymer Inc Van Nuys ... Cal
Stevens Tubing Corp East Orange ... N J
Stone Industrial Corp Tubular Prods Div Washington ... D C
Suflex Corp Woodside ... N Y
Synthane-Taylor Corp Valley Forge ... Pa
Thermal Wire & Electronics Corp South Hero ... Vt

Thiokol Chemical Corp Panelyte Plt Chem Div Trenton . . . . N J
Tri-Point Industries Inc Commack . . . . NY
Tyton Corp of America Metuchen . . . . N J
UOP Norplex Div LaCrosse . . . . Wis
Varflex Corp Rome . . . . N Y
Westinghouse Electric Corp, Industrial Micarta Div
  Hampton . . . . S C
Westlake Plastics Co Lenni . . . . Pa

PLASTICS—SHEET & LAMINATE

***See Also* Laminates— Printed Circuit**

ELECTRICAL INSULATION CO INC COPIAGUE . . . . N Y
Abacus Electronics Corp Dobbs Ferry . . . . N Y
Actioncraft Products Inc Port Washington . . . . N Y
Aeromarine Electronics, Inc San Diego . . . . Cal
Aircraft Components Inc Benton Harbor . . . . Mich
American Cable Electronic Supply Inc Sacramento . . . . . . Cal
American Cyanamid Co Wayne . . . . N J
American Lamotite Corp Cleveland . . . . Ohio
American Mica Insulation Co Manasquan . . . . N J
Arlin Mfg Co Inc Lowell . . . . Mass
Atomite Electronics Corp Roosevelt . . . . N Y
Auburn Mfg Co Middletown . . . . Conn
Auburn Plastics, Inc Auburn . . . . N Y
Baer Co, N S Hillside . . . . N J
Best Mfg Co Kansas City . . . . Mo
Brand-Rex Div Amer Enka Corp Willimantic . . . . Conn
Budd Co Polychem Div Newark . . . . Del
Cadillac Plastic & Chemical Co Detroit . . . . Mich
Celanese Plastics Co Newark . . . . NJ
Chase & Sons Inc Randolph . . . . Mass
Chemplast Inc Wayne . . . . N J
Cincinnati Development & Mfg Co Cincinnati . . . . Ohio
Cincinnati Milling Machine Co Cimastra Div Cincinnati . . . Ohio
Clean Room Products Inc Farmingdale . . . . N Y
Comco Plastics Inc Richmond Hill . . . . N Y
Crane Packing Co Morton Grove Ill
Crystal-X Corp Darby . . . . Pa
Dilectrix Corp Farmingdale . . . . N Y
Dixon Corp Bristol . . . . R I
Dodge Industries Sub Oak Electro/Netics Corp
  Hoosick Falls . . . . N Y
Dorco Electronics Inc Compton . . . . Cal
Du Pont De Nemours & Co Inc E I Wilmington . . . . Del
Dura Plastics of N Y Inc Westport . . . . Conn
Edcraft Industries Inc Linden . . . . N J
Electrical Insulation Co Inc Copiague . . . . N Y
Electronized Chemicals Corp Burlington . . . . Mass
Eljay Corp Columbia . . . . Md
Emeloid Co Inc Hillside . . . . N J
Emerson & Cuming Inc Canton . . . . Mass
Emerson Plastics Corp Bronx . . . . New York
Engineered Plastics Inc Gibsonville . . . . N C
Ethylene Corp Murray Hill . . . . N J
Fansteel Inc North Chicago Ill
Flexible Circuits Inc Warrington . . . . Pa
Flexible Products Inc Lakeville . . . . Minn
Formica Corp Cincinnati . . . . Ohio
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
General Binding Corp Northbrook Ill
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . . Cal
General Electric Co Laminated Products Dept Coshocton . Ohio
Glastic Corp Cleveland . . . . Ohio
Goodyear Aerospace Corp Akron . . . . Ohio
Harva Co Inc Schoharie . . . . N Y
Haveg Industries, Inc, Precision Molding Div Taunton . . . Mass
Haysite Reinforced Plastics Div Hays Mfg Co. Erie . . . . Pa
Hermes Plastics Inc New York . . . . N Y
Hysol Div, The Dexter Corp Olean . . . . N Y
Insulating Fabricators Inc East Rutherford . . . . N J
Insulating Fabricators of N E Inc Watertown . . . . Mass
Insulating Shapes Inc Bronx . . . . N Y
Kenmore Industries, Inc Lowell . . . . Mass
Koppers Co Inc Pittsburgh . . . . Pa
Koppers Co Reinforced Plastics Div Pittsburgh . . . . PA
Laminated Fabricators San Bruno . . . . Cal
Laminated Sheet Products Corp Norwood . . . . Mass
Leed Insulator Corp Los Angeles . . . . Cal
Long Inc, Thomas J Carle Place . . . . N Y
Marblette Co Div Allied Prods Corp Long Island City . . . . . N Y
Mica Corp Culver City . . . . Cal
Midwest Cortland Schiller Park Ill
3M Company St Paul . . . . Minn
Morgan Adhesives Co Stow . . . . Ohio
National Tel-Tronics Corp Yonkers . . . . N Y
Nelco Products Inc Anaheim . . . . Cal
New England Laminates Co Inc Stamford . . . . Conn
Norrich Plastics Corp Roosevelt . . . . N Y
NVF Co Wilmington . . . . Del
Panel Controls Corp Detroit . . . . Mich
Penn Fibre & Specialty Co Philadelphia . . . . Pa
Permali Inc Mt Pleasant . . . . Pa
Polymer Corp Reading . . . . Pa
Port Plastics Inc Montebello . . . . Cal
Precision Metal Products Co of Malden Inc Stoneham . . . Mass
Printloid Inc Long Island City . . . . N Y
Quantum-Joclin Wallingford . . . . Conn
Richardson Company Melrose Park Ill
Rogers Corp Rogers . . . . Conn
Ryerson & Son Inc, J T Chicago Ill
Schjeldahl Co, G T Northfield . . . . Minn
Spaulding Fibre Co Inc Tonawanda . . . . N Y
Stamptronics Inc Azusa . . . . Cal
Standard Polymer Inc Van Nuys . . . . Cal
Synthane-Taylor Corp Valley Forge . . . . Pa
Thiokol Chemical Corp Panelyte Plt Chem Div Trenton . . . . N J
UOP Norplex Div LaCrosse . . . . Wis
Westinghouse Electric Corp, Industrial Micarta Div
  Hampton . . . . S C
Westinghouse Electric Corp, Industrial Plastics Div
  West Mifflin . . . . Pa
Zippertubing Co Los Angeles . . . . Cal

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Darrah Electric Co Inc Cleveland . . . . Ohio
Denton Vacuum Inc Cherry Hill . . . . N J
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nin Corp Mt Vernon	NY
n Metallurgical Chemical Co Philadelphia	Pa
solidated Reactive Metals Inc Mamaroneck	N Y
tern Smelting & Refining Corp Lynn	Mass
tric Thermometers, Inc Norwalk	Conn
tronic Space Products Inc Los Angeles	Cal
tro Science Labs Inc Philadelphia	Pa
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eral Findings Co Industrial Div Attleboro	Mass
ıilton Precision Metals Div Hamilton Watch Co ancaster	Pa
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h Light Labs Ltd Colnbrook, Bucks	England
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erials Research Corp Orangeburg	N Y
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al Ceram Inc Mount Vernon	N Y
z Refining Co South Plainfield	N J
Co, J M Bloomfield	Conn
sciences Inc Warrington	Pa
o Inc Penndel	Pa
sevelt Metal Co Inc Brooklyn	N Y
ıi-Alloys Inc Mt Vernon	N Y
ıi-Elements Inc Saxonburg	Pa
mons Refining Corp Chicago	Ill
hnic Inc Cranston	RI
form Tubes Inc Collegeville	Pa
ted American Metals Div Brooklyn	N Y
ted Mineral & Chemical Corp New York	N Y
ted Refining & Smelting Co Franklin Park	Ill
-Lac-Oid Chemical Co Elizabeth	N J
tron Electronics Corp, Controls/Matls Div Bradford	Pa
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ugat, Inc Attleboro	Mass
utomatic Metal Products Corp Brooklyn	N Y
uto-Swage Products, Inc Shelton	Conn
va Electronics & Machine Corp Upper Darby	Pa
Barker Products Co Saugus	Mass
Cable Electric Products Inc Providence	R I
Cambridge Thermionic Corp Cambridge	Mass
Carol Cable Co Pawtucket	R I
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Communication Dynamics Corp Yonkers	N Y
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Cordex, Inc Mount Eaton	Ohio
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Dowa Trading Co Ltd Kobe	Japan
Eagle Electric Mfg Co Inc Long Island City	N Y
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Honda Tsushin Kogyo Co Ltd. Meguro-ku Tokyo	Japan
Hosiden Electronics Co Ltd Osaka	Japan
Indit Corp Albertson	N Y
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles	Cal
ITT Europe Inc Components Gp Brussels 1	Belgium
ITT Wire & Cable Div Royal Products Pawtucket	R I
Javex Electronics Cherry Valley	Cal
Kings Electronics Co Inc Tuckahoe	N Y
Leviton Mfg Co Inc Brooklyn	N Y
Lunkenheimer Co Div Conval Corp Cincinnati	Ohio
Methode Electronics Inc Chicago	Ill
Miller Electric Co Woonsocket	R I
3M Company St Paul	Minn
Mosley Electronics Inc Bridgeton	Mo
National Tel-Tronics Corp Yonkers	N Y
Pacific Electricord Co Gardena	Cal
Pass & Seymour Syracuse	N Y
Phelps Dodge Communications Co North Haven	Conn
Philmore Mfg Co Inc Richmond Hill	N Y
Plastiglide Mfg Corp Santa Monica	Cal
Pomona Electronics Co Inc Pomona	Cal
Reynolds Industries Inc Santa Monica	Cal
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Rye Industries, Inc Mamaroneck	N Y
Sealectro Corp Mamaroneck	N Y
Shigoto Industries Ltd New York	N Y
Smith Inc, Herman H Brooklyn	N Y
Star-A Electric Mfg Co Inc Brooklyn	N Y
Sta-Tite Mfg Co Div Gen Equip Mfg Co Inc Lexington	Mo
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Switchcraft Inc Chicago	Ill
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Vector Electronic Co Inc Sylmar	Cal
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Aikow Shoji Kaisha Ltd Osaka	Japan
American Cable Electronic Supply Inc Sacramento	Cal
Amphenol Danbury	Conn
AMP Incorporated Harrisburg	Pa
Applied Engineering Prods Div Samarius Inc Ansonia	Conn
Astrolab Inc Linden	N J
Atlantic Instruments & Electronics, Inc Watertown	Mass
Automatic Metal Products Corp Brooklyn	N Y
Ava Electronics & Machine Corp Upper Darby	Pa
Aviation Electric Ltd St Laurent, Montreal	Que
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Racal Electronics Ltd Bracknell Berks	England
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Reynolds Industries Inc Santa Monica	Cal
Robinson-Nugent Inc New Albany	Ind
Rye Industries, Inc Mamaroneck	N Y
Sealectro Corp Mamaroneck	N Y
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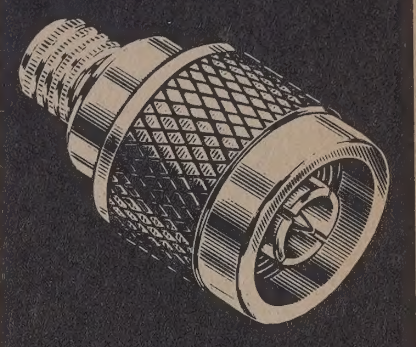
Trimm Inc Libertyville	Ill
Trompeter Electronics Inc Chatsworth	Cal
Tru-Connector Corp Peabody	Mass
Veritron West Inc Chatsworth	Cal
Virginia Panel Corp Waynesboro	Va
Whistler Electronics Inc Northridge	Cal



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Federal Screw Products Inc Chicago	Ill
G C Electronics Div, Hydrometals Inc Rockford	Ill
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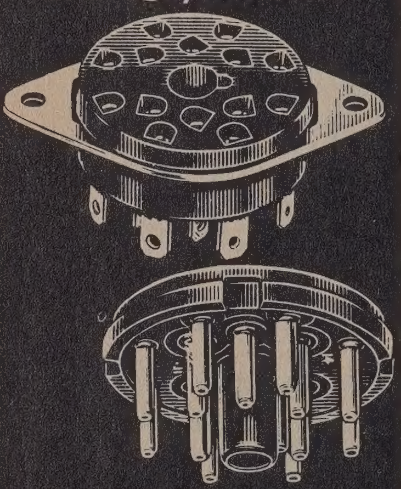

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POSITIONING CONTROLS

See **Controls—Positioning**

POSITIONING INDICATORS

See **Indicators—Positioning**

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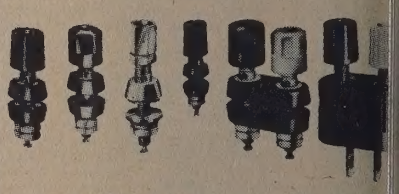

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PON ELECTRIC CO LTD TOKYO JAPAN	**ADV PG 429**
CKPOLE COMPONENTS CO RALEIGH	**N C**
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kman Instruments Inc, Helipot Div Fullerton	Cal
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rostat Mfg Co Inc Dover	N H
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S Corp Elkhart	Ind
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gle Signal A Gulf & Western Co Baraboo	Wis
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ton Industries, Potentiometer Div Mt Vernon	N Y
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ssey Co Ltd Ilford Essex	England
ester Corp, H E Hartsdale	N Y
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ackpole Components Co Raleigh	N C
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toreen Instrument Div Cleveland	Ohio
lwyn Electric Ltd Northumberland	England

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MPUTER INSTRUMENTS CORP HEMPSTEAD N Y	**ADV PG 435**
GLE SIGNAL A GULF & WESTERN CO BARABOO WIS	**ADV PG 434**
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e Electronics Associates, Inc Somerville	Mass
ckman Instruments Inc, Helipot Div Fullerton	Cal
ckman Instruments Intl SA 1207 Geneva	Switzerland
ys Instrument Corp Brooklyn	N Y
rter Mfg Corp Hudson	Mass
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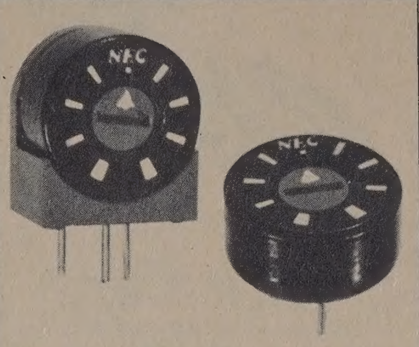
gan Electronics Corp Revere	Mass
atsushita Electric Industrial Co Ltd Osaka	Japan
ew England Instrument Co Natick	Mass
erkin-Elmer, Electronic Prods Div Wilton	Conn

NEC NEOPOT MINIATURE TANTALUM-FILM VARIABLE RESISTOR



To meet the ever increasing demand for maximum miniaturization of electronic devices, the "NEOPOT" is NEC's answer to miniaturization of tantalum film variable resistors. It fulfills all the characteristics of C of mil-R 22097 C non-wire wound resistor specifications. Among its unique features is its exceptional stability and high resolution from a rotation angle of 320 degrees plus high power rating of ½ watt at continuous loadings at 85 degrees C. The NEC "NEOPOT" offers fulfillment characteristic C of mil-R 22097 C specifications — with maximum vibration and shock stability.

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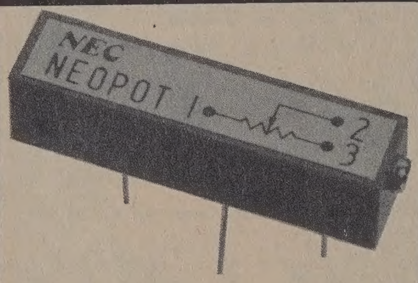

The NEC precision trimmer is the newest metal film variable resistor available. Its rugged NEC tantalum film resistance element provides exceptionally high stability and reliability under extreme temperatures and severe operating conditions are designed to meet the exacting performance requirements of MIL-R-22097C.

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***See* Synchros**

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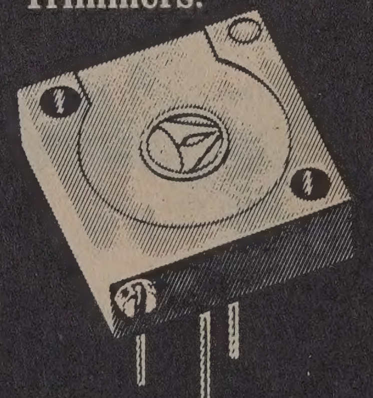

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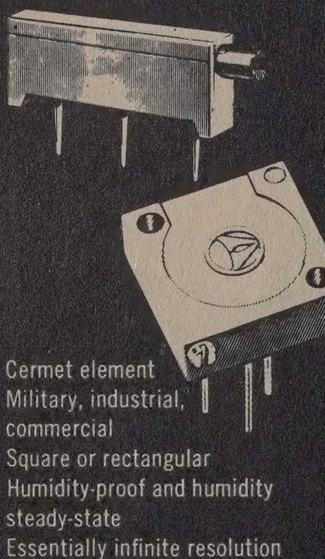
Priester Corp, H E Hartsdale	N Y
Reon Resistor Corp Yonkers	N Y
Sanyo Electric Co Ltd Osaka	Japan
Subminiature Instruments Corp Riverside	Cal
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japan



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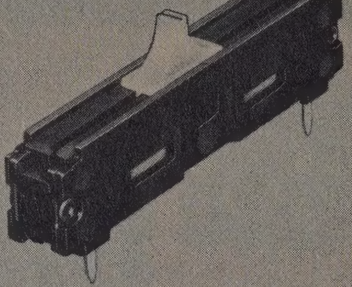


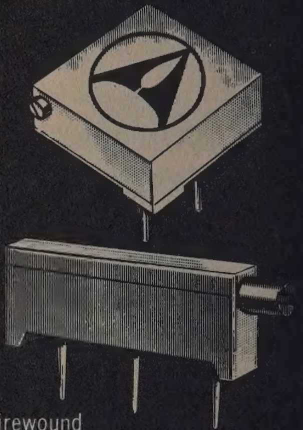
SLIDE-TROL® —NEW CONCEPT IN POTENTIOMETER DESIGN

- Mount horizontally, vertically or sideways, either singly or in multiple units.
- Standard solder lug, wire wrap or printed circuit terminals available.
- Low noise and low contact resistance, plus uniform heat distribution.
- Ratings 40-500Ω 1.5 watts, 500-5KΩ 1.25 watts, 5KΩ and over 1. watt.
- Thermal expansion-contraction and shock hazard problems eliminated.
- Know resistance setting at a glance.
- Compact, lightweight, functional, attractive.
- Write for SLIDE-TROL® Brochure.

STACKPOLE ®
COMPONENTS COMPANY
P. O. Box 14466
Raleigh, N. C. 27610

POTENTIOMETERS—TRIMMERS

AMPHENOL JANESVILLE WISC	**ADV PGS 430,431**
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON CAL	**ADV PG 430**
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
DALE ELECTRONICS INC COLUMBUS NEB	**ADV PGS 432,433**
EAGLE SIGNAL A GULF & WESTERN CO BARABOO WIS	**ADV PG 434**
MALLORY & CO INC, P R INDIANAPOLIS	**IND**
MITSUMI ELECTRIC CO LTD TOKYO	**JAPAN**
STACKPOLE COMPONENTS CO RALEIGH N C	**ADV PG 430**
Ace Electronics Associates, Inc Somerville	Mass
Allen-Bradley Co Milwaukee	Wis
American Components, Inc Conshohocken	Pa
Amperex Electronic Corp, Component Div Hauppauge	N Y
Amphenol Janesville	Wisc
Atohm Electronics Military & Commercial Prods Div Burbank	Cal
Beckman Instruments Inc, Helipot Div Fullerton	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Brys Instrument Corp Brooklyn	N Y
Carter Mfg Corp Hudson	Mass
Carter Precision Electric Co Skokie	Ill
Centralab, Div Globe-Union Inc Milwaukee	Wis
Clarostat Mfg Co Inc Dover	N H
Contelec S A 2500 Biel-Bienne	Switz
CTS Corp Elkhart	Ind
CTS Electronics Inc South Pasadena	Cal
CTS Microelectronics Inc Lafayette	Ind
Dale Electronics Inc Columbus	Neb
Digilog Electronics Corp Seattle	Wash
Diplohmatic Div Harry Levinson Co Seattle	Wash
Dowa Trading Co Ltd Kobe	Japan
Eagle Signal A Gulf & Western Co Baraboo	Wis
Electra/Midland Corp Kansas City	Kan
Electro Materials Corp of America Mamaroneck	N Y
Fairchild Controls Hicksville	N Y
General Scientific Div. San Fernando	Cal
Impectron Inc New York	N Y
Ionetics Corp Avenel	N J
IRC Div TRW Inc Los Angeles	Cal
ITT Europe Inc Components Gp Brussels 1	Belgium
Japan Resistor Mfg Co Ltd Tokyo	Japan
Keltron Corp Waltham	Mass
Lake Engineering Co Ltd Scarborough	Ont
La Radiotechnique Compelec Paris 11e	France
Lesa-Costruzioni Elettromeccaniche SPA Milan	Italy
Logan Electronics Corp Revere	Mass
Mallory & Co Inc, P R Indianapolis	Ind
Mallory Controls Co Frankfort	Ind
Matsushita Electric Industrial Co Ltd Osaka	Japan
Maurey Instrument Corp Chicago	Ill
Mel-Rain Corp Indianapolis	Ind
Miniature Electronic Components Corp Holbrook	Mass
Miniature Electronic Components Ltd Surrey	England
Mitsumi Electric Co Ltd Tokyo	Japan



Specify Amphenol.
The leading name
in Wirewound
Trimmers.

Wirewound
Military, industrial or commercial
Square or rectangular
Humidity-proof and high temperature

For quotations or additional information, call the sales offices or divisions listed in the green pages at the bac of this directory.

AMPHENO
™

LOOKING FOR TRIMMING POTENTIOMETERS?

Helitrim® trimming potentiom eters, with Helipot's exclusiv cermet resistance elements, ar available from local stock with

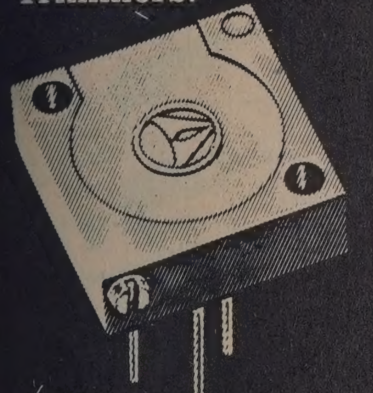
- *essentially infinite resolution*
- *voltage setting ability within ±0.01%*
- *resistance values from 10Ω to 2 megΩ*
- *operation to +200°C*
- *Mil Spec RJ11 and RJ12*
- *small size—¼" diameter*
- *low cost*
- *high reliability*

For complete information con tact the Helipot representativ nearest you. He's listed in EBG' Manufacturers' Index.

Beckman
INSTRUMENTS, INC.
HELIPOT DIVISION
FULLERTON, CALIFORNIA • 92634

lel Rectifier Corp Brooklyn .... N Y
ganite Resistors Ltd Jarrow .... England
Electronics Canoga Park .... Cal
ron Mountain View .... Cal
ronics Inc Berkeley Heights .... N J
ite Mfg Co Skokie Ill
cision Electronic Components Ltd Toronto 15 .... Ont
ster Corp, H E Hartsdale .... N Y
ae Tsushin Kogyo Co Ltd Tokyo .... Japan
yo Electric Co Ltd Osaka .... Japan
goto Industries Ltd New York .... N Y
ce & Systems Div General Time Corp Stamford ..... Conn
ctrol Electronics Corp City of Industry .... Cal
Elettronica SpA Pero, Milan .... Italy
ckpole Components Co Raleigh .... N C
miniature Instruments Corp Riverside .... Cal
lor Instrument Process Con Div Sybron Corp
ochester .... N Y
hno-Components Corp Van Nuys .... Cal
koku Tsushin Kogyo Co, Ltd Kawasaki City .... Japan
efunken Sales Corp Garden City .... N Y
yo Cosmos Electric Co Ltd Tokyo .... Japan
ters Mfg Inc Wayland .... Mass
wyn Electric Ltd Northumberland .... England

Specify Amphenol.
The leading name
in Metal Film
Trimmers.



Metal-film
Military, industrial
Square or rectangular
Humidity-proof
Essentially infinite resolution

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AMPHENOL™

POTENTIOMETERS—WIREWOUND LINEAR PRECISION

MPHENOL JANESVILLE .... WISC
ECKMAN INSTRUMENTS INC, HELIPOT DIV
FULLERTON .... CAL
ALE ELECTRONICS INC COLUMBUS
NEB .... ADV PGS 432,433
AGLE SIGNAL A GULF & WESTERN CO BARABOO
WIS .... ADV PG 434
LUKE MFG CO INC, JOHN SEATTLE .... WASH
ce Electronics Associates, Inc Somerville .... Mass
mphenol Janesville .... Wisc
stro Electronics, Inc Fullerton .... Cal
tlantic Instruments & Electronics, Inc Watertown ..... Mass
eckman Instruments Inc, Helipot Div Fullerton .... Cal
eckman Instruments Intl SA 1207 Geneva ..... Switzerland
ritish Radio Electronics (BREL) Washington .... D C
rys Instrument Corp Brooklyn .... N Y
arter Mfg Corp Hudson .... Mass
arter Precision Electric Co Skokie Ill
larostat Mfg Co Inc Dover .... N H
ontinental-Wirt Electronics Corp Philadelphia .... Pa
ale Electronics Inc Columbus .... Neb
igilog Electronics Corp Seattle .... Wash
uncan Electronics Inc Costa Mesa .... Cal
agle Signal A Gulf & Western Co Baraboo .... Wis
lectro-Mec Instrument Corp Watertown .... Conn
lectronic Specialty Co Portland Elctns Div Portland ..... Ore
lectro Scientific Industries Inc Portland .... Ore
airchild Controls Hicksville .... N Y
luke Mfg Co Inc, John Seattle .... Wash
General Radio Co West Concord .... Mass
General Scientific Div. San Fernando .... Cal
Genisco Technology Corp Compton .... Cal
Gulton Industries Inc Controls & Instru Grp Costa Mesa ... Cal
Humphrey Inc San Diego .... Cal
Impectron Inc New York .... N Y
IRC Div TRW Inc Los Angeles .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Japan Resistor Mfg Co Ltd Tokyo .... Japan
Kendick Mfg Co Inc Fort Wayne .... Ind
Kinetics A Teledyne Co Solana Beach .... Cal
La Radiotechnique Compelec Paris 11e .... France
Litton Industries, Potentiometer Div Mt Vernon .... N Y
Logan Electronics Corp Revere .... Mass
Maurey Instrument Corp Chicago Ill
Mektron Div Grand Industries Inc Chula Vista .... Cal
Methode Electronics Inc Chicago Ill
Micro-Lectric Inc Lindenhurst .... N Y
Model Rectifier Corp Brooklyn .... N Y
New England Instrument Co Natick .... Mass
Nutron Mountain View .... Cal
Nytronics Inc Berkeley Heights .... N J
Peerless Instrument Co Inc Elmhurst .... NY
Perkin-Elmer Corp Norwalk .... Conn
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Philmore Mfg Co Inc Richmond Hill .... N Y
Plessey Co Ltd Ilford Essex .... England
RFL Industries Inc, Instrumentation Div Boonton .... N J
Sakae Tsushin Kogyo Co Ltd Tokyo .... Japan
Samarius, Inc Derby .... Conn
Sparton Southwest Inc Albuquerque .... NM
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SP Elettronica SpA Pero, Milan .... Italy
Subminiature Instruments Corp Riverside .... Cal
Taylor Instrument Process Con Div Sybron Corp
Rochester .... N Y
Technology Instrument Corp Sub Bowmar Instr Corp
Newbury Park .... Cal
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City .... Japan
Vogue Instrument Corp Plainview .... NY
Voltronics, Inc Chicago Ill
Waters Mfg Inc Wayland .... Mass
Winslow Tele-Tronics Inc Eatontown .... N J

POTENTIOMETERS—WIREWOUND MULTITURN

AMPHENOL JANESVILLE WISC .... ADV PG 431
BECKMAN INSTRUMENTS INC, HELIPOT DIV
FULLERTON .... CAL
DALE ELECTRONICS INC COLUMBUS
NEB .... ADV PGS 432,433
EAGLE SIGNAL A GULF & WESTERN CO BARABOO
WIS .... ADV PG 434
FLUKE MFG CO INC, JOHN SEATTLE .... WASH

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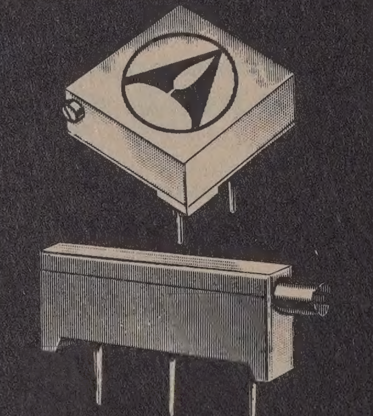
The leading name
in Wirewound
Trimmers.

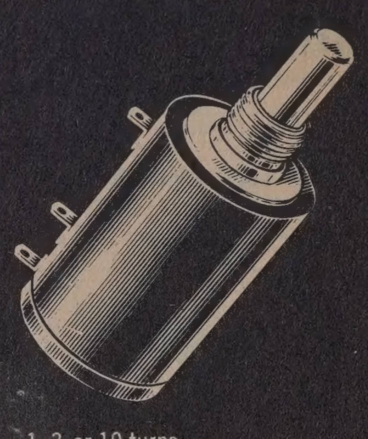


Wirewound
Military, industrial or commercial
Square or rectangular
Humidity-proof and high temperature

For quotations or additional information, call the sales offices or divisions listed in the green pages at the back of this directory.

AMPHENOL™

Specify Amphenol.
The leading name
in Precision Pots.



1, 3 or 10 turns
Military, industrial, commercial
Zero-based or absolute linearity
From 7/8" diameter
Temperature to 150°C

For quotations or additional information, call the sales offices or divisions listed in the green pages at the back of this directory.

AMPHENOL™

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ST MARYS .... PA
Amphenol Janesville .... Wisc
Astro Electronics, Inc Fullerton .... Cal
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Beckman Instruments Intl SA 1207 Geneva ..... Switzerland
Brys Instrument Corp Brooklyn .... N Y
Carter Mfg Corp Hudson .... Mass
Clarostat Mfg Co Inc Dover .... N H
Continental-Wirt Electronics Corp Philadelphia .... Pa
CTS Corp Elkhart .... Ind
Dale Electronics Inc Columbus .... Neb
Digilog Electronics Corp Seattle .... Wash
Duncan Electronics Inc Costa Mesa .... Cal
Eagle Signal A Gulf & Western Co Baraboo .... Wis
Electro Scientific Industries Inc Portland .... Ore
Fairchild Controls Hicksville .... N Y
Fluke Mfg Co Inc, John Seattle .... Wash
General Scientific Div. San Fernando .... Cal
Impectron Inc New York .... N Y
IRC Div TRW Inc Los Angeles .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Japan Resistor Mfg Co Ltd Tokyo .... Japan
Litton Industries, Potentiometer Div Mt Vernon .... N Y
Mallory & Co Inc, P R Indianapolis .... Ind
Mallory Controls Co Frankfort .... Ind
Mektron Div Grand Industries Inc Chula Vista .... Cal
Miniature Electronic Components Ltd Surrey .... England
Nutron Mountain View .... Cal
Nytronics Inc Berkeley Heights .... N J
Peerless Instrument Co Inc Elmhurst .... NY
Perkin-Elmer Corp Norwalk .... Conn
Perkin-Elmer, Electronic Prods Div Wilton .... Conn
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Sakae Tsushin Kogyo Co Ltd Tokyo .... Japan
Spectrol Electronics Corp City of Industry .... Cal
SP Elettronica SpA Pero, Milan .... Italy
Stackpole Carbon Co, Electronic Components Div
St Marys .... Pa
Techno-Components Corp Van Nuys .... Cal
Technology Instrument Corp Sub Bowmar Instr Corp
Newbury Park .... Cal
Voak Engineering Co Inc Upland .... Cal
Vogue Instrument Corp Plainview .... NY

POTENTIOMETERS—WIREWOUND NONPRECISION

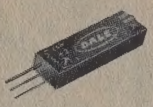
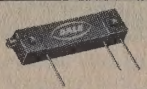
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE .... WIS
DALE ELECTRONICS INC COLUMBUS
NEB .... ADV PGS 432,433
MALLORY & CO INC, P R INDIANAPOLIS .... IND
STACKPOLE CARBON CO, ELECTRONIC COMPONENTS DIV
ST MARYS .... PA
Ace Electronics Associates, Inc Somerville .... Mass

DALE® *for Optimum Value in Potentiometers*

TRIMMER QUICK REFERENCE GUIDE

- New rectilinear wirewound and film models
- New square wirewound models
- Expanded low-priced Econo-Trim series with sealability for pennies more
- Mil-style construction methods used throughout
- Panel mount models available in most series

MILITARY GRADE TRIMMER POTENTIOMETERS (High Temperature, Precision)

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	HUMIDITY PROOF (Mil. Spec.)	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
600	 Mil. Equiv. RT-10	691 680 690* 697* 692*	• Alternate position Printed Circuit Pins 22 AWG • Printed Circuit Pins 22 AWG • Hook Type Wire Solder Terminal • 28 AWG Stranded Teflon Leads • 26 AWG Solid Leads	10 ohms to 100K ohms ±5%	Yes	1 watt at 70° C, derated to 0 at 175° C	−65° C to 175° C	15 ± 2	.18	.32	1.00
1200	Mil. Equiv. RT-11	1287 1288* 1299*	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • Spade Type Solder Lug	10 ohms to 100K ohms ±5%	Yes	1 watt at 70° C, derated to 0 at 175° C	−65° C to 175° C	25 ± 2	.28	.31	1.25
1600	 Mil. Equiv. RT-12	1680 1697* 1692* 1690*	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • 22 AWG Solid Wire • Solder Lug	10 ohms to 100K ohms ±5%	Yes	1 watt at 70° C, derated to 0 at 175° C	−65° C to 175° C	22 ± 3	.19	.32	1.25
5000	Mil. Equiv. RT-22	5050 5080 5091	• Stranded Teflon Leads 30 AWG • Printed Circuit Pins 21 AWG, Edge Mount • Printed Circuit Pins 21 AWG	10 ohms to 50K ohms ±5%	Yes	1 watt at 70° C, derated to 0 at 175° C	−65° C to 175° C	25 ± 2	.19 .22	.50 .50	.50 .50
5800	Mil. Equiv. RT-24	5850 5891 5880 5887	• Stranded Teflon Leads 30 AWG • Printed Circuit Pins 22 AWG, Base Mount • Printed Circuit Pins 22 AWG, Edge Mount • Printed Circuit Pins 22 AWG Side Adjust	10 ohms to 50K ohms ±5%	Yes	1 watt at 70° C, derated to 0 at 175° C	−65° C to 175° C	25 ± 3	.145	.375	.375

*Indicates model is also available in Panel Mount version.

COMMERCIAL GRADE ECONO-TRIM POTENTIOMETERS

WIREWOUND ELEMENT

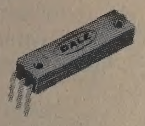
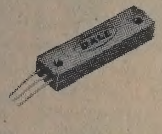
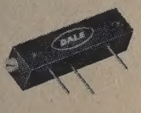
SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	HUMIDITY PROOF (Mil. Spec.)	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
2300		2387 2317 2389 2319	• Unsealed • Sealed } Printed Circuit Terminals, Gold Plated • Unsealed • Sealed } Hook-type Solder Lugs, Gold Plated	10 ohms to 50K ohms ±10%	Optional	0.5 watt at 25° C, derated to 0 at 105° C	−55° C to 105° C	15 turns nominal	.36	.28	1.00
2400		2487 2417	• Unsealed • Sealed } Printed Circuit Terminals, Gold Plated	10 ohms to 50K ohms ±10%	Optional	1 watt at 40° C, derated to 0 at 125° C	−55° C to 125° C	20 turns nominal	.31	.16	.75

FILM ELEMENT

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	HUMIDITY PROOF (Mil. Spec.)	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
8300		8387 8317 8389 8319	• Unsealed • Sealed } Printed Circuit Terminals Gold Plated • Unsealed • Sealed } Hook-type Solder Lugs, Gold Plated	10 ohms to 2 Megohms ±10% 100Ω thru 500K ±20% all other values	Optional	.75 watt at 25° C, derated to 0 at 105° C	−55° C to 105° C	15 turns nominal	.36	.28	1.00
8400		8487 8417	• Unsealed • Sealed } Printed Circuit Terminals Gold Plated	10 ohms to 2 Megohms ±10% 100Ω thru 500K ±20% all other values	Optional	.75 watt at 25° C, derated to 0 at 125° C	−55° C to 125° C	20 turns nominal	.31	.16	.75

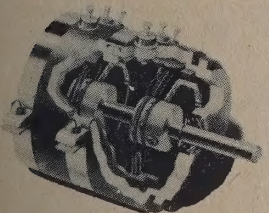
DALE® for Optimum Value in Potentiometers

INDUSTRIAL GRADE TRIMMER POTENTIOMETERS Wirewound and Film (Series 8100)

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	HUMIDITY PROOF (Mil. Spec.)	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
100		195	• 28 AWG Stranded Vinyl Leads emerging separately	10 ohms to 100K ohms ±5%	No	0.8 watt at 70° C, derated to 0 at 135° C	−65° C to 135° C	25 ± 2	.22	.31	1.32
		193	• 28 AWG Stranded Vinyl Leads attached to Lugs						.22	.31	1.25
		194	• 28 AWG Stranded Vinyl Leads emerging as group								
		198	• Gold-plated Printed Circuit Solder Lug								
		199	• Gold-plated Solder Lug								
200		295	• 28 AWG Stranded Vinyl Leads emerging separately	10 ohms to 100K ohms ±10%	No	0.5 watt at 70° C, derated to 0 at 105° C	−65° C to 105° C	25 ± 2	.22	.31	1.32
		293	• 28 AWG Stranded Vinyl Leads attached to Lugs						.22	.31	1.25
		294	• 28 AWG Stranded Vinyl Leads emerging as group								
		298	• Gold-plated Printed Circuit Solder Lug								
		299	• Gold-plated Solder Lug								
300		398	• Gold-plated Printed Circuit Solder Lug	100 ohms to 100K ohms ±15%	No	.25 watt at 70° C, derated to 0 at 85° C	−65° C to 85° C	25 ± 2	.22	.31	1.25
		399	• Gold-plated Solder Lug								
1100		1187 1188* 1199*	• Printed Circuit Pins 21 AWG • 28 AWG Stranded Teflon Leads • Spade-type Solder Lug	10 ohms to 100K ohms ±10%	No	1 watt at 70° C, derated to 0 at 175° C	−65° C to 175° C	25 ± 2	.28	.31	1.25
2100		2187 2188* 2199*	• Printed Circuit Pins 21 AWG • Stranded Vinyl Leads 28 AWG • Gold-plated Solder Lug	10 ohms to 100K ohms ±10%	Optional	1 watt at 70° C, derated to 0 at 125° C	−65° C to 125° C	25 ± 2	.28	.31	1.25
2200		2280 2292 2297	• Printed Circuit Pins 22 AWG • 26 AWG Solid Leads • 28 AWG Stranded Vinyl Leads	10 ohms to 100K ohms ±10%	Optional	1 watt at 70° C, derated to 0 at 125° C	−65° C to 125° C	15 ± 2	.18	.32	1.00
8100 (Film)		8187 8188* 8189*	• Printed Circuit Pins 21 AWG • Stranded Vinyl Leads 28 AWG • Gold-plated Solder Lug	10 ohms to 2 Megohms ±10% 100Ω to 500K ±20% other values	Optional	.75 watt at 70° C, derated to 0 at 125° C	−65° C to 125° C	25 ± 2	.28	.31	1.25

*Indicates model is also available in Panel Mount Version

PRECISION POTENTIOMETERS—SINGLE TURN *(Write for Catalog B)*

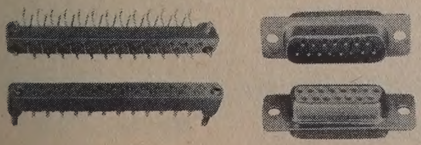


• Precision machined anodized aluminum cups • Molded Diallyl Phthalate liners • Welded tap and terminal construction • Precious metal wipers and slip rings • Flush clamp bands • Gold-plated terminals • Precision sleeve or ball bearings • Centerless ground stainless steel shafts • Single or ganged units.

SPECIFICATIONS:

- Meet requirements of MIL-R-12934 and NAS-710
- Eight physical sizes, 3/4" to 3" diameter
- Electrical angles and functions to specification
- Special mechanical configurations available

CONNECTORS, TOO!



Dale can provide rack and panel and printed circuit styles to meet MIL-C-8384, MIL-C-21097, MIL-C-5015 and MIL-J-6751 as well as special connector design assistance. Write for Connector literature or contact factory direct.

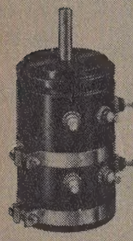
DALE®
DALE ELECTRONICS, INC. 1316 28th Ave., Columbus, Nebraska 68601
A subsidiary of The Lionel Corporation PHONE 564-3131 • AREA CODE 402 • TWX 402–564-2807

GAMEWELL® precision potentiometers

CUSTOM-ENGINEERED WIRE WOUND AND CONDUCTIVE PLASTIC TYPES

...FOR YOUR MOST DEMANDING APPLICATIONS—Higher standards of performance at competitive prices are being demanded of today's electronic equipment. How does the precision pot stack up in this situation? It almost becomes a necessity. With Gamewell you specify exactly what you want — *no* more and *no* less! Gamewell precision pots pay off in the long run. They're tough. They're dependable. And they're remarkably precise. In most cases they actually cost less, when all is considered, than so called "economy" pots. Choice? You tell us. We can do — note the broad line of types shown below. These types represent but a small segment of the scope of Gamewell's *craftsmanship*. Let your pot requirements take a turn for the better; call in your local Gamewell representative today or write for a copy of our new detailed pot catalog.

WIRE WOUND OR CONDUCTIVE PLASTIC ELEMENT, SINGLE-TURN METAL-CASED MODELS LINEAR—NON-LINEAR



MODEL (WW)		8WB	8W	10WB	12W	14WB	14W	17W	17SC*	17SC-2BR*	18W	18SC*
MODEL (CP)		—	8C	—	—	—	14C	17C	—	—	18C	18C—
Size		½	½	⅝	¾	⅞	⅞	1¹⁄₁₆	1¹⁄₁₆	1¹⁄₁₆	1⅛	1⅛
Resistance Range	WW	50-55K	50-55K	50-40K	100-50K	100-100K	100-100K	125-120K	1K-35K	1K-35K	140-140K	300-20K Per Quad
Ohms (Std.)	CP	—	500-20K	—	—	—	500-20K	1K-20K	—	—	1K-20K	
LINEARITY (Std.)	WW	3.0	1.0	0.5	0.5	1.0	0.5	0.5	1% Conf.	1.5% Conf.	0.5	1% Conf.
±%	CP	—	1.0	—	—	—	0.5	0.5	—	—	0.5	Spec.

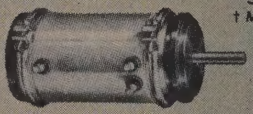
MODEL (WW)		21W	23W	26W	28W	30XS*	30XS ¼*	32W	32SC*	32MP†	48W	48SC*
MODEL (CP)		21C	23C	26C	28C	—	—	32C	32C—	32C—	48C	48C—
Size		1⁵⁄₁₆	1⁷⁄₁₆	1⅝	1¾	1⅞	1⅞	2	2	2	3	3
Resistance Range	WW	160-145K	200-155K	200-175K	250-200K	2K-80K	2K-80K	300-225K	500-60K Per Quad	100-475K	500-260K	1K-80K Per Quad
Ohms (Std.)	CP	1K-20K	1K-25K	1K-30K	1K-40K	—	—	1K-50K		1K-50K	5K-100K	
Linearity (Std.)	WW	0.3	0.25	0.25	0.25	0.7% Conf.	0.7% Conf.	0.15	0.6% Conf.	0.3	0.1	0.5% Conf.
±%	CP	0.5	0.4	0.35	0.35	—	—	0.3	Spec.	0.3	0.25	Spec.

Note: Precision units are usually supplied with servo mounting flanges — bushing or 3-hole mountings are available when specified.

** SINE COSINE MODELS*
† MODULAR TYPE

WIRE WOUND MULTITURN MODELS — 10 TURN
3 AND 5 TURNS AVAILABLE

MODELS	140	230	290
Size (OD-Inches)	⅞	1⁷⁄₁₆	1¹³⁄₁₆
Resistance Range (Ohms)	125-300K	250-400K	400-600K
Linearity (Std.) ±	±0.25%	±0.2%	±0.15%



WIRE WOUND SINGLE TURN PLASTIC-CASED MODELS

MODELS	A or B	A or B	A or B	A or B	A or B
Size (OD-Inches)	1¼	1⅝	2	3	5
Resistance Range (Ohms)	100-75K	150-110K	175-150K	300-260K	500-600K
Linearity (Std.) % ±	±0.25	±0.2	±0.15	±0.1	±0.07

"A" means non-phaseable "B" means phaseable (clamp rings)

SINE COSINE MODELS

MODEL	RL11*	RL14*
Size	2⁵⁄₁₆	4⅜
Resistance	16K (Std.	34.4K (Std.)
Conf. (P to N)	±0.8%	±0.6%

Sine cosine types (Not illustrated)

All above models may be ganged when specified except for RL models

SINGLE AND DUAL TRANSLATORY MODELS

LINEAR

BLISS
GAMEWELL

NON-LINEAR

Model 20T square case 1¼" — advise stroke length needed.

Stroke (Inch)	1.25	2.50	5.00	8.00	12.00	14.00	16.00
OA Length (Inch)	2.5	3.75	6.25	9.25	13.158	16.50	17.338
Resistance Range	100 Ohms to 40K Ohms/Inch for All Strokes ±5% Std.						
Linearity-Conf.	Independent Lin. ±1% Std. — Non-Linear Conf. ±0.5% Std.						

Conductive plastic and wire wound elements available in translatory models.

"Elements Only" to Your Specification. Send for Details.

FIRST...WHEN PRECISION COUNTS!

Member of VRCI

Now available from:

G+W **Eagle Signal**
a systems division of
GULF + WESTERN INDUSTRIES, INC.

925 Lake Street
Baraboo, Wisc. 53913

Infinite Resolution PRECISION COMPONENTS

ROTARY Single Multi-Turn POTENTIOMETERS*

LINEAR-FUNCTIONAL/SINE-COSINE

#50

#78

#105 (Ganged)

#205

#206 (Ganged)

#175 (Ganged Special)

SPECIFICATIONS

	LINEAR	SINE-COSINE
Mechanical Rotation	360° Continuous	
Electrical Function Angle	350° Nominal	360°
Resistance Range	0.5KΩ-2 MegΩ	500Ω-50KΩ/Quad.
Best Linearity or Conformity	.1% ÷ Inch of Dia.	.3% P-P ÷ Inch of Dia.
Virtual Resolution	1/250,000	
Wattage	Diameter x 2 Watt(s)	
Temperature Range	—55°C to 150°C	
Taps, Maximum No.	Diameter x 6	
Starting Torque (In.—Oz.)	Diameter x .15	Diameter x .3
Guaranteed Life (at 100 R.P.M.)	To 30 Million Cycles Depending on Circuitry	

DIMENSIONS

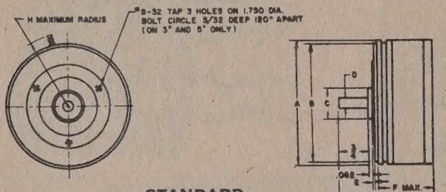
MODEL	50 Linear	78 Linear	105 Linear 106 Sin-Cos	155 Linear 156 Sin-Cos	175 Linear 176 Sin-Cos	175S 205S 305S Linear	205 Linear 206 Sin-Cos	305 Linear 306 Sin-Cos	505 Linear 506 Sin-Cos
A	1/2	7/8	1 3/32	1 7/16	1 3/4	—	2	3	5
B*	.4375	.7500	1.0300	1.3125	1.5620	—	1.8750	2.8750	4.8750
C*	—	—	—	—	—	—	—	.7500	.7500
D*	.1250	.1250	.1250	.1250	.2500	—	.2500	.2500	.2500
E	.060	.040	.040	.062	.060	—	.060	.047	.047
F	47/64	.635	.635	.725	.985	.725 Each add'l cup adds only .200" Length	.985	1.350	1.870
H	**	19/32	11/16	29/32	1 1/32		1 5/32	1 13/16	2 13/16
K	3/8	3/8	3/8	3/8	3/8		3/8	3/8	3/8
L	5/8	3/4	3/4	3/4	3/4		3/4	3/4	3/4

*+.0000
—.0005

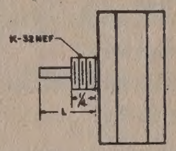
**Axial Rear Terminations

Low Torque-Low Inertia Pots are Available in 1¾" O.D.

	177 Linear	178 Sin-Cos
Torque, In.-Oz.	.1	.2
Inertia, Oz.-In.²	.025	.065


H MAXIMUM RADIUS
8-32 TAP 3 HOLES ON 1.750 DIA. BOLT CIRCLE 5/32 DEEP 120° APART (ON 3" AND 5" ONLY)
D
A
B
C
3/4
.062
E
F MAX.
L

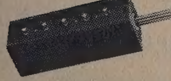
STANDARD



BUSHING MOUNT

LINEAR MOTION POTENTIOMETERS

LINEAR-FUNCTIONAL



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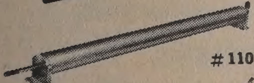

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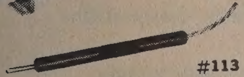


#113

#114

SPECIFICATIONS

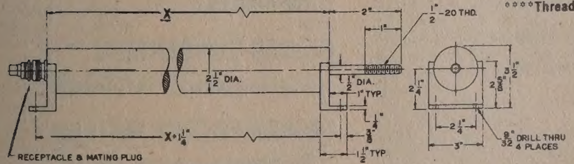
MODEL	110*	111*	112	113*	114	116**	117	118**	119*
Electrical Stroke	To 60"	To 28"	To 12"	To 4"	To 1"	To 12"	To 1.5"	To 1.25"	To 10"
Cross Section Configuration	○	□	▯	○	□	▯	▭		○
Resistance Range	250Ω/in. to 200KΩ/in.	150Ω/in. to 200KΩ/in.		500Ω/in. to 250KΩ/in.		150Ω/in. to 125KΩ/in.	250Ω/in. to 125KΩ/in.	500Ω/in. to 250KΩ/in.	350Ω/in. to 250KΩ/in.
Best Linearity	0.2% ÷ Length of Electrical Stroke								
Virtual Resolution	1/400,000								
Wattage	1 Watt per Inch of Stroke								
Temperature Range	—55° to +150°C								
Taps Maximum No.***	4	To Suit		1		To Suit	1		
Starting Force Oz. at 25°C	16	8	4	8	4		8		
Life	30 Million Strokes, Depending on Circuitry								
Shaft Misalignment Feature	Available			Not Available		Available	Not Available	Available	

*Available in Dual Units, same case dimensions.

**Available in Dual Unit providing the resistance and function of both elements is the same.

***For voltage reference, specify zero width taps. For current carrying, specify zero resistance taps.

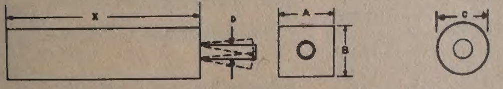
****Threaded, ball, spring-return and other shaft endings available.



MODEL 110

DIMENSIONS

MODEL	110*	111*	112	113*	114	116**	117	118**	119*
A	—	1.00	.500	—	.250	.500	.967	.875	—
B	—	1.00	1.10	—	.312	1.100	.635	.500	—
C	2.50	—	—	.500	—	—	—	—	.750
D	.50	.250	.187	.125	.0625	.1875	.1565	.1875	
X	Length of Mech. Travel +6"	Length of Mech. Travel +1.125"	Length of Mech. Travel +1.210"	Length of Mech. Travel +1.375"	1.75"	Length of Mech. Travel +1.210"	3.01"	2.50"	Length of Mech. Travel +2.00"



*For complete description send for Catalog RP 962.

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Clarostat Mfg Co Inc Dover	N H
Conrac Corp New York	N Y
Contelec S A 2500 Biel-Bienne	Switz
Continental-Wirt Electronics Corp Philadelphia	Pa
CTS Corp Elkhart	Ind
CTS Electronics Inc South Pasadena	Cal
Dale Electronics Inc Columbus	Neb
Daven Div McGraw-Edison Co Manchester	N H
Duncan Electronics Inc Costa Mesa	Cal
Fairchild Controls Hicksville	N Y
General Radio Co West Concord	Mass
Impectron Inc New York	N Y
ITT Europe Inc Components Gp Brussels 1	Belgium
Japan Resistor Mfg Co Ltd Tokyo	Japan
Lesa-Costruzioni Elettromeccaniche SPA Milan	Italy
Logan Electronics Corp Revere	Mass
LTV-Electrosystems Inc Memcor Div Huntington	Ind
Mallory & Co Inc, P R Indianapolis	Ind
Mallory Controls Co Frankfort	Ind
Matsushita Electric Industrial Co Ltd Osaka	Japan
Maurey Instrument Corp Chicago	Ill
Mektron Div Grand Industries Inc Chula Vista	Cal
Mel-Rain Corp Indianapolis	Ind
Methode Electronics Inc Chicago	Ill
Milwaukee Resistor Corp Milwaukee	Wis
Miniature Electronic Components Corp Holbrook	Mass
Model Rectifier Corp Brooklyn	N Y
Obata Electric Co Ltd Tokyo	Japan
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Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japan
Welwyn Electric Ltd Northumberland	England

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Carter Mfg Corp Hudson	Mass
Clarostat Mfg Co Inc Dover	N H
Conrac Corp New York	N Y
Continental-Wirt Electronics Corp Philadelphia	Pa
Dale Electronics Inc Columbus	Neb
Daven Div McGraw-Edison Co Manchester	N H
Digilog Electronics Corp Seattle	Wash
Duncan Electronics Inc Costa Mesa	Cal
Eagle Signal A Gulf & Western Co Baraboo	Wis
Electro-Mec Instrument Corp Watertown	Conn
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Fairchild Controls Hicksville	N Y
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Humphrey Inc San Diego	Cal
IRC Div TRW Inc Los Angeles	Cal
ITT Europe Inc Components Gp Brussels 1	Belgium
Japan Resistor Mfg Co Ltd Tokyo	Japan
Kendick Mfg Co Inc Fort Wayne	Ind
Kinetics A Teledyne Co Solana Beach	Cal
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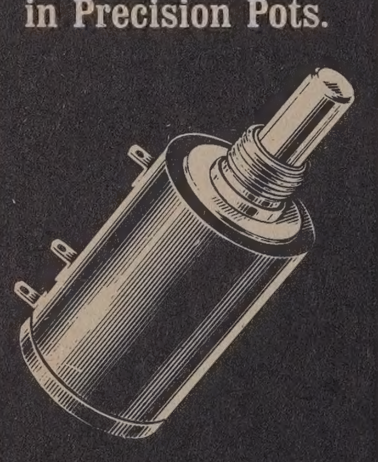
The leading name
in Precision Pots.



1, 3 or 10 turns
Military, industrial, commercial
Zero-based or absolute linearity
From 7/8" diameter
Temperature to 150°C

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LOOKING FOR PRECISION POTENTIOMETERS?

Helipot has the industry's widest selection of multiturn and single-turn precision potentiometers and is the *only* single source for units with wirewound, cermet and conductive plastic resistance elements. For complete information contact the Helipot representative nearest you. He's listed in EBG's Manufacturers' Index.

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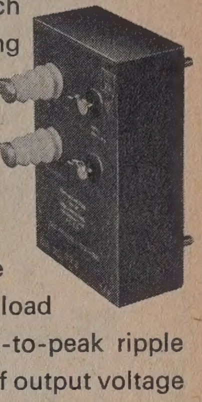

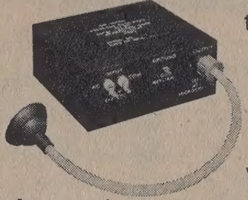

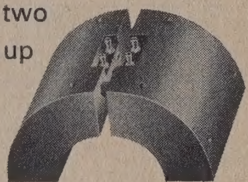

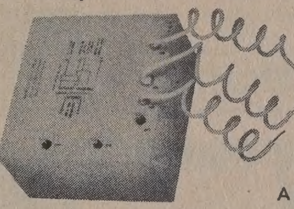

Power Supplies to Your Specifications

It is the unique power supply problem for which Peerless has the solution whether your operating requirements are commercial or Mil. Spec. Peerless experience covers both DC and AC supplies. AC inputs are normally 60 to 400 Hz. DC outputs extend to 30,000 V.D.C. at low current. Regulation values normally range from 0.25% to 10% no load to full load with peak-to-peak ripple voltages less than 1% of output voltage within this range. Peerless has designed and manufactured power supplies with two or more outputs, that operate in ambients up to 125°C and withstand shock to 50G.

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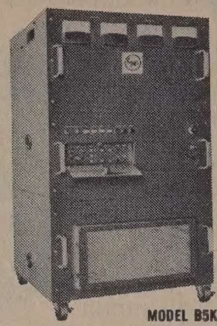
Industrial Gauging & Control Inc Norwalk	Conn
Industrial Test Equipment Co Port Washington	N Y
Inet Power A Teledyne Co Gardena	Cal
Interelectronics Corp Congers	N Y
Ionic Electrostatic Corp Garfield	N J
Jefferson Electric Co Bellwood	Ill
Jet Electronics Corp Albuquerque	N M
Julie Research Labs, Inc New York	N Y
Kato Engineering Co Mankato	Minn
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Kilovolt Corp Hackensack	N J
Kokuyo Electric Co Ltd Tokyo	Japan
Kontes Glass Co Vineland	N J
Krohn-Hite Corp Cambridge	Mass
Kuhnke, H, Elektrotechnische Fabrik Gmbh Holstein	Germany
Kurz & Root Co Appleton	Wis
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Lambda Electronics Corp Melville	N Y
Landis & Gyr AG Zug	Switzerland
Larago Electronics Mfgrs Inc Melbourne	Fla
Lear Siegler Inc Santa Monica	Cal
Linear Systems Inc Watsonville	Cal
Ling Electronics Div LTV Altec Inc Anaheim	Cal
Loral Electronic Systems, Div Loral Corp New York	NY
Louis Allis Co Div Litton Industries Milwaukee	Wisc
Loyola Industries Inc Harbor City	Cal
Magnetic Engineering Corp Danbury	Conn
Magnetics Inc Butler	Pa
Magnetic Specialties Inc Trenton	N J
Magnetika Inc Venice	Cal
Maricopa Controls Scottsdale	Ariz
McPherson Instrument Corp Sub GCA Corp Acton	Mass
Melcor Electronics Corp Farmingdale	N Y
Merrimack Magnetics Corp Lowell	Mass
Metric Engineering Div Greenray Indus Inc Mechanicsburg	Pa
Micronetics Div Teledyne Systems Co San Diego	Cal
Mid-Eastern Industries Inc Scotch Plains	N J
MIL Associates Hudson	NH
Miller Electric Mfg Co Appleton	Wis
Motor Generator Div Hobart Bros Co Troy	Ohio
Multi-Phase Electronics Van Nuys	Cal
Multronics Inc Rockville	Md
Neshaminy Electronic Corp Furlong	Pa
NH Research Inc Santa Ana	Cal
North Electric Co Galion	Ohio
North Hills Electronics Inc Glen Cove	N Y
Nova Electric Mfg Co Saddle Brook	N J
Nuclear Corp of America, Nuclear Div Denville	N J
Nytronics Inc Berkeley Heights	N J

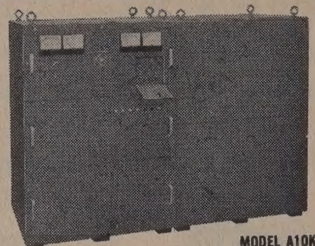
Opad Electric Co, Inc New York	N Y
Optimation, Inc Sun Valley	Cal
Pacific Transformer Co Redwood City	Cal
Paraplegics Mfg Co Inc Bensenville	Ill
Pek, Inc Sunnyvale	Cal
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17	Ont
Pioneer Magnetics Inc Santa Monica	Cal
Plastic Capacitors Inc Chicago	Ill
Power Control Corp Pittsburgh	Pa
Power Systems Inc Venice	Cal
Powertec Div, Airtronics Corp Chatsworth	Cal
P P M Inc Cleveland	Ohio
Precision Transformer Anaheim	Cal
Preferred Electronics Inc Westfield	Mass
Radio Engineering Labs, Div DCA Long Island City	N Y
Radix Electronics Corp Anaheim	Cal
Ramm Rectifier Co, Inc Bronx	N Y
Ramyr Mfg Co Buena Park	Cal
Randam Electronics Inc Cincinnati	Ohio
Rapid Electric Co Inc Bronx	N Y
Raven Electronics Inc Burbank	Cal
Reflectone. Inc, Englewood Cliffs	N J
Research Inc, R-I Controls Div Minneapolis	Minn
Roband Electronics Ltd Surrey	England
Robicon Corp Pittsburgh	Pa
Robins Electronics La Mesa	Cal
Sanders Associates, Inc Nashua	N H
SBD Systems Inc Farmingdale	N Y
Scientific Instruments Co Chatsworth	Cal
Scott Electronics Corp Orlando	Fla
Semiconductor Circuits, Inc Woburn	Mass
Shindengen Electric Mfg Co Ltd Tokyo	Japan
Singer Co Instrumentation Div Bridgeport	Conn
S K G Associates Inc Boston	Mass
Sodilec SA Salies-S A 91 Palaiseau	France
S O G I E 75 Paris 19e	France
Sola Electric Div Sola Basic Industries Elk Grove Village	Ill
Solidstate Controls Inc Columbus	Ohio
Sorensen Operation, Raytheon Co. Norwalk	Conn
Space Craft Inc Huntsville	Ala
Space Power Associates Inc Staten Island	N Y
Space & Tactical Systems Corp Burlington	Mass
Sparton Electronics, Div Sparton Corp Jackson	Mich
Spatron Inc Alhambra	Cal
Spellman High Voltage Electronics Corp Bronx	N Y
Spencer-Kennedy Labs Inc Boston	Mass
Standard Industries Buena Park	Cal
Superior Electric Co The Bristol	Conn
Symetrics Engineering Corp Satellite Beach	Fla
Taber Instruments A Teledyne Co North Tonawanda	N Y
Taffet Electronics Inc Woodside	N Y
Taft Electrosystems Inc Applied Elctns Div Metuchen	N J
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo	Japan
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn	N Y
Tel-Instrument Electronics Corp Carlstadt	N J
TencoElectronics Div AndersonPower Prods Brighton	Mass
Test Technology Inc Fern Park	Fla

CML wide band power amplifiers for audio and ultrasonic testing

SPG series

1KVA to 200KVA


MODEL B5K


MODEL A10K

- Full power into reactive loads.
- Low distortion.
- ±0.5 db frequency response.
- Ideal for CW and PULSED duty.
- Selectable output taps for matching wide range of load impedances.
- Rugged construction for marine or airborne installations.

APPLICATIONS

SONAR TESTING — HIGH INTENSITY ACOUSTIC SYSTEMS
VIBRATION TESTING — INDUSTRIAL PROCESS CONTROL

MODEL S5K

SPECIFICATIONS

OUTPUT FREQUENCY: Standard full power frequency range is 100-10,000 cps except for Model A3K which has a 200-15,000 cps range. Other frequency ranges between 5 cps and 200KC are available on a custom basis.

OUTPUT CONFIGURATION: 2 wire floating.

DUTY CYCLE: Continuous duty at full rated output power. Please consult CML for pulsed or intermittent duty ratings.

FREQUENCY RESPONSE: ±0.5 db, 100-10,000 cps. Model A3K ±0.5 db 200-15,000 cps.

HARMONIC DISTORTION: Less than 3%, 100-10,000 cps; less than 1.5% mid-band.

HUM AND NOISE: At least 60 db below rated output tap voltage.

OUTPUT IMPEDANCE SELECTION: Taps are selected by link change. Front panel tap select switches are available at additional charge.

INPUT SERVICE: Models rated 1KVA to 20KVA require 208/230 volts, 3 phase, 60 cycles. Larger models require 440/460/480 volts, 3 phase, 60 cycles — higher input voltages available on special order

SIGNAL INPUT VOLTAGE: 1.0 volt RMS for rated output.

SIGNAL INPUT IMPEDANCE: 600 ohms, single ended.

KEYED OPERATION: All models are suitable for operation with keyed input signals.

METERING: All models include complete front panel metering. In addition, models rated at 5KVA to 200KVA have recessed front panel section with test points for critical circuit parameters — to keep down-time to a minimum.

PROTECTIVE CIRCUITS: CML instantaneous overload circuitry protects both amplifier and load. Rapid front panel reset permits return to normal operation with minimum down-time.

FINISH: Panels are satin green enamel; cabinets are green armorhide. Special colors are available on a custom basis.

MODEL	OUTPUT POWER KVA	LOAD POWER FACTOR RANGE AT RATED KVA	STANDARD OUTPUT IMPEDANCE TAPS OHMS	DIMENSIONS* H x W x D (APPROX.) INCHES	WEIGHT (APPROX.) LBS.	TYPE OF COOLING
A1K	1KVA	±0.4 to Unity	4/16/36/64/144/576	22¾ x 19 x 20½	345	FORCED AIR
A2K	2	±0.4 to Unity	4/16/36/64/144/576	22¾ x 19 x 20½	400	
A3K	3	±0.1 to Unity	4/16/36/64/144/576	53 x 27 x 26	750	
S5K	5	±0.4 to Unity	16/64/256	62 x 17 x 17	800	
B5K	5	±0.1 to Unity	8/32/72/128/288/1152	45 x 24 x 24	850	
A10K	10	±0.1 to Unity	16/64/144/256/576/2304	47 x 68 x 24	1,700	
A20K	20	±0.3 to Unity	16/64/144/256/576	47 x 68 x 24	2,100	↓
VA30K	30	±0.1 to Unity	16/64/144/256/576	72 x 72 x 36	3,000	VAPOR COOLED
VA50K	50	±0.4 to Unity	16/64/144/256/576	72 x 72 x 36	4,200	
VA100K	100	±0.1 to Unity	16/64/144/256	2 sections, ea.: 90 x 72 x 57	9,400	
VA200K	200	±0.1 to Unity	16/64/144/256	3 sections, ea.: 90 x 72 x 57	14,100	↓

*Models A1K and A2K are standard 19" rack mount units; bench adapters available on special order. All other models are furnished complete in cabinet enclosures. Models A3K, S5K and B5K include casters.

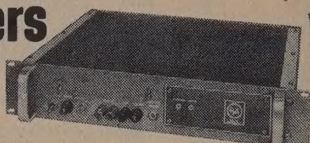
CML solid state frequency converters

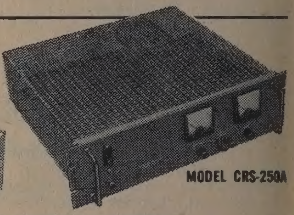
CRS series

50/60 cycles to 400 cycles

LRS series

60 or 400 cycles to 60 cycles


MODEL CRS-100A


MODEL CRS-250A

- 50VA to 2KVA output.
- Low distortion sine wave output.
- Rugged construction for airborne, marine and ground support installations.
- 0.5% frequency regulation, 1% voltage reg.
- Full output power into both leading & lagging power factor loads.
- High efficiency switched mode operation.
- TRANSISTORIZED POWER STAGES rather than Silicon Controlled Rectifiers — thus insuring positive, controlled turn-off & turn-on characteristics for reliable, continuous operation.

CRS series
50/60 CYCLE TO 400 CYCLE CONVERTERS

MODEL	OUTPUT VA	*45-65 CYCLE INPUT SINGLE ø VOLTS	DIMENSIONS H x W x D	WEIGHT (APPROX.) LBS.
CRS-50A	50	105-125	3½ x 19 x 14	24
CRS-100A	100	105-125	3½ x 19 x 14	26
CRS-150A	150	105-125	5¼ x 19 x 10	30
CRS-250A	250	105-125	5¼ x 19 x 15	65
CRS-500A	500	105-125	10½ x 19 x 16	88
CRS-1000A	1000	105-125	15¾ x 19 x 16	135
CRS-2000A	2000	200-240V 3ø	26¼ x 19 x 20	260

*350-450 Cycle input also available on a special basis.

LRS series
400 CYCLE TO 60 CYCLE CONVERTERS

MODEL	OUTPUT VA	**350-450 CYCLE INPUT SINGLE ø VOLTS	DIMENSIONS H x W x D	WEIGHT (APPROX.) LBS.
LRS-250A	250	105-125	5¼ x 19 x 15	80
LRS-500A	500	105-125	10½ x 19 x 16	100
LRS-1000A	1000	105-125	21 x 19 x 16½	220

**45-65 Cycle input also available on a special basis.

CML transistorized DC to AC power inverters

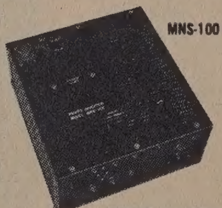
MNS series

MRS series

60 cycles output

DRS series

400 cycles output


MNS-100

- 50 to 2000VA output.
- Low distortion sine wave
- Highly regulated.
- Reliable.
- Quiet operation.
- Overload & short circuit protection.
- Protected against input polarity reversal.
- High efficiency.
- Input to output isolation.
- No auxiliary cooling required.

DRS-500

MRS series — 60 CPS

Output: 115 Volts rms, Single Phase.

Input: 22-30 Volts D. C.
Voltage & Frequency Regulation: 0.5%

MODEL	OUTPUT VA	DIMENSIONS H x W x D	NET WT. LBS. (APPROX.)
MRS-500	500	12 x 14 x 14	150
MRS-1000	1000	14 x 17 x 19	175
MRS-2000	2000	17 x 17 x 22	300

MNS series — 60 CPS

Output: 105/115/125 Volts rms, Single Phase.

Input: 22-30 Volts D. C.
Frequency Regulation: 0.5%.

MODEL	OUTPUT VA	DIMENSIONS H x W x D	NET WT. LBS. (APPROX.)
MNS-50	50	5 x 11 x 11	28
MNS-100	100	5 x 11 x 11	28
MNS-500	500	8 x 14 x 14	80
MNS-1000	1000	14 x 17 x 19	162

DRS series — 400 CPS

Output: 115 Volts rms, Single Phase.

Input: 22-30 Volts D. C.
Voltage & Frequency Regulation: 0.5%.

MODEL	OUTPUT VA	DIMENSIONS H x W x D	NET WT. LBS. (APPROX.)
DRS-50	50	5 x 11 x 8	25
DRS-100	100	5 x 11 x 8	26
DRS-500	500	8 x 14 x 16	70
DRS-1000	1000	14 x 17 x 18	160

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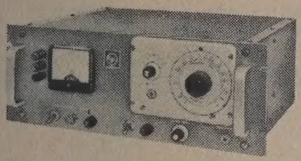
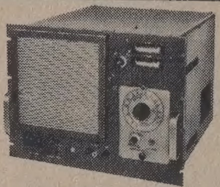
CML

single phase AC power supplies



MODEL NS175-7A-V



MODEL N1000A
With SG-17A Plug-in Oscillator

NS series
70VA to 350VA

- **Fixed and adjustable output frequencies between 45 and 6000 cycles.**
- **Interchangeable Oscillators** . . . Oscillators are interchangeable via quick disconnect; frequency range and/or frequency stability may be changed at any time merely by replacing oscillator module.
- **Excellent frequency stability** . . .
Fixed frequency models stable to ±0.001%.
Variable frequency models stable to ±0.1%.
- **Low distortion sine wave output** . . . less than 1% total harmonic distortion between 300 and 1000 cycles, less than 3% between 45 and 6000 cycles.
- **Each model can be operated either as a precision AC power supply or as a wide band audio power amplifier.**
- **Constant voltage output** . . . 0.5% regulation for no load to full load change. Response time less than 50 microseconds.

REGULATED POWER AMPLIFIERS

MODEL	OUTPUT POWER VOLT-AMPERES	*DIMENSIONS H x W. x D	WEIGHT (APPROX.) LBS.
NS70	70	7″ x 19″ x 14″	53
NS120	120	7″ x 19″ x 14″	57
NS175	175	7″ x 19″ x 14″	60
NS350	350	8¾″ x 19″ x 20¾″	115

*Dimensions apply to standard rack mount models. Add ¾″ to height if bench adapters are included.

STANDARD OSCILLATORS**

OUTPUT FREQUENCY	FREQUENCY STABILITY ±0.25%	±0.1%	±0.01%	±0.001%
	SUFFIX #			
Fixed 400 cps	—4A	—4B	—4E	—4G
Fixed 800 cps	—8A	—8B	—8E	—8G
Fixed 50 cps	—1A	—1B	—1E	Special Order
Fixed 60 cps	—2A	—2B	—2E	
Adjust. 350-450 cps	—5A	—5B	X	X
Adjust. 45-70 cps	—3A	—3B	X	X
Adjust. 300-2000 cps	—6A	—6B	X	X
Adjust. 45-6000 cps	—7A	X	X	X

**AUDIO AMPLIFIER ONLY: Each model is also available as an audio power amplifier only (without a built-in oscillator) with a full power range of 45-6000 cps. All standard models (with or without oscillator) include an input signal jack for use with external signal source. Specify the Basic Power Supply Model and Suffix # (—JA) if oscillator is not required.

NA series
500VA to 15KVA

The NA SERIES of AC POWER SUPPLIES are exceptionally flexible sources of audio power. Each power supply consists of a **REGULATED AUDIO POWER AMPLIFIER** with interchangeable fixed or variable **PLUG-IN OSCILLATORS** for a wide range of precision AC power applications. The Amplifier has a full power range of 45-6,000 cycles. With the incorporation of a **CML** Plug-in Oscillator precise fixed or adjustable output frequencies are available anywhere within this range. Plug-in Oscillators are Wein Bridge or Tuning Fork controlled.

Regulated Power Amplifiers with Precision Plug-in Oscillators

- **Each Model can be operated either as a precision AC Power Supply or as an Audio Power Amplifier.**
- **INTERCHANGEABLE PLUG-IN OSCILLATORS** . . . 23 standard oscillators are available — to provide fixed or adjustable output frequencies between 45 and 6,000 cps and stabilities to ±0.001%.
- **INSTANTANEOUS OVERLOAD PROTECTION**
- **MINIMUM PACKAGE SIZE** . . . 2000VA in 14″ rack height; 750VA in 8¾″ rack height.
- **CONSTANT VOLTAGE OUTPUT** . . . 0.5% regulation for no load to full load change — response time less than 50 microseconds.

Frequency stabilities range between ±0.25% and ±0.001%.
Plug-in Oscillators include gain control as well as front panel jack for external signal drive. Each Power Amplifier model may also be operated without a plug-in oscillator; however, in that case, the Model SA-2 External Signal Adapter is required.
Precise amplitude stability and low harmonic content are provided by a combination of positive current feedback and inverse voltage feedback.

REGULATED POWER AMPLIFIERS

MODEL	OUTPUT POWER—VA	INPUT	*DIMENSIONS H	x W	x D	WT. APPROX. LBS.
N500A	500	115V, 1ø, 47-65CPS	8¾	19	21	175
N750B	750	115V, 1ø, 47-65	8¾	19	21	180
N750A	750	208/230V, 3ø, 47-65	14	19	20½	260
N1000A	1,000	208/230V, 3ø, 47-65	14	19	20½	270
N1500A	1,500	208/230V, 3ø, 47-65	14	19	20½	315
N2000A	2,000	208/230V, 3ø, 47-65	14	19	20½	325
N5000A	5,000	208/230V, 3ø, 57-65	45	24	24	850
N15000A	15,000	208/230V, 3ø, 57-65	47	34	24	1600

*500VA to 2000VA units are standard rack mount models.
Add ¾″ to height if bench adapters are included.
5000VA and 15000VA units are cabinet models.
Model N5000A includes casters.

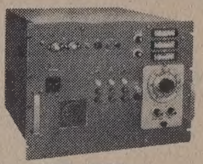
PLUG-IN OSCILLATORS**

OUTPUT FREQUENCY	FREQUENCY STABILITY ±0.25%	±0.1%	±0.01%	±0.001%
	MODEL #			
Fixed 400 cps	SG-14A	SG-14B	SG-14E	SG-14G
Fixed 800 cps	SG-18A	SG-18B	SG-18E	SG-18G
Fixed 60 cps	SG-12A	SG-12B	SG-12E	Special Order
Fixed 50 cps	SG-11A	SG-11B	SG-11E	
Adjustable 350-450 cps	SG-15A	SG-15B	X	X
Adjustable 45-70 cps	SG-13A	SG-13B	X	X
Adjustable 300-2,000 cps	SG-16A	SG-16B	X	X
Adjustable 45-6,000 cps	SG-17A	X	X	X
	EXTERNAL SIGNAL ADAPTER			
45-6,000 cps	Model SA-2			

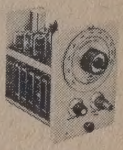
**All Plug-in Oscillators are provided with a jack for external signal drive.

CML

three phase frequency converters



MODEL T2500A
With SG-36B Oscillator



MODEL SG-35A
Plug-In Oscillator

TA series
150VA to 20KVA

The new TA Series of Three Phase Frequency Converters are exceptionally versatile sources of AC power. Each converter consists of a regulated **THREE PHASE AMPLIFIER** with interchangeable fixed or variable frequency **PLUG-IN OSCILLATORS** for a wide range of precision AC power applications. The amplifier has a full power range of 45-6,000 cps. With the incorporation of a CML plug-in oscillator (which includes 120° phase shift network) precise fixed or adjustable frequencies are available anywhere within this range.

- **MINIMUM PACKAGE SIZES** . . . 2500VA in 14″ rack height.
- **INTERCHANGEABLE PLUG-IN OSCILLATORS** . . . 21 standard oscillators are available — to provide fixed or adjustable output frequencies between 45 and 6,000 cps and stabilities to ±0.001%.
- **INSTANTANEOUS OVERLOAD PROTECTION** . . . An overload of any one phase causes complete output shutdown, protecting 3 phase load.
- **DUAL OUTPUT VOLTAGE FOR △ OR Y LOADS** . . . Adjustable voltages 0-125 volts line-to-line as well as 0-217 volts line-to-line are presented at output terminals; output is isolated for maximum versatility.
- **CONSTANT VOLTAGE OUTPUT** . . . 0.5% regulation for no load to full load change — response time less than 50 microseconds.
- **OUTPUT VOLTAGE UNAFFECTED BY UNBALANCED LOADS.**

Plug-in oscillators are Wein bridge or tuning-fork controlled for frequency stabilities ranging between ±0.25% and ±0.001%. Dual output taps are standard for matching either Delta or Wye loads (output may be connected either 120 volts line-to-line or 208 volts line-to-line). Precise amplitude stability and low harmonic content are provided by a combination of positive current feedback and inverse voltage feedback.

THREE PHASE AMPLIFIERS

MODEL	3ø OUTPUT POWER — VA	INPUT	*DIMENSIONS H	x W	x D	WT. (APPROX.) LBS.
T150A	150	115V. 1ø. 47-65	7	19	17	105
T300B	300	115V. 1ø. 47-65	12¼	19	20	180
T500B	500	115V. 1ø. 47-65	12¼	19	20	190
T750A	750	208 230V. 3ø. 47-65	14	19	20½	275
T1200A	1,200	208 230V. 3ø. 47-65	14	19	20½	285
T1750A	1,750	208 230V. 3ø. 47-65	14	19	20½	355
T2500A	2,500	208 230V. 3ø. 47-65	14	19	20½	365
T5000A	5,000	208 230V. 3ø. 57-65	45	24	24	950
T15000A	15,000	208 230V. 3ø. 57-65	78	35	36	1700
T20000A	20,000	208 230V. 3ø. 57-65	78	35	36	1900

*150VA to 2500VA units are rack mount models with dimensions as shown above. Add ¾″ to height if bench adapters are included.

PLUG-IN OSCILLATORS

3ø OUTPUT FREQUENCY	FREQUENCY STABILITY ±0.25%	±0.1%	±0.01%	±0.001%
	MODEL #			
Fixed 400 cps	SG-34A	SG-34B	SG-34E	SG-34G
Fixed 800 cps	SG-38A	SG-38B	SG-38E	SG-38G
Fixed 60 cps	SG-32A	SG-32B	SG-32E	Special Order
Fixed 50 cps	SG-31A	SG-31B	SG-31E	Special Order
Adjustable 350-450 cps	SG-35A	SG-35B	X	X
Adjustable 45-70 cps	SG-33A	SG-33B	X	X
Adjustable 300-2,000 cps	SG-36A	SG-36B	X	X
Adjustable 45-6,000 cps	SG-37A	X	X	X

5000VA-20,000VA units are cabinet models. Model T5000A includes casters.

CML

95A

CML, Inc.
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Todd Products Corp Hicksville ....NY
Topaz Inc San Diego ....Cal
Topping Electronics Ltd Scarborough ....Ont
Tranchant Electronique 92 Clichy ....France
Transcom Electronics Inc La Mesa ....Cal
Transformer Engineers San Gabriel ....Cal
Transistor Devices Inc Cedar Knolls ....N J
Transval Electronics Div Jetronic Indus Inc Gardena ....Cal
Trepac Corp of America Englewood ....N J
Trio Laboratories Inc Plainview ....N Y
Unitron Div Electric Machy Mfg Co Garland ....Tex
Universal Transistor Products Div Link Copiague ....N Y
Valor Instruments Inc Torrance ....Cal
Varo Inc, Static Power Div Plano ....Tex
Vector Engineering Inc Springfield ....N J
Veeco Instruments Inc Plainview ....N Y
Vega Precision Labs Vienna ....Va
Venus Scientific Inc Farmingdale ....N Y
Virginia Electronics Co Inc Falls Church ....Va
Vitra Instrument & Electronics Corp Syosset ....N Y
VP Co Pasadena ....Cal
Wabash Magnetics Inc Electro Magnetic Prods Div Wabash ....Ind
Wagner Electric Corp, Tung-Sol Div Livingston ....N J
Wanlass Electric Co Santa Ana ....Cal
Westinghouse Electric Corp, Aerospace Electrical Div Lima ....Ohio
Westinghouse Electric Corp Distribution Transformer Div Sharon ....Pa
Wilcox Electric Co Kansas City ....Mo
Yaskawa Electric Mfg Co Ltd Tokyo ....Japan
Zaring Industries Inc Carmel ....Ind

POWER SUPPLIES, A-C—UNREGULATED

B & B MOTOR & CONTROL CORP NEW YORK ....N Y
C M L INC PLAINFIELD N J ....ADV PGS 438,439
GAR ENTERPRISES INC PASADENA CAL ....ADV PG 631
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV PG 7
INTERELECTRONICS CORP CONGERS N Y ....ADV PG 463
KILOVOLT CORP HACKENSACK N J ....ADV PG 443
MELCOR ELECTRONICS CORP FARMINGDALE ....N Y
NOTHELFER WINDING LABS INC TRENTON ....N J
OPAD ELECTRIC CO, INC NEW YORK ....N Y
PLASTIC CAPACITORS INC CHICAGO ILL
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX . N Y
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y ....ADV PG 471
TRANSFORMER ELECTRONICS CO BOULDER COLO ....ADV PGS 2nd Cover & Facing Page
VEGA PRECISION LABS VIENNA ....VA
WAGNER ELECTRIC CORP, TUNG-SOL DIV LIVINGSTON . N J
Abbott Transistor Labs, Inc Los Angeles ....Cal
Acme Electric Corp Cuba ....N Y
ADC Electronics, Inc Harbor City ....Cal
ADC Products Minneapolis ....Minn
Advanced Energy Conversion Menlo Park ....Cal
Aerotronic Associates, Inc Contoocook ....N H
Allen Aircraft Radio Inc Elk Grove Village Ill
Allis-Chalmers Mfg Co Milwaukee ....Wis
American Rectifier Corp College Point ....N Y
Amtron Inc Sub Republic Corp Midlothian Ill
Armec Corp Huntington Station ....N Y
Astro Lab Westminster ....Cal
Astro-Metrix Corp Burbank ....Cal
Atlas Controls Div Atlas Engrg Co Inc Dorchester ....Mass
ATR Electronics, Inc St Paul ....Minn
Avtel Corp Covina ....Cal
Ballastran Corp Fort Wayne ....Ind
Basler Electric Co Highland Ill
B & B Motor & Control Corp New York ....N Y
Bendix Corp Electric Power Div Eatontown ....NJ
Bergen Lab, Inc Paterson ....N J
Bogue Electric Mfg Co Paterson ....N J
Booth Co, Arthur E Los Angeles ....Cal
Borders Electronics Co Inc Medford ....NJ
Bush Transformer Div, Gladding-Keystone Corp Oneonta ....NY
Carol Electronics Div Weeco Inc Martinsburg ....W Va
Chu Associates Inc Littleton ....Mass
C M L Inc Plainfield ....N J
Coil Co of America Inc Northvale ....N J
Continental Device Corp Hawthorne ....Cal
Continental X-Ray Corp Chicago Ill
Control Circuits Inc Middletown ....Conn
Cooke Vacuum Products Inc South Norwalk ....Conn
Data Royal Corp San Diego ....Cal
Daytron Inc Mountain View ....Cal
Del Electronics Corp Mt Vernon ....N Y
Denton Vacuum Inc Cherry Hill ....N J
Dero Research & Devel Corp Huntington ....N Y
Dinion Coil Co Inc Caledonia ....N Y
Dinsmore Instrument Co Flint ....Mich
Dresser Systems, Inc Houston ....Tex
Elasco-Eastern Inc Bloomfield ....Conn
Elcor, Div Halliburton Co Silver Spring ....Md
Electronic Research Associates Inc Cedar Grove ....N J
Electro-Pacific Inc Goleta ....Cal
Electro Technic Products Chicago Ill
Elgar Corp San Diego ....Cal
Elgin Electronics Inc Erie ....Pa
EMP Electronics Inc Tempe ....Ariz
Extrudonics Inc New Brunswick ....N J
Ferranti, Ltd Lancashire ....England
Field Electronics Inc Chatham ....N J
Fisher Berkeley Corp Emeryville ....Cal
Fisher Engineering Inc Huntington ....Ind
Forest Electric Co Melrose Park Ill
Freed Transformer Co Inc Brooklyn ....N Y
Galaxy Electronics Inc Council Bluffs ....Iowa
Gar Enterprises Inc Pasadena ....Cal
Gates Electronic Co Inc Bronx ....N Y
General Electric Co, ECSO Schenectady ....N Y
Geo Space Corp Houston ....Tex
Gibbs Mfg & Research Corp Janesville ....Wis
Glenn Pacific A Teledyne Co Oakland ....Cal
Glentek Inc Santa Monica ....Cal
Grafix Inc Albuquerque ....N Mex
Green Electric Corp Fairlawn ....NJ
Gulton Industries Inc Metuchen ....N J
Hipotronics Inc Brewster ....N Y
Hirst Electric Industries Ltd Crawley, Sussex ....England
Hyperion Industries Corp Watertown ....Mass
Idalee Electronics Corp Valley Stream ....NY
Industrial Electronetics Corp Satellite Beach ....Fla
Industrial Test Equipment Co Port Washington ....N Y
Inet Power A Teledyne Co Gardena ....Cal
Information Control Corp El Segundo ....Cal
Interelectronics Corp Congers ....N Y
Ionic Electrostatic Corp Garfield ....N J
Jefferson Electric Co Bellwood Ill
Jet Electronics Corp Albuquerque ....N M
Kato Engineering Co Mankato ....Minn
Kilovolt Corp Hackensack ....N J
Kurz & Root Co Appleton ....Wis
Labtron Corp of Amer Div KDI Corp Dayton ....Ohio
Larago Electronics Mfgrs Inc Melbourne ....Fla
Lear Siegler Inc Santa Monica ....Cal
Loyola Industries Inc Harbor City ....Cal
Magnetic Engineering Corp Danbury ....Conn
Magnetics Inc Butler ....Pa
Magnetika Inc Venice ....Cal
Maricopa Controls Scottsdale ....Ariz
Melcor Electronics Corp Farmingdale ....N Y
Micronetics Div Teledyne Systems Co San Diego ....Cal
Mid-Eastern Industries Inc Scotch Plains ....N J
MIL Associates Hudson ....NH
Miller Electric Mfg Co Appleton ....Wis
Model Rectifier Corp Brooklyn ....N Y
Motor Generator Div Hobart Bros Co Troy ....Ohio
National Coil Co Inc Douglas ....Ariz
NH Research Inc Santa Ana ....Cal
Norbatrol Electronics Corp Murrysville ....Pa
North Electric Co Galion ....Ohio
Nothelfer Winding Labs Inc Trenton ....N J
Nuclear Corp of America, Nuclear Div Denville ....N J
Nytronics Inc Berkeley Heights ....N J
Opad Electric Co, Inc New York ....N Y
Optimation, Inc Sun Valley ....Cal
Pacific Transformer Co Redwood City ....Cal
Pek, Inc Sunnyvale ....Cal
Peschel Instruments Inc Cape Coral ....Fla
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 ....Ont
Plastic Capacitors Inc Chicago Ill
Power Control Corp Pittsburgh ....Pa
Powertec Div, Airtronics Corp Chatsworth ....Cal
Precision Electronics Corp Marshfield ....Mass
Precision Transformer Anaheim ....Cal
Private Tele Communications Inc Chicago Ill
Radio Engineering Labs, Div DCA Long Island City ....N Y
Ramm Rectifier Co, Inc Bronx ....N Y
Ramyr Mfg Co Buena Park ....Cal
Randam Electronics Inc Cincinnati ....Ohio
Robicon Corp Pittsburgh ....Pa
Robins Electronics La Mesa ....Cal
Roxter Corp Long Island City ....N Y
SBD Systems Inc Farmingdale ....N Y
Scientific Instruments Co Chatsworth ....Cal
Scott Electronics Corp Orlando ....Fla
Semiconductor Circuits, Inc Woburn ....Mass
Simco Co Inc Lansdale ....Pa
S K G Associates Inc Boston ....Mass
Sodilec SA Salies-S A 91 Palaiseau ....France
Sola Electric Div Sola Basic Industries Elk Grove Village Ill
Solidstate Controls Inc Columbus ....Ohio
Sorensen Operation, Raytheon Co. Norwalk ....Conn
Space Power Associates Inc Staten Island ....N Y
Spatron Inc Alhambra ....Cal
Spellman High Voltage Electronics Corp Bronx ....N Y
Spencer-Kennedy Labs Inc Boston ....Mass
Taffet Electronics Inc Woodside ....N Y
Taft Electrosystems Inc Applied Elctns Div Metuchen ....N J
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn ....N Y
Telephone Components Inc Northport ....NY
Terado Corp St Paul ....Minn
Thiem-Transrex Inc Torrance ....Cal
T M C Systems & Power Corp Springfield ....Va
Todd Products Corp Hicksville ....NY
Topaz Inc San Diego ....Cal
Topping Electronics Ltd Scarborough ....Ont
Transcom Electronics Inc La Mesa ....Cal
Transformer Design Inc of Milwaukee Milwaukee ....Wis
Transformer Electronics Co Boulder ....Colo
Transformer Engineers San Gabriel ....Cal
Transistor Devices Inc Cedar Knolls ....N J
Transval Electronics Div Jetronic Indus Inc Gardena ....Cal
Trepac Corp of America Englewood ....N J
Triad Transformer Corp Venice ....Cal
Twinco Div Atlas Engrg Co Inc Dorchester ....Mass
Unitron Div Electric Machy Mfg Co Garland ....Tex
Universal Transistor Products Div Link Copiague ....N Y
Vactronic Lab Equipment Inc East Northport ....N Y
Valor Instruments Inc Torrance ....Cal
Valradio Ltd Feltham, Mdsx ....Eng
Varo Inc, Static Power Div Plano ....Tex
Veeco Instruments Inc Plainview ....N Y
Vega Precision Labs Vienna ....Va
Venus Scientific Inc Farmingdale ....N Y
Virginia Electronics Co Inc Falls Church ....Va
Vitra Instrument & Electronics Corp Syosset ....N Y
VP Co Pasadena ....Cal
Wabash Magnetics Inc Electro Magnetic Prods Div Wabash ....Ind
Wagner Electric Corp, Tung-Sol Div Livingston ....N J
Westinghouse Electric Corp, Aerospace Electrical Div Lima ....Ohio
Westinghouse Electric Corp Distribution Transformer Div Sharon ....Pa
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh ....Pa
Yaskawa Electric Mfg Co Ltd Tokyo ....Japan
Zaring Industries Inc Carmel ....Ind

POWER SUPPLIES, D-C TO A-C

***See* Inverters, D-C to A-C—Solid State**

POWER SUPPLIES, D-C TO D-C

***See* Converters—D-C to D-C**

POWER SUPPLIES, D-C—EHV (1000 KV & ABOVE)

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV P
INTERELECTRONICS CORP CONGERS N Y ....ADV PG 4
KILOVOLT CORP HACKENSACK N J ....ADV PG 4
PLASTIC CAPACITORS INC CHICAGO ....
SYSTRON-DONNER CORP CONCORD C
UNIVERSAL VOLTRONICS CORP MOUNT KISCO ....
WHITTAKER CORP GEN COM DIV PLAINVIEW ....
ADC Products Minneapolis ....M
Aerospace Avionics Inc Bohemia ....
AMP Inc, Capitron Div Elizabethtown ....
Analog Technology Corp Pasadena ....
Ault, Inc Minneapolis ....M
Bogue Electric Mfg Co Paterson ....
Cober Electronics Inc Stamford C
Continental Device Corp Hawthorne ....
Controlled Power Corp Farmington ....M
Davidson Electronic Development Co Erie ....
Del Electronics Corp Mt Vernon ....
Dero Research & Devel Corp Huntington ....
Electra Scientific Div Gulton Indus Inc Fullerton ....
Electronic Research Associates Inc Cedar Grove ....
Energy Beams Inc Haskell ....
Ferrotran Electronics Co Inc New York ....
Fisher Engineering Inc Huntington ....
General Electric Co, ECSO Schenectady ....
Giannini-Voltex-Radex-Irvine Whittier ....
Gulton Industries Inc Engineered Magnetics Div Hawthorne ....
High Voltage Engineering Corp Burlington ....M
Hipotronics Inc Brewster ....
Interelectronics Corp Congers ....
Ionic Electrostatic Corp Garfield ....
Ion Physics Corp Burlington ....M
Jet Electronics Corp Albuquerque ....
Kilovolt Corp Hackensack ....
Kinney Vacuum Co Boston ....M
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis ....Fr
Ling Electronics Div LTV Altec Inc Anaheim ....
Magnetics Inc Butler ....
Magnetika Inc Venice ....
Microsemiconductor Corp Culver City ....
Nuclear Enterprises Ltd Edinburgh ....Scot
Pacific Transformer Co Redwood City ....
Plastic Capacitors Inc Chicago ....
Power Control Corp Pittsburgh ....
Reaction Research Labs of America Groton ....
Resalab Scientific Div Resalab Inc Menlo Park ....
Rho Engineering Co Los Angeles ....
Shindengen Electric Mfg Co Ltd Tokyo ....J
Sorensen Operation, Raytheon Co. Norwalk ....
Systron-Donner Corp Concord ....
Thiem-Transrex Inc Torrance ....
Universal Voltronics Corp Mount Kisco ....
Varo Inc, Static Power Div Plano ....
Vitra Instrument & Electronics Corp Syosset ....
Wesco Electrical Co Inc Greenfield ....
Whittaker Corp Gen Com Div Plainview ....

POWER SUPPLIES, D-C—HIGH VOLTAGE (1 KV & ABOVE) REGULATI

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GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV
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INTERELECTRONICS CORP CONGERS N Y ....ADV P
KEPCO INC FLUSHING N Y ....ADV PGS 442, 4th
KILOVOLT CORP HACKENSACK N J ....ADV P
NJE CORP KENILWORTH N J ....ADV PGS 47
NORTH HILLS ELECTRONICS INC GLEN COVE ....
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PLASTIC CAPACITORS INC CHICAGO ....
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX
SYSTRON-DONNER CORP CONCORD ....
TRANSFORMER ELECTRONICS CO BOULDER COLO ....ADV PGS 2nd Cover & Facin
UNIVERSAL VOLTRONICS CORP MOUNT KISCO N Y ....ADV P
WEINSCHEL ENGINEERING CO INC GAITHERSBURG ..
WHITTAKER CORP GEN COM DIV PLAINVIEW ....
Abbott Transistor Labs, Inc Los Angeles ....
Acme Electric Corp Cuba ....
ADC Electronics, Inc Harbor City ....
ADC Products Minneapolis ....
Advanced Development Corp Gardena ....
Advanced Energy Conversion Menlo Park ....
Advanced High Voltage Co Inc. Northridge ....
Allen-Jones Electronics Div WEMS Inc Gardena ....
Alto Scientific Co, Inc Palo Alto ....
AMP Incorporated Harrisburg ....
AMP Inc, Capitron Div Elizabethtown ....
Analog Technology Corp Pasadena ....
Arnold Magnetics Corp Culver City ....
Astro-Metrix Corp Burbank ....
Ault, Inc Minneapolis ....

Corp Covina	Cal
man Instruments Inc Fullerton,	Cal
man Instruments Intl SA 1207 Geneva	Switzerland
e Instruments Inc No White Plains	N Y
ix Corp Electro Optics Div Ann Arbor	Mich
e Electric Mfg Co Paterson	N J
denburg Ltd South Croydon	Surrey U K
dian Research Institute Don Mills	Ont
erra Industries Meriden	Conn
ssociates Inc Littleton	Mass
r Electronics Inc Stamford	Conn
nbia Research Corp Gaithersburg	Md
onents Corp Denville	NJ
onent Technology Corp Sunnyvale	Cal
enser Products Corp Brooksville	Fla
olled Power Corp Farmington	Mich
e Vacuum Products Inc South Norwalk	Conn
y Industries Inc Santa Monica	Cal
ison Electronic Development Co Erie	Pa
er Corp Bala Cynwyd	Pa
lectronics Corp Mt Vernon	N Y
on Electronics Corp Rockville	Conn
Research & Devel Corp Huntington	N Y
ch & Co 92 Rueil Malmaison	France
ran Mfg Co Constant Voltage Co Div Chicago	Ill
rochrome Corp Plainview	N Y
ro Development Corp Lynnwood	Wash
ronic Research Associates Inc Cedar Grove	N J
ro Powerpacs Corp Cambridge	Mass
Electronics Inc Tempe	Ariz
gy Beams Inc Haskell	N J
gy Systems Inc Palo Alto	Cal
tran Electronics Co Inc New York	N Y
ral Electric Co, ECSO Schenectady	N Y
ini-Voltex-Radex-Irvine Whittier	Cal
n Industries Inc Engineered Magnetics Div wthorne	Cal
ett-Packard Palo Alto	Cal
ronics Inc Brewster	N Y
ek Corp Santa Ana	Cal
es Co, Carl E Los Angeles	Cal
ywell Test Instruments Div Denver	Colo
strial Gauging & Control Inc Norwalk	Conn
Power A Teledyne Co Gardena	Cal
ument Research Co Lincoln	Mass
electronics Corp Congers	N Y
national Laser Systems Inc Orlando	Fla
Electrostatic Corp Garfield	N J
lectronics Corp Albuquerque	N M
ston Labs, Inc Cockeysville	Md
nley Instruments Inc Cleveland	Ohio
o Inc Flushing	N Y
sui Electronics Corp nagawa City	Kanagawa Pref Japan
olt Corp Hackensack	N J
ey Vacuum Co Boston	Mass
n S p A Milan	Italy
ratoires De Marcoussis Ctr De Rsch De La CGE Marcoussis	France
Engineering Co Ltd Scarborough	Ont
arche Mfg Co Des Plaines	Ill
Siegler Inc Santa Monica	Cal
old-Heraeus, Inc. Monroeville	Pa
Electronics Div LTV Altec Inc Anaheim	Cal
n Industries, Electron Tube Div San Carlos	Cal
netics Inc Butler	Pa
netika Inc Venice	Cal
ee-Pedersen Instruments Danville	Cal
onix Corp Tokyo	Japan
o Power Inc Long Island City	N Y
osemiconductor Corp Culver City	Cal
ron Div KMS Ind Inc Sarasota	Fla
Associates Hudson	NH
da Microwave Corp Plainview	N Y
ronic Associates Farmingdale	N Y
ols Co Ltd, R H Downsview	Ont
Corp Kenilworth	N J
heast Scientific Corp Acton	Mass
h Electric Co Galion	Ohio
h Hills Electronics Inc Glen Cove	N Y
ear-Chicago Des Plaines	Ill
ear Enterprises Ltd Edinburgh	Scotland
d Electric Co, Inc New York	N Y
fic Transformer Co Redwood City	Cal
less Electrical Prods Div LTV Ling Altec Inc Anaheim	Cal
hel Instruments Inc Cape Coral	Fla
eer Magnetics Inc Santa Monica	Cal
tic Capacitors Inc Chicago	Ill
er Control Corp Pittsburgh	Pa
er Sources Div, Technical Operations Inc Burlington	Mass
ertec Div, Airtronics Corp Chatsworth	Cal
tice Electronics Corp Palo Alto	Cal
ceton Applied Research Corp Princeton	N J
m Rectifier Co, Inc Bronx	N Y
d Electric Co Inc Bronx	N Y
ction Research Labs of America Groton	Conn
lab Scientific Div Resalab Inc Menlo Park	Cal
ale Electronics Inc Garden City	NY
Engineering Corp Saratoga	Cal
ntific Instruments Co Chatsworth	Cal
tt Electronics Corp Orlando	Fla
Rex Corp & Sub The Meaker Co Nutley	N J
dengen Electric Mfg Co Ltd Tokyo	Japan
G Associates Inc Boston	Mass
Electric Div Sola Basic Industries Elk Grove Village	Ill
ensen Operation, Raytheon Co. Norwalk	Conn
rton Electronics, Div Sparton Corp Jackson	Mich
llman High Voltage Electronics Corp Bronx	N Y
Div Crescent Technology Corp Newport Beach,	Cal
tron-Donner Corp Concord	Cal
Electrosystems Inc Applied Elctns Div Metuchen	N J
coElectronics Div AndersonPower Prods Brighton	Mass
a Corp Albuquerque	N M
Electric & Machine Works Inc Chicago	Ill
m-Transrex Inc Torrance	Cal
e Zero Corp Torrance	Cal
C Systems & Power Corp Springfield	Va
nsformer Electronics Co Boulder	Colo
nsformer Engineers San Gabriel	Cal
Laboratories Inc Plainview	N Y

high voltage powerhouse

You get more when you specify High Voltage Power Supplies by Universal Voltronics

Universal Voltronics Corporation specializes in satisfying the needs of laboratories and industrial companies in many fields for High Voltage DC Precisely Regulated and Unregulated Power Supplies. Available at voltage ratings from 1000 volts to 2,000,000 volts and from 1 watt to 250,000 watts of output power. Measurement devices with compensated dividers are also available up to 1,000,000 volts and .1% accuracy. The following listing indicates the wide range of our capability.

BUILDING BLOCK POWER PACKS— Designed for integration with existing systems, OEM requirements and general laboratory uses.

ADJUSTABLE OUTPUT— Application oriented controls, performance parameters and package design for voltages of 1000 volts — 500,000 volts DC.

PORTABLE TESTERS— Light weight, for hand carry or truck mounting at voltages to 250,000 volts DC.

EHV (500,000 volts — 2,000,000 volts DC)— Available for operation in air, oil and gas (SF_6).

DC DIVIDERS— For exacting measurement at high voltage and extra high voltage.

PRECISELY REGULATED— Offering performance virtually independent of line or load changes, with precision digital control, low ripple, high stability.

Components of Universal Voltronics Power Supplies are manufactured by UVC to exacting standards for trouble-free performance and long life.

Write for complete Catalog 69-2. Universal Voltronics Corporation, 27 Radio Circle Drive, Mt. Kisco, N.Y. 10549. Telephone (914) 241-1300.

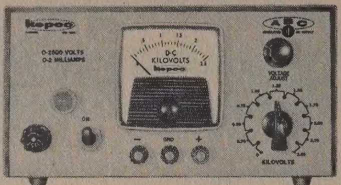
UNIVERSAL VOLTRONICS

KEPCO HIGH VOLTAGE POWER SUPPLIES

High voltage regulators employ either vacuum tube or hybrid circuit techniques to maximize the reliability of the high voltage series pass.

ABC®
(HYBRID)

REGULATION:
<0.05% Line
<0.05% Load
RIPPLE: <1 mV rms



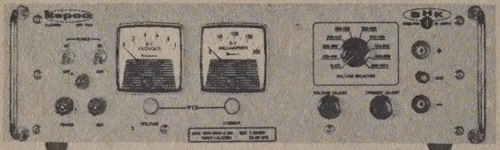
The ABC group of bench-style programmable voltage regulators span a wide range of voltages. The transistor group covers 0–2V to 0–100V; the hybrid group 0–200V to 0–2500V. Hybrid models employ a high voltage vacuum tube series regulator, convection cooled, driven by a high gain transistor amplifier. The 0–200 and 0–425 volt models employ a continuous 10-turn wirewound, 20 PPM TC voltage control. The 0–1000 volt, 0–1500 volt and 0–2500 volt models employ a 10-step voltage selector with 10-turn vernier. They may be programmed, however, continuously from zero to their rated voltage.

MODEL	VOLTS	AMPS	PRICE	WGT.
ABC 200M	0–200	0–0.1	220.00	14
ABC 425M	0–425	0–0.05	220.00	15
ABC 1000M	0–1000	0–0.02	309.00	15
ABC 1500M	0–1500	0–0.01	309.00	15
ABC 2500M	0–2500	0–0.002	383.00	18

Price includes meter, for unmetered model, delete suffix "M" and deduct $20.00 for models ABC 200 and ABC 425. Deduct $15.00 for models ABC 1000, 1500 and 2500 (any quantity order).

BHK

REGULATION: <0.005% Line – <0.01% Load
RIPPLE: <1 mV rms



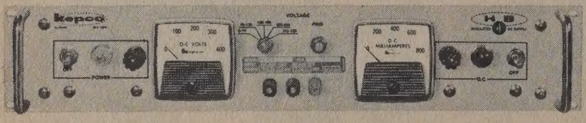
The high voltage hybrid BHK models employ twin-transistor amplifiers (one for voltage, the other for current) to drive a series pass tube regulator in either voltage or current mode, with automatic crossover and VIX® mode indicators. By restrapping for high speed, the same model is also a fast programmable voltage or quick recovery current source. Built-in offset nulling controls allow precision operational programming. Panel controls are 10-turn, 20 PPM TC wirewound, with a 10-position selector for additional voltage resolution.

MODEL	VOLTS	AMPS	PRICE	WGT.
BHK 500–0.4M	0–500	0–0.4	$825.00	40
BHK 1000–0.2M	0–1000	0–0.2	825.00	41
BHK 2000–0.1M	0–2000	0–0.1	850.00	43

Price includes meters, for unmetered models, delete suffix "M". In quantities of 12 or more units deduct $30.00 from price.

HB

REGULATION: <0.01% Line – <0.01% Load
RIPPLE: <1 mV rms



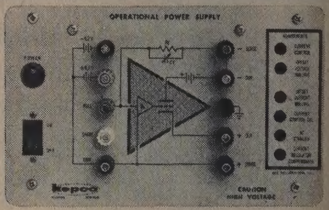
The high voltage hybrid HB power supplies use a high gain transistor comparison amplifier to drive the series pass tube regulator. Voltage feedback is by means of a 5-position range switch and 10-turn, 20 PPM TC wirewound vernier control with remote programming within the span of any one range (to zero with derating). Current may be regulated with external sensing and feedback using a rating chart to determine the allowable compliance range.

MODEL	VOLTS	AMPS	PRICE	WGT.
HB 2AM	0–325	0–0.2	$325.00	35
HB 4AM	0–325	0–0.4	365.00	35
HB 6AM	0–325	0–0.6	395.00	43
HB 8AM	0–325	0–0.8	435.00	43
HB 250M	0–250	0–1	595.00	43
HB 525M	0–525	0–0.5	550.00	43

Price includes meters, for unmetered models, delete suffix "M". In quantities of 12 or more units deduct $30.00 from price.

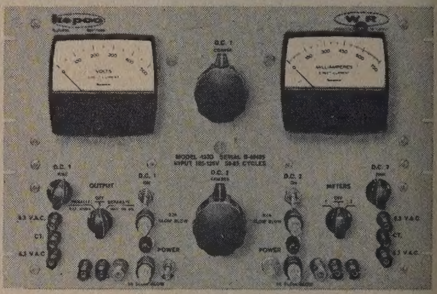
OPS
(HYBRID)

OFFSET VOLTAGE:
<0.1 mV Line
<1.0 mV Load
RIPPLE:
<0.01% E_o max. rms



The Kepco Operational Power Supply is a unique instrument; a combination self-powered operational power amplifier and d-c power supply. The OPS group is suitable for a wide variety of signal processing chores: scaling, summing, integrating and impedance transformation. The OPS Hybrids utilize a high voltage vacuum tube, together with a d-c coupled transistor amplifier. Their fast output slewing enables the OPS models to be fast-recovery, programmable, current controllers or audio spectrum voltage amplifiers.

MODEL	VOLTS	AMPS	PRICE	WGT.
OPS 500	0–500	0–0.04	$368.00	19
OPS 1000	0–1000	0–0.02	368.00	19
OPS 2000	0–2000	0–0.01	368.00	19



WR

REGULATION
<0.1%

The Kepco WR group is comprised of a variety of high voltage, vacuum tube-regulated power supplies. Many are multi-output units delivering bias and filament power in addition to regulated B+.

MODEL	VOLTS	AMPS	PRICE	WGT.
2400B #1	0–150 bias	0–0.005	$ 625.00	111
#2	0–400	0–0.15		
#3	0–400	0–0.15		
Parallel #2 & #3	0–400	0–0.3		
Series #2 & #3	0–800	0–0.15		
400B	0–400	0–0.15	310.00	48
	0–150 bias	0–0.005		
430D #1	0–450	0–0.3	762.00	140
#2	0–450	0–0.3		
Parallel #1 & #2	0–450	0–0.6		
Series #1 & #2	0–900	0–0.3		
800B #1	0–600	0–0.2	657.00	141
#2	0–600	0–0.2		
Parallel #1 & #2	0–600	0–0.4		
Series #1 & #2	0–1200	0–0.2		
615B	0–600	0–0.3	394.00	74
	0–150 bias	0–0.005		
605	0–600	0–0.5	473.00	119
	0–150 bias	0–0.005		
103 #1	0–300	0–0.075	139.00	30
Unregulated #2	0–300	0–0.075		
#3	-50 to +50	0–0.005		
Parallel #1 & #2	0–300	0–0.15		
1250 B	0–1000	0–0.5	730.00	203
1520 B	0–1500	0–0.2	788.00	204
HB 2050	0–2000	0–0.5	1,733.00	312
HB 2500	0–2500	0–0.05	1,024.00	85

All Prices Net F.O.B. Flushing, N. Y. – Prices and Specifications Subject to Change Without Notice

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Instruments El Segundo	Cal
rsal Voltronics Corp Mount Kisco	N Y
dio Ltd Feltham, Mdsx	Eng
Inc, Static Power Div Plano	Tex
r Engineering Inc Springfield	N J
ex Div Pulse Engineering Inc Santa Clara	Cal
Scientific Inc Farmingdale	N Y
Instrument & Electronics Corp Syosset	N Y
sh Magnetics Inc Electro Magnetic Prods Div bash	Ind
en Electronics Corp Waltham	Mass
schel Engineering Co Inc Gaithersburg	Md
o Electrical Co Inc Greenfield	Mass
aker Corp Gen Com Div Plainview	N Y
ore Electronics Co Inc Durham	NC
awa Electric Mfg Co Ltd Tokyo	Japan

WER SUPPLIES, D-C—HIGH OLTAGE (1 KV & ABOVE)

NREGULATED

ENSER PRODUCTS CORP BROOKSVILLE	**FLA**
RAL ELECTRIC CO, ECSO SCHENECTADY	**ADV PG 7**
RELECTRONICS CORP CONGERS N Y	**ADV PG 463**
O INC FLUSHING N Y	**ADV PG 4th Cover**
VOLT CORP HACKENSACK N J	**ADV PG 443**
CORP KENILWORTH N J	**ADV PGS 472,473**
IELFER WINDING LABS INC TRENTON	**N J**
ELECTRIC CO, INC NEW YORK	**N Y**
LESS ELECTRICAL PRODS DIV LTV LING ALTEC INC AHEIM CAL	**ADV PG 437**
TIC CAPACITORS INC CHICAGO	**ILL**
LMAN HIGH VOLTAGE ELECTRONICS CORP BRONX	**ADV PG 444**
RON-DONNER CORP CONCORD	**CAL**
ERSAL VOLTRONICS CORP MOUNT KISCO	**N Y**
tt Transistor Labs, Inc Los Angeles	Cal
onics, Inc Livermore	Cal
Electric Corp Cuba	N Y
Electronics, Inc Harbor City	Cal
Products Minneapolis	Minn
nced Energy Conversion Menlo Park	Cal
nced High Voltage Co Inc. Northridge	Cal
Scientific Co, Inc Palo Alto	Cal
o Corp Chicago	Ill
Incorporated Harrisburg	Pa
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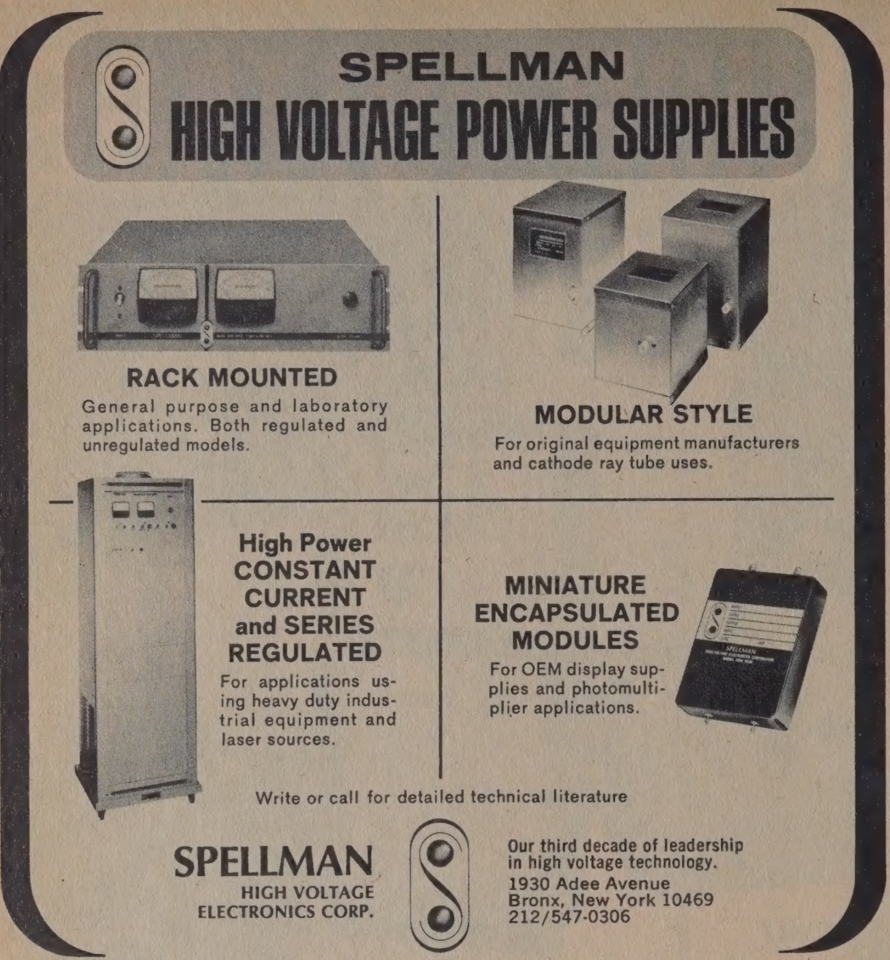

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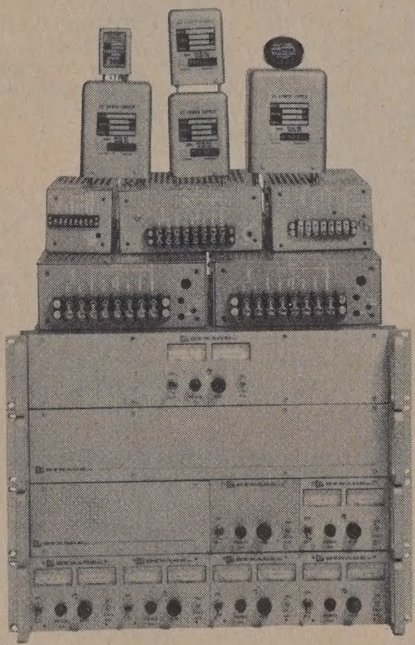

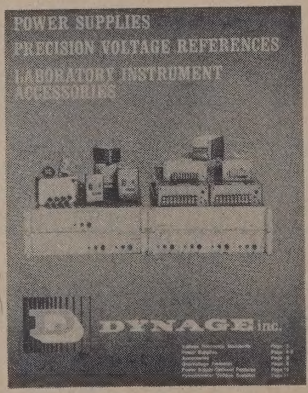

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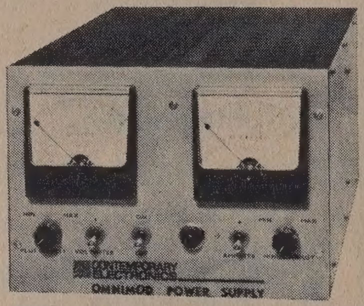

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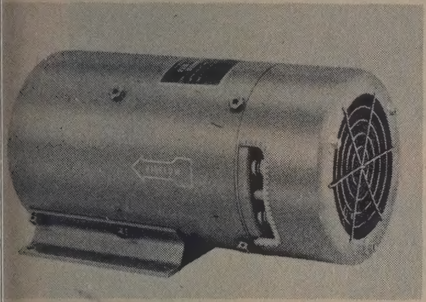

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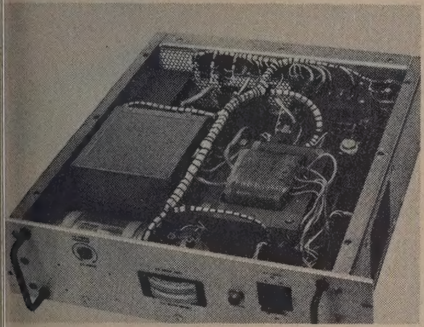

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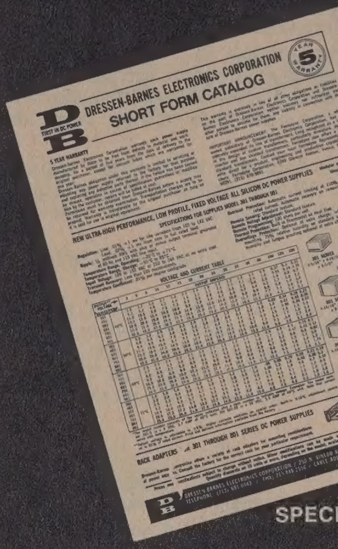

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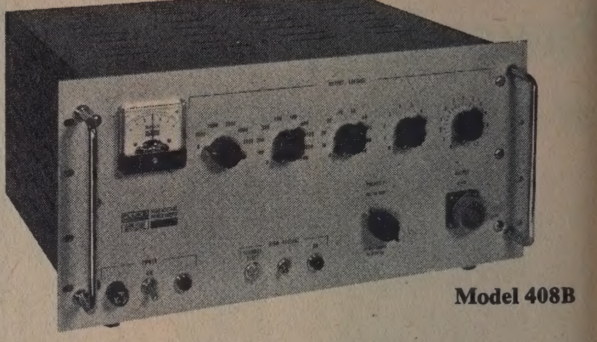
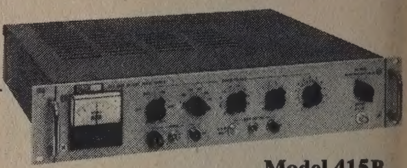
Electronics Buyers' Guide

Power supplies DC regulated

Fluke precision power supplies
0 to 30,220 volts, up to 300 ma output


Model 408B

Model 412B


Model 415B

Fluke high voltage power supplies have long been the standard of the industry when quality and reliability are essential. Fluke HVPS offer high calibration accuracy, tight line-load regulation, fine voltage resolution, excellent long term stability, low temperature coefficient, and freedom from corona, jitter, bounce or overshoot.

Every specification of Fluke power supplies is conservative; customers have found this to be true in thousands of applications and have demonstrated their confidence by specifying Fluke when their voltage demands increase.

Many applications call for high calibration accuracy, while others require high stability and a low ripple component. All are combined with excellent line and load regulation to insure that Fluke power supplies meet or exceed virtually all systems requirements.

Fluke supplies are produced in volume and a large stock is maintained making them readily available and competitively priced.

Typical applications include power BWO's and TWT's, klystrons, photomultiplier tubes, CRT acceleration and focusing, proportional counters, ionization chambers, mass spectrometry, voltmeter and volt box calibration, charging capacitor banks, high-resolution X-ray equipment. They are also extensively used in high voltage research and for component evaluation and test.

HIGH VOLTAGE POWER SUPPLIES

			Regulation		Stability					
Model	Voltage	Current (ma)	Line (%)	Load (%)	% Per Hour	% Per Day	Calibration Accuracy (%)	Max. Ripple (rms)	Resolution	Price
412B	0-2,100	0-30	0.001	0.001	0.002	0.01	0.25	500 µv	5 mv	$ 410
423A	0-3,000	0-10	0.001	0.002	0.01	0.03	0.25	5 mv	100 mv	$ 460
415B	0-3,111	0-20	0.001	0.001	0.005	0.02	0.25	500 µv	5 mv	$ 525
4150A*	0-3,400	0-50	0.001	0.001	0.005	0.02	0.25	1 mv	100 mv	$1995
408B	0-6,000	0-20	0.001	0.001	0.005	0.02	0.25	1 mv	5 mv	$ 665
410B	0-10,000	0-10	0.001	0.001	0.005	0.02	0.25	1 mv	5 mv	$ 975
430A	10,000-30,220	0-10	0.005	0.01	0.005	0.03	0.25	5 mv	100 mv	$3940
GENERAL PURPOSE POWER SUPPLIES										
407D	0-555	0-300	0.005	0.01	0.01	0.05	0.5	500 µv	2 mv	$ 450 (cabinet) $ 470 (rack)

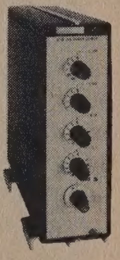
*Remotely Programmable

New Programmable High Voltage Power Supply—Model 4150A

The 4150A offers the automatic test system user a precision high voltage supply that was designed specifically for remote control. The 4150A will deliver 50 ma at any output voltage up to 3400 volts. Programmable current limiting is also provided. The output voltage is programmable in five decades which gives a resolution of 0.1 volts. The remote control lines for the 4150A are logic compatible with almost all solid state control systems in use today.

A zero center voltmeter provides a visual monitor of the output magnitude and polarity when the instrument is operated locally or from a remote location.

New NIMS High Voltage Power Supply


Model 423A

The Fluke Model 423A is a high performance, low cost power supply designed for Nuclear Instrument Module Systems (NIMS). Offering 0 to 3000 VDC, and up to 10 ma, the Model 423A sells for $460. This versatile HVPS in a small package is available in a portable bench case or a NIMS bin module. The Model 423A features remote analog slewing of the output or manual operation in steps of 10, 100, or 500 volts. A sweep vernier allows smooth control of the output from zero to the calibrated dial settings.

Specifications

Output voltage: 0 to 3000 VDC
Output current: 0 to 10 ma
Resolution: 100 mv
Accuracy: 0.25%
Voltage Calibration: 0 to 2500v in 5 steps of 500v
0 to 400v in 4 steps of 100v
0 to 90v in 9 steps of 10v
0 to 10v vernier
Slewing: 0 to 3000v vernier (uncalibrated)
Ripple and noise: 5 mv peak-to-peak, 10 Hz to 10 MHz
Overload protection: Output limited to 15 ma
Polarity: Reversible at rear panel
Size: 3″ x 9″ x 10″
Price: $460, $495 with case

Fluke, Box 7428, Seattle, Washington 98133. Phone: (206) 774-2211.
TWX: 910-449-2850. In Europe address Fluke Nederland (N.V.), P.O. Box 5053,
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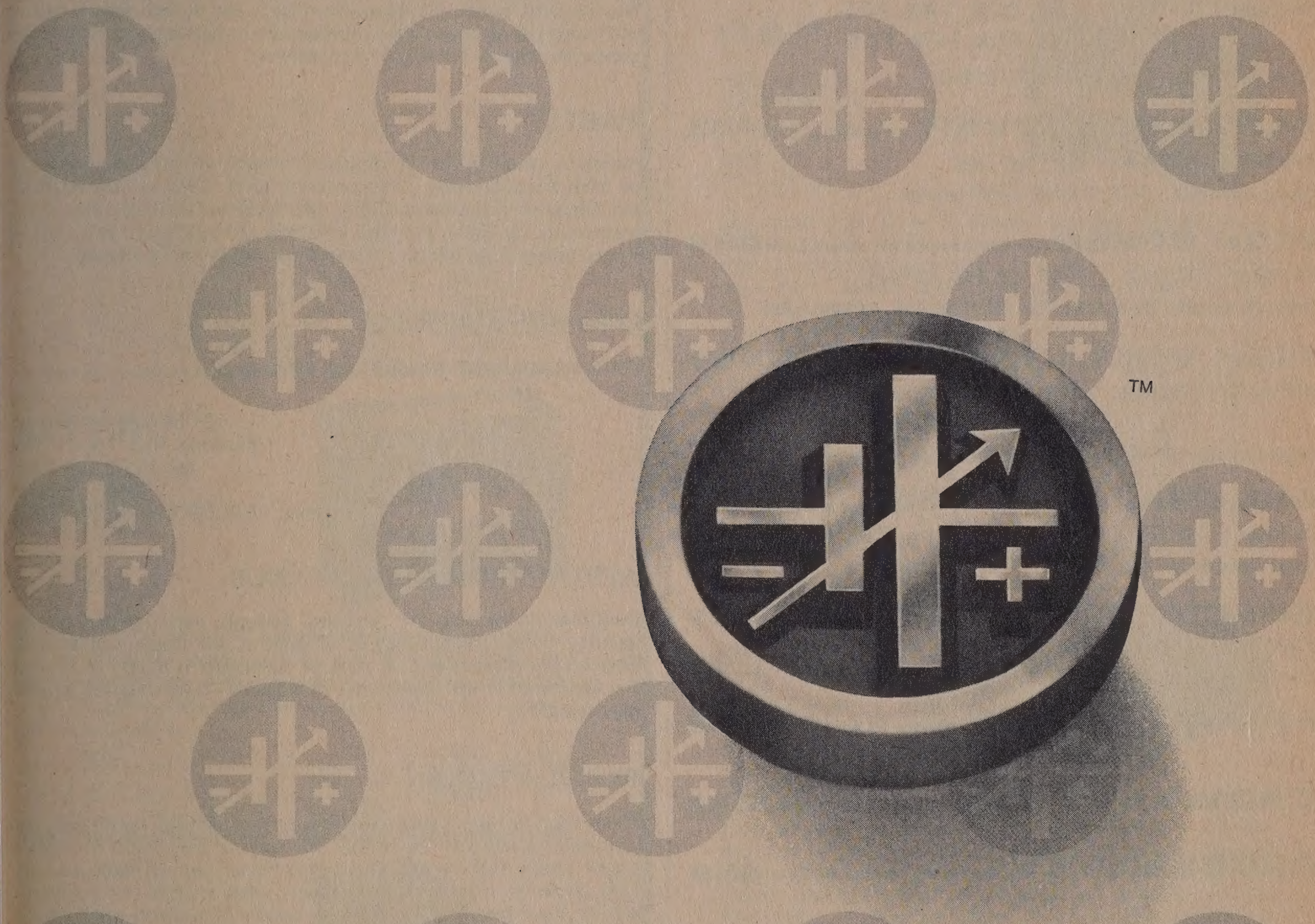

SHORT FORM CATALOG & PRICE SCHEDULE

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KEPCO POWER SUPPLIES

This short form catalog provides a quick reference guide to Kepco Power Supplies. Fully detailed specifications may be found in Catalog B-693.

Power Supplies are categorized by function and style.

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ORDERING INFORMATION:

Power supplies are identified by a multipart model number, usually comprising a letter group prefix (identifying the design) followed by a series of numbers that specify the model (usually in rated volts and amperes). Options will be identified by letter suffix specifying meters, cases, special controls, etc.

It is important for the expeditious handling of inquiries, orders, etc., that the full Kepco model number be used for identification *even* if local specification control numbers have been assigned by your organization.

WARRANTY:

All Kepco products are backed by a firm one (1) year warranty, covering all parts and labor. The warranty is honored at our factory Service Department, Flushing, New York, and at field service depots maintained at strategic cities. Consult your local sales representative concerning the availability of local service.

PARTS:

Maintenance parts may be obtained through the field representative or from Kepco directly. When ordering parts, please use the identifying Kepco part number, and give the model and serial number of the instrument for which they are intended. Do *not* return any parts to Kepco unless authorization tags and instructions are provided.

COMMUNICATIONS:

Please address orders and correspondence to:

Kepco, Inc.
131-38 Sanford Avenue
Flushing, New York 11352
Tel: (212) 461-7000
Telex: 12-6055
Cable: KEPCOPOWER NEWYORK

APPLICATIONS ASSISTANCE:

Questions concerning the facilities, features, behavior and characteristics of any product may be directed to the Kepco Applications Engineering Department. A staff of specialists is happy to provide any assistance in the application of Kepco's Power Supplies to you requirements.

PUBLICATIONS:

From time to time Kepco publishes papers, articles, handbooks an supplements designed to further the state of utilization of moder power supply technology. The Kepco Power Supply News is a regularly published compendium of timely news articles. For a subscription to the Power Supply News—or copies of available publication write to Kepco, Inc. at the above address to order your copies. Copies of Kepco's publications are also available through Kepco' field representatives.

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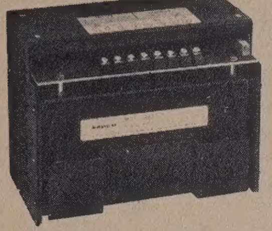
KEPCO POWER SUPPLIES • SHORT FORM CATALOG & PRICE SCHEDULE

MODULAR POWER SUPPLIES

BKF



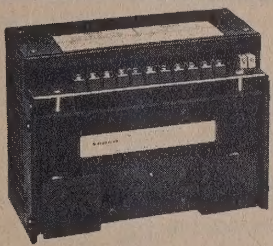
REGULATION:
<0.05% Line
<0.05% Load

RIPPLE:
<0.5 mV rms

The Kepco BKF design combines an I-C driven series transistor regulator, with a modified re-entrant overcurrent circuit. Voltage is controlled with a ±10% adjustment range, protected by a built-in overvoltage crowbar. The crowbar trip point is tabulated for each model.

MODEL	VOLTS	AMPS	OVTRIP POINT (max)	PRICE	WGT.
BKF 5–3	5.0 ±10%	0–3	6.5	$120.00	7
BKF 5–5	5.0 ±10%	0–5	6.5	138.00	7
BKF 12–1.4	12.0 ±10%	0–1.4	15.3	120.00	7
BKF 12–2.4	12.0 ±10%	0–2.4	15.3	138.00	7
BKF 15–1.2	15.0 ±10%	0–1.2	19.5	120.00	7
BKF 15–2	15.0 ±10%	0–2	19.5	138.00	7
BKF 24–0.8	24.0 ±10%	0–0.8	30.0	120.00	7
BKF 24–1.2	24.0 ±10%	0–1.2	30.0	138.00	7
BKF 28–0.6	28.0 ±10%	0–0.6	34.2	120.00	7
BKF 28–1	28.0 ±10%	0–1	34.2	138.00	7

DTM



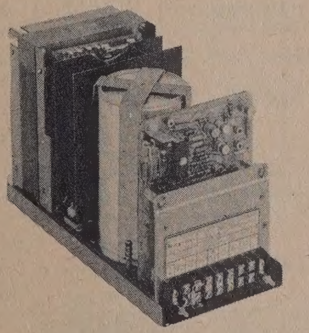
REGULATION:
<0.05% Line
<0.05% Load

RIPPLE:
<0.5 mV rms

The Model DTM 2X16–0.6 provides a tracked pair of d-c voltages for operating circuit modules, amplifiers and devices requiring matched plus and minus voltages. The circuit consists of a pair of regulators sharing a common reference and driving separate series regulators.

MODEL	VOLTS	AMPS	PRICE	WGT.
DTM 2X 16–0.6	0 to +16	0 to +0.6	$120.00	5
	0 to −16	0 to −0.6		

PAR



REGULATION:
<0.005% Line
<0.01% Load

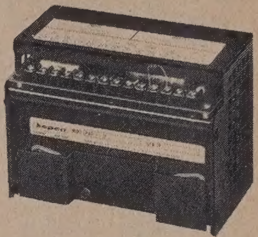
RIPPLE:
<0.25 mV rms

The PAR modules couple a high gain d-c feedback regulator with convection cooled NPN pass transistors to a conventional power transformer for 50–440 Hz power frequency accommodation. The PAR modules produce a fixed voltage with a ±5% adjustment range at a current rating which depends upon the ambient temperature. PAR models may be programmed to a lesser nominal voltage (with current derating) by substituting for the resistor wired across the control terminals.

MODEL	VOLTS	AMPS at ambient temp 65°C▼ 55°C▼▼	AMPS at ambient temp 40°C▼ 30°C▼▼	PRICE	WGT.
PAR–4	4±5%	0–9.0	0–11.0	$205.00	20
PAR–7	7±5%	0–8.0	0–10.0	205.00	20
PAR–12	12±5%	0–5.5	0–7.0	205.00	20
PAR–15	15±5%	0–4.6	0–6.0	205.00	20
PAR–24	24±5%	0–3.4	0–4.0	205.00	20
PAR–28	28±5%	0–3.1	0–3.7	205.00	20
PAR–36	36±5%	0–2.3	0–2.8	205.00	20
PAR–48	48±5%	0–1.8	0–2.3	205.00	20
PAR–60	60±5%	0–1.5	0–2.0	205.00	20

▼Uncased: ▼▼Cased CASED UNIT: add suffix "C" to model no. and $11.00 to price.

PAT



REGULATION:
<0.0005% Line
<0.005% Load

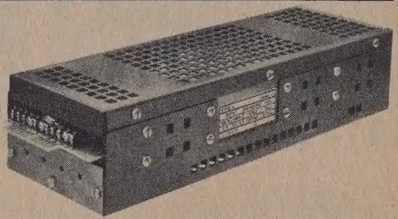
RIPPLE:
<0.1 mV rms

The Kepco PAT series of voltage regulated modular power supplies features compact repairable construction of a precision programmable regulator. The output is a self-cooled series NPN transistor driven by a monolithic linear I-C amplifier and protected by adjustable current limiting. The regulator will control current when equipped with an external pair of sensing and feedback resistors.

MODEL	VOLTS	AMPS	PRICE	WGT.
PAT 7–2	0–7	0–2	$121.00	6
PAT 15–1.5	0–15	0–1.5	121.00	6
PAT 21–1	0–21	0–1	121.00	6
PAT 40–0.5	0–40	0–0.5	121.00	6
PAT 72–0.3	0–72	0–0.3	121.00	6
PAT 100–0.2	0–100	0–0.2	121.00	6

Built-in OFFSET VOLTAGE CONTROL: add suffix "E" to model no. and $10.00 to price.
For 0.005% per °C TC OPTION: add suffix "T" to model no. and $30.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.

PAX



REGULATION:
<0.05% Line
<0.05% Load

RIPPLE:
<0.25 mV rms

PAX modules are low cost, single-amplifier power supplies that can be used with voltage or current feedback. The HS models (high speed) are especially recommended for current control because of their fast-recovery characteristics. In the PAX design, a convection-cooled PNP series pass transistor is used, the negative output terminal is common to the signal input. The PAX models are thus the signal-complement of the PCX and OPS designs.

MODEL	VOLTS	AMPS	PRICE	WGT.
PAX 7–1	0–7	0–1	$ 94.00	4
PAX 7–1HS	0–7	0–1	104.00	4
PAX 15–0.75	0–15	0–0.75	94.00	4
PAX 15–0.75HS	0–15	0–0.75	104.00	4
PAX 21–0.5	0–21	0–0.5	94.00	4
PAX 21–0.5HS	0–21	0–0.5	104.00	4
PAX 36–0.3	0–36	0–0.3	94.00	4
PAX 36–0.3HS	0–36	0–0.3	104.00	4
PAX 72–0.15	0–72	0–0.15	94.00	4
PAX 72–0.15HS	0–72	0–0.15	104.00	4
PAX 100–0.1	0–100	0–0.1	94.00	4
PAX 100–0.1HS	0–100	0–0.1	104.00	4

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.

All Prices Net F.O.B. Flushing, N. Y. — Prices and Specifications Subject to Change Without Notice

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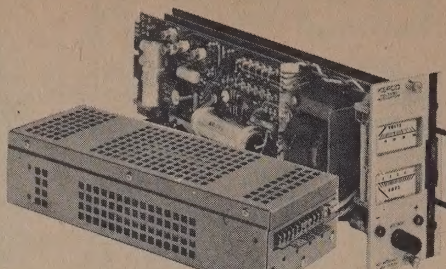
KEPCO POWER SUPPLIES • SHORT FORM CATALOG & PRICE SCHEDULE

PCX



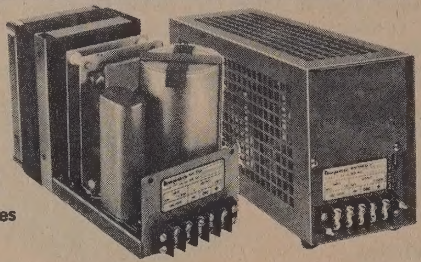
REGULATION:
<0.0005% Line
<0.005% Load
RIPPLE: <0.1 mV rms

The PCX group of voltage regulators are available in two forms—as programmable modules for OEM's or (with the suffix "MAT") as metered plug-ins with a built-in, 10-turn voltage control. The regulator is a self-cooled series NPN transistor driven by Kepco's monolithic linear I-C amplifier and protected by adjustable current limiting. The regulator will control current when equipped with an external pair of sensing and feedback resistors. The PCX series, with its I-C regulator replaces Kepco's PBX design group.

MODEL	VOLTS	AMPS	PRICE	WGT.
*PCX 7–2	0–7	0–2	$111.00	4
PCX 7–2MAT	0–7	0–2	168.00	6
*PCX 15–1.5	0–15	0–1.5	111.00	4
PCX 15–1.5MAT	0–15	0–1.5	168.00	6
*PCX 21–1	0–21	0–1	111.00	4
PCX 21–1MAT	0–21	0–1	168.00	6
*PCX 40–0.5	0–40	0–0.5	111.00	4
PCX 40–0.5MAT	0–40	0–0.5	168.00	6
*PCX 72–0.3	0–72	0–0.3	111.00	4
PCX 72–0.3MAT	0–72	0–0.3	168.00	6
*PCX 100–0.2	0–100	0–0.2	111.00	4
PCX 100–0.2MAT	0–100	0–0.2	168.00	6

*Uncased Models, for Dust Cover Case: add suffix "C" to model no. and $11.00 to price.
Models with suffix "MAT" fit plug-in housings CA-3, CA-4, CA-5 and RA 22-6. (See Page 15).
For 0.005% per °C TC OPTION: add suffix "T" to model no. and $30.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.

PRM



REGULATION:
Line: <± 1%
Load: See tables

RIPPLE: See tables

The Kepco PRM voltage regulated modules are simple, reliable, efficient, fixed output sources. The design is based on a ferroresonant power transformer called Flux-O-Tran® which provides both regulating and overload current limiting. The extra-filtered models (suffix F) have a Pi section LC filter, reducing their ripple to about a tenth that of the single section capacitor-filtered models. The *dual* output models have two independent d-c circuits that may be used in series or in parallel or separately.

SIZE "A" — 180 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION* ΔV INCREASE 100%-50% LOAD	LOAD REGULATION* ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS VOLTS	PRICE	SHIP WGT. (lbs.)
PRM 5–25	5.2	0–25	0.5	0.8	0.4	$125.00	22
PRM 6–25	6.3	0–25	0.5	0.8	0.4	125.00	22
PRM 12–15	12	0–15	0.6	1.0	0.4	125.00	22
PRM 18–10	18	0–10	0.6	1.0	0.3	125.00	22
PRM 24–8	24	0–8	0.7	1.2	0.3	125.00	22
PRM 28–7	28	0–7	0.7	1.2	0.4	125.00	22
PRM 36–5	36	0–5	0.8	1.3	0.4	125.00	22
PRM 48–4	48	0–4	1.0	1.8	0.3	125.00	22
PRM 60–3	60	0–3	1.1	1.9	0.3	125.00	22
PRM 120–1.5	120	0–1.5	2.2	3.6	0.3	125.00	22

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

SIZE "B" – 120 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION* ΔV INCREASE 100%-50% LOAD	LOAD REGULATION* ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS VOLTS	PRICE	SHIP WGT. (lbs.)
PRM 5–15	5.2	0–15	0.5	0.8	0.4	$104.00	17
PRM 6–15	6.3	0–15	0.5	0.8	0.4	104.00	17
PRM 12–10	12	0–10	0.6	1.0	0.4	104.00	17
PRM 18–6.7	18	0–6.7	0.8	1.3	0.3	104.00	17
PRM 24–5	24	0–5	1.0	1.7	0.3	104.00	17
PRM 28–4.3	28	0–4.3	1.2	2.0	0.3	104.00	17
PRM 36–3.3	36	0–3.3	1.5	2.4	0.3	104.00	17
PRM 48–2.5	48	0–2.5	2.0	3.4	0.3	104.00	17
PRM 60–2	60	0–2	2.3	3.8	0.3	104.00	17
PRM 120–1	120	0–1	4.6	7.6	0.3	104.00	17

Available Cased only. 50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

EXTRA-FILTERED — SIZE "C" — 180 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION* ΔV INCREASE 100%-50% LOAD	LOAD REGULATION* ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS VOLTS	PRICE	SHIP WGT. (lbs.)
PRM 5–25F	5.2	0–25	0.7	1.2	0.04	$178.00	28
PRM 6–25F	6.3	0–25	0.7	1.2	0.04	178.00	28
PRM 12–15F	12	0–15	0.9	1.4	0.02	178.00	28
PRM 18–10F	18	0–10	0.9	1.5	0.01	178.00	28
PRM 24–8F	24	0–8	1.2	2.0	0.005	178.00	28
PRM 28–7F	28	0–7	1.3	2.1	0.005	178.00	28
PRM 36–5F	36	0–5	1.5	2.4	0.005	178.00	28
PRM 48–4F	48	0–4	1.7	2.9	0.003	178.00	28
PRM 60–3F	60	0–3	2.3	3.6	0.003	178.00	28
PRM 120–1.5F	120	0–1.5	3.8	6.8	0.003	178.00	28

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

DUAL OUTPUT — SIZE "C" — 300 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION* ΔV INCREASE 100%-50% LOAD	LOAD REGULATION* ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS VOLTS	PRICE	SHIP WGT. (lbs.)
PRM 2X4.5–20	4.5 4.5	0–20 0–20	0.5	0.7	0.3	$197.00	38
PRM 2X5–20	5.2 5.2	0–20 0–20	0.5	0.7	0.3	197.00	38
PRM 2X6–20	6.3 6.3	0–20 0–20	0.5	0.7	0.3	197.00	38
PRM 2X12–12	12 12	0–12 0–12	0.5	0.7	0.3	197.00	38
PRM 2X15–10	15 15	0–10 0–10	0.5	1.0	0.3	197.00	38
PRM 2X18–8	18 18	0–8 0–8	0.6	1.6	0.3	197.00	38
PRM 2X24–6	24 24	0–6 0–6	0.6	1.0	0.3	197.00	38
PRM 2X28–5	28 28	0–5 0–5	0.7	1.2	0.3	197.00	38
PRM 2X36–4	36 36	0–4 0–4	0.7	1.2	0.3	197.00	38
PRM 2X48–3	48 48	0–3 0–3	0.8	1.4	0.3	197.00	38
PRM 2X60–2.5	60 60	0–2.5 0–2.5	1.0	1.7	0.3	197.00	38

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.
*Measured at 115V AC Line

SIZE "D" – 60 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION ΔV INCREASE 100%-50% LOAD	LOAD REGULATION ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS %	PRICE	SHIP WGT. (lbs.)
PRM 5–10	4.2	12.0	0.5	0.7	0.50	$89.00	12
	4.6	11.0					
	5.0	10.0					
	5.4	9.3					
	5.8	8.6					
PRM 6.3–8	5.5	9.1	0.5	0.8	0.33	89.00	12
	5.9	8.5					
	6.3	8.0					
	6.7	7.5					
	7.1	7.1					

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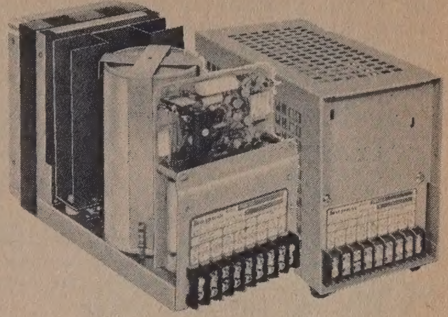
MODEL	DC OUTPUT		LOAD REGULATION		RIPPLE %	PRICE	SHIP WGT.
	VOLTS	AMPS	100%-50%	100%-25%			
PRM 8–7	7.2	7.8	0.5	0.8	0.33	89.00	12
	7.6	7.5					
	8.0	7.0					
	8.4	6.7					
	8.8	6.4					
PRM 10–6	8.4	7.1	0.6	0.9	0.33	89.00	12
	9.2	6.5					
	10.0	6.0					
	10.8	5.6					
	11.6	5.2					
PRM 12–5	10.4	5.7	0.7	1.2	0.33	89.00	12
	11.2	5.4					
	12.0	5.0					
	12.8	4.7					
	13.6	4.5					
PRM 15–4	13.4	4.5	0.9	1.3	0.33	85.00	12
	14.2	4.2					
	15.0	4.0					
	15.8	3.8					
	16.6	3.6					
PRM 18–3.3	16.4	3.6	1.0	1.6	0.33	85.00	12
	17.2	3.5					
	18.0	3.3					
	18.8	3.2					
	19.6	3.1					
PRM 21–2.9	17.9	3.4	1.0	1.7	0.33	85.00	12
	19.4	3.1					
	21.0	2.9					
	22.6	2.7					
	24.2	2.6					
PRM 26–2.3	22	2.7	1.3	2.0	0.33	85.00	12
	24	2.5					
	26	2.3					
	28	2.1					
	30	2.0					
PRM 36–1.7	32	1.9	1.7	2.7	0.33	85.00	12
	34	1.8					
	36	1.7					
	38	1.6					
	40	1.5					
PRM 48–1.25	42	1.43	2.1	3.4	0.33	85.00	11
	45	1.33					
	48	1.25					
	51	1.18					
	54	1.11					
PRM 60–1	52	1.15	1.2	2.1	0.33	85.00	11
	56	1.07					
	60	1.00					
	64	0.94					
	68	0.88					
PRM 70–0.86	60	1.00	1.3	2.5	0.33	85.00	11
	65	0.92					
	70	0.86					
	75	0.80					
	80	0.75					
PRM 90–0.67	80	0.75	1.9	3.4	0.33	85.00	11
	85	0.71					
	90	0.67					
	95	0.63					
	100	0.60					
PRM 120–0.50	110	0.54	2.3	5.0	0.33	85.00	11
	115	0.52					
	120	0.50					
	125	0.48					
	130	0.46					
PRM 160–0.37	140	0.43	3.0	6.0	0.33	85.00	11
	150	0.40					
	160	0.37					
	170	0.35					
	180	0.33					
PRM 240–0.25	220	0.27	4.0	8.2	0.33	85.00	11
	230	0.26					
	240	0.25					
	250	0.24					
	260	0.23					

Available Cased only. 50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

PWR



REGULATION:
<0.005% Line
<0.05% Load

RIPPLE:
<0.25 mV rms

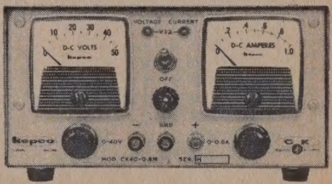
The PWR modules couple a high-gain, d-c feedback regulator and convection-cooled NPN series pass transistors to a ferroresonant Flux-O-Tran® power transformer to provide well regulated voltage with a ±5% adjustment range around the nominal level. The nominal voltage for each model is set by a fixed resistor wired externally across the connection barrier strip. This resistor may be changed, or a variable resistor substituted, to alter the nominal setting. The output current derates when the nominal setting is reduced.

MODEL	VOLTS	AMPS	PRICE	WGT.
PWR 4–14	4±5%	0–14	$220.00	21
PWR 7–11	7±5%	0–11	220.00	21
PWR 12–7	12±5%	0–7	220.00	21
PWR 15–6	15±5%	0–6	220.00	21
PWR 24–4	24±5%	0–4	220.00	21
PWR 28–3.3	28±5%	0–3.3	220.00	21
PWR 36–3	36±5%	0–3	220.00	21
PWR 48–2	48±5%	0–2	220.00	21
PWR 60–1.5	60±5%	0–1.5	220.00	21

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

AUTOCROSSOVER POWER SUPPLIES

CK



REGULATION:
<0.005% Line
<0.01% Load

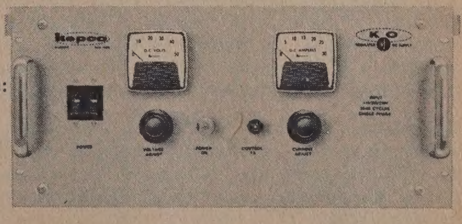
RIPPLE:
<0.5 mV rms

The CK Power Supplies are twin-amplifier voltage and current autocrossover power supplies with VIX® mode indicators. The amplifiers drive a forced-cooled PNP pass transistor series regulator. The CK models are equipped with a 16-terminal access barrier strip for programming connections to externally control voltage and current.

MODEL	VOLTS	AMPS	PRICE	WGT.
CK 2–8M	0–2	0–8	$363.00	21
CK 8–5M	0–8	0–5	363.00	21
CK 18–3M	0–18	0–3	321.00	21
CK 36–1.5M	0–36	0–1.5	321.00	21
CK 40–0.8M	0–40	0–0.8	281.00	21
CK 60–0.5M	0–60	0–0.5	321.00	21

Price includes meters, for unmetered models, delete suffix "M".
In quantities of 12 or more units deduct $30.00 from price.

KO



REGULATION:
<1% Line
<1% Load

RIPPLE:
<0.5% rms

(Continued on the following page.)

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KO Power Supplies are heavy-duty SCR regulators employing two control amplifiers for automatic crossover voltage and current operation. Voltage and current are both programmable or may be controlled by the panel-mounted, precision 10-turn, 20 PPM TC wirewound rheostats.

MODEL	VOLTS	AMPS	PRICE	WGT.
KO 12–100M	0–12	0–100	$1,095.00	178
KO 25–50M	0–25	0–50	995.00	165
KO 45–30M	0–45	0–30	895.00	165
KO 70–20M	0–70	0–20	995.00	169

Price includes meters, for unmetered models, delete suffix "M".
In quantities of 12 or more units deduct $30.00 from price.

KS

REGULATION: <0.005% Line – <0.01% Load
RIPPLE: <1 mV rms

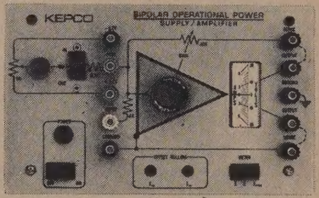
The KS Power Supplies are twin-amplifier voltage and current autocrossover power supplies with VIX® mode indicators. The amplifiers drive a PNP pass transistor output stage whose drop is tracked by an SCR preregulator for minimum dissipation. Cooling is by self-contained forced air blowers. A 16-terminal access barrier strip allows for the external programming of voltage and current.

MODEL	VOLTS	AMPS	PRICE	WGT.
KS 8–15M	0–8	0–15	$ 657.00	45
KS 8–25M	0–8	0–25	798.00	65
KS 8–50M	0–8	0–50	1,103.00	95
KS 8–100M	0–8	0–100	1,523.00	170
KS 18–10M	0–18	0–10	604.00	45
KS 18–15M	0–18	0–15	762.00	65
KS 18–25M	0–18	0–25	1,019.00	95
KS 18–50M	0–18	0–50	1,428.00	170
KS 36–5M	0–36	0–5	552.00	45
KS 36–10M	0–36	0–10	657.00	65
KS 36–15M	0–36	0–15	767.00	95
KS 36–30M	0–36	0–30	1,208.00	170
KS 60–2M	0–60	0–2	552.00	45
KS 60–5M	0–60	0–5	678.00	65
KS 60–10M	0–60	0–10	940.00	95
KS 60–20M	0–60	0–20	1,418.00	170
KS 120–1M	0–120	0–1	578.00	45
KS 120–2.5M	0–120	0–2.5	730.00	65
KS 120–5M	0–120	0–5	1,019.00	95
KS 120–10M	0–120	0–10	1,523.00	170

Price includes meters, for unmetered models, delete suffix "M".
In quantities of 12 or more units deduct $30.00 from price.

HIGH SPEED POWER SUPPLIES

BOP



OPEN LOOP d-c GAIN:
35,000 volts per volt

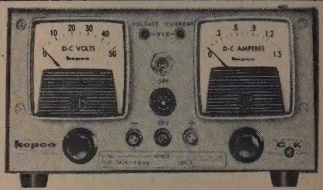
OFFSET VOLTAGE:
<0.1 mV Line
<1.0 mV Load

The Bipolar Operational Power Supply is a distinctly different sort of instrument, capable of responding to programming commands in either direction from zero. The BOP employs a d-c coupled NPN/PNP complementary-symmetry output stage, forced-cooled for efficient dissipation.

The standard laboratory BOP is equipped with a patch board panel containing input/output reference and feedback elements. The unmetered instrument has a blank panel for OEM's. Barrier strip access to all control points is provided on both styles.

MODEL	VOLTS	AMPS	PRICE	WGT.
BOP 36–1.5M	+36 to -36	+1.5 to -1.5	$525.00	20
BOP 36–1.5	+36 to -36	+1.5 to -1.5	465.00	18
BOP 36–5M	+36 to -36	+5 to -5	750.00	42
BOP 36–5	+36 to -36	+5 to -5	690.00	40
BOP 72–1.5M	+72 to -72	+1.5 to -1.5	1,125.00	52
BOP 72–1.5	+72 to -72	+1.5 to -1.5	1,065.00	49
BOP 72–5M	+72 to -72	+5 to -5	1,475.00	80
BOP 72–5	+72 to -72	+5 to -5	1,415.00	77

CK-HS



REGULATION:
<0.005% Line
<0.01% Load

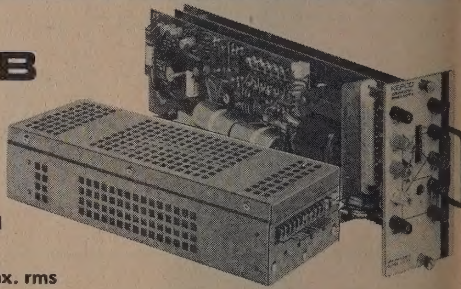
RIPPLE:
<0.1% E_o max rms

This is a high speed (fast programming) version of the Kepco CK design. The high speed is achieved by removing output and feedback capacitances, reducing the stability margin. For this reason, CK-HS models should not be used in place of a voltage source in applications where its fast-programming voltage agility is not required. It is ideal as a current source because of the quick recovery characteristic. Offset nulling controls are built-in. The series pass transistor is a PNP element, making the negative output terminal signal-common.

MODEL	VOLTS	AMPS	PRICE	WGT.
CK 8–5MHS	0–8	0–5	$410.00	21
CK 18–3MHS	0–18	0–3	368.00	21
CK 36–1.5MHS	0–36	0–1.5	368.00	21
CK 40–0.8MHS	0–40	0–0.8	328.00	21
CK 60–0.5MHS	0–60	0–0.5	368.00	21

Price includes meters, for unmetered models, delete suffix "M".
In quantities of 12 or more units deduct $30.00 from price.

OPS-B



OFFSET VOLTAGE:
<10 µV Line
<200 µV Load

RIPPLE:
<0.01% E_o max. rms

The Kepco Operational Power Supply is a unique instrument; a combination self-powered operational power amplifier and d-c power supply. The OPS group is suitable for a wide variety of signal processing chores: scaling, summing, integrating and impedance transformation. The "B" models, incorporating a linear I-C input amplifier, are in modular form for OEM's; the "BTA" versions are plug-in modules which offer a 10-terminal patch panel for bench-type operational manipulations. Model OPS 2000 is a hybrid type utilizing a high voltage vacuum tube. Their fast output slewing enables the OPS models to be fast-recovery, programmable, current controllers or audio spectrum voltage amplifiers.

MODEL	VOLTS	AMPS	PRICE	WGT.
*OPS 7–2B	0–7	0–2	$137.00	4
OPS 7–2BTA	0–7	0–2	179.00	6
*OPS 15–1.5B	0–15	0–1.5	137.00	4
OPS 15–1.5BTA	0–15	0–1.5	179.00	6
*OPS 21–1B	0–21	0–1	137.00	4
OPS 21–1BTA	0–21	0–1	179.00	6
*OPS 40–0.5B	0–40	0–0.5	137.00	4
OPS 40–0.5BTA	0–40	0–0.5	179.00	6
*OPS 72–0.3B	0–72	0–0.3	137.00	4
OPS 72–0.3BTA	0–72	0–0.3	179.00	6
*OPS 100–0.2B	0–100	0–0.2	137.00	4
OPS 100–0.2BTA	0–100	0–0.2	179.00	6
†OPS 20	0–20	0–0.05	200.00	7

*Uncased Models, for Dust Cover Case: add suffix "C" to model no. and $11.00 to price. Models with suffix "TA" fit plug-in housings CA-3, CA-4, CA-5 and RA 22-6.
†OPS 20 and OPS 2000 available in bench style only.

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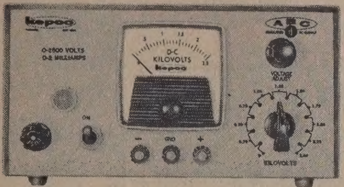
HIGH VOLTAGE POWER SUPPLIES

ABC®

(HYBRID)



REGULATION:
<0.05% Line
<0.05% Load
RIPPLE: <1 mV rms

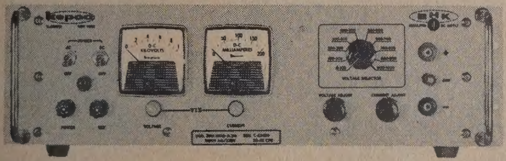
The ABC group of bench-style programmable voltage regulators span a wide range of voltages. The transistor group covers 0–2V to 0–100V; the hybrid group 0–200V to 0–2500V. Hybrid models employ a high voltage vacuum tube series regulator, convection cooled, driven by a high gain transistor amplifier. The 0–200 and 0–425 volt models employ a continuous 10-turn wirewound, 20 PPM TC voltage control. The 0–1000 volt, 0–1500 volt and 0–2500 volt models employ a 10-step voltage selector with 10-turn vernier. They may be programmed, however, continuously from zero to their rated voltage.

MODEL	VOLTS	AMPS	PRICE	WGT.
ABC 200M	0–200	0–0.1	220.00	14
ABC 425M	0–425	0–0.05	220.00	15
ABC 1000M	0–1000	0–0.02	309.00	15
ABC 1500M	0–1500	0–0.01	309.00	15
ABC 2500M	0–2500	0–0.002	383.00	18

Price includes meter, for unmetered model, delete suffix "M" and deduct $20.00 for models ABC 200 and ABC 425. Deduct $15.00 for models ABC 1000, 1500 and 2500 (any quantity order).

BHK

REGULATION: <0.005% Line – <0.01% Load
RIPPLE: <1 mV rms



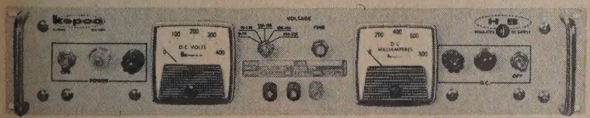
The high voltage hybrid BHK models employ twin-transistor amplifiers (one for voltage, the other for current) to drive a series pass tube regulator in either voltage or current mode, with automatic crossover and VIX® mode indicators. By restrapping for high speed, the same model is also a fast programmable voltage or quick recovery current source. Built-in offset nulling controls allow precision operational programming. Panel controls are 10-turn, 20 PPM TC wirewound, with a 10-position selector for additional voltage resolution.

MODEL	VOLTS	AMPS	PRICE	WGT.
BHK 500–0.4M	0–500	0–0.4	$825.00	40
BHK 1000–0.2M	0–1000	0–0.2	825.00	41
BHK 2000–0.1M	0–2000	0–0.1	850.00	43

Price includes meters, for unmetered models, delete suffix "M". In quantities of 12 or more units deduct $30.00 from price.

HB

REGULATION: <0.01% Line – <0.01% Load
RIPPLE: <1 mV rms



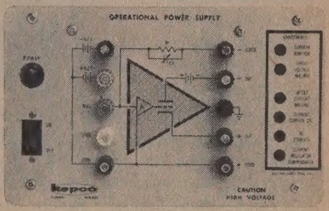
The high voltage hybrid HB power supplies use a high gain transistor comparison amplifier to drive the series pass tube regulator. Voltage feedback is by means of a 5-position range switch and 10-turn, 20 PPM TC wirewound vernier control with remote programming within the span of any one range (to zero with derating). Current may be regulated with external sensing and feedback using a rating chart to determine the allowable compliance range.

MODEL	VOLTS	AMPS	PRICE	WGT.
HB 2AM	0–325	0–0.2	$325.00	35
HB 4AM	0–325	0–0.4	365.00	35
HB 6AM	0–325	0–0.6	395.00	43
HB 8AM	0–325	0–0.8	435.00	43
HB 250M	0–250	0–1	595.00	43
HB 525M	0–525	0–0.5	550.00	43

Price includes meters, for unmetered models, delete suffix "M". In quantities of 12 or more units deduct $30.00 from price.

OPS

(HYBRID)

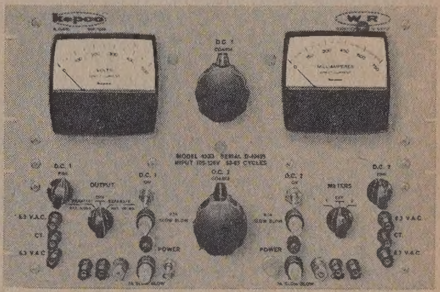


OFFSET VOLTAGE:
<0.1 mV Line
<1.0 mV Load
RIPPLE:
<0.01% E_O max. rms

The Kepco Operational Power Supply is a unique instrument; a combination self-powered operational power amplifier and d-c power supply. The OPS group is suitable for a wide variety of signal processing chores: scaling, summing, integrating and impedance transformation. The OPS Hybrids utilize a high voltage vacuum tube, together with a d-c coupled transistor amplifier. Their fast output slewing enables the OPS models to be fast-recovery, programmable, current controllers or audio spectrum voltage amplifiers.

MODEL	VOLTS	AMPS	PRICE	WGT.
OPS 500	0–500	0–0.04	$368.00	19
OPS 1000	0–1000	0–0.02	368.00	19
OPS 2000	0–2000	0–0.01	368.00	19

WR



REGULATION
<0.1%

The Kepco WR group is comprised of a variety of high voltage, vacuum tube-regulated power supplies. Many are multi-output units delivering bias and filament power in addition to regulated B+.

MODEL	VOLTS	AMPS	PRICE	WGT.
2400B #1	0–150 bias	0–0.005	$ 625.00	111
#2	0–400	0–0.15		
#3	0–400	0–0.15		
Parallel #2 & #3	0–400	0–0.3		
Series #2 & #3	0–800	0–0.15		
400B	0–400	0–0.15	310.00	48
	0–150 bias	0–0.005		
430D #1	0–450	0–0.3	762.00	140
#2	0–450	0–0.3		
Parallel #1 & #2	0–450	0–0.6		
Series #1 & #2	0–900	0–0.3		
800B #1	0–600	0–0.2	657.00	141
#2	0–600	0–0.2		
Parallel #1 & #2	0–600	0–0.4		
Series #1 & #2	0–1200	0–0.2		
615B	0–600	0–0.3	394.00	74
	0–150 bias	0–0.005		
605	0–600	0–0.5	473.00	119
	0–150 bias	0–0.005		
103 #1	0–300	0–0.075	139.00	30
Unregulated #2	0–300	0–0.075		
#3	-50 to +50	0–0.005		
Parallel #1 & #2	0–300	0–0.15		
1250 B	0–1000	0–0.5	730.00	203
1520 B	0–1500	0–0.2	788.00	204
HB 2050	0–2000	0–0.5	1,733.00	312
HB 2500	0–2500	0–0.05	1,024.00	85

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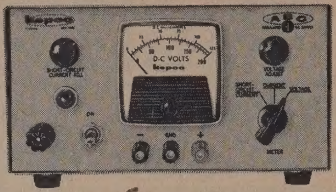
KEPCO POWER SUPPLIES • SHORT FORM CATALOG & PRICE SCHEDULE

GENERAL PURPOSE POWER SUPPLIES

ABC®

(TRANSISTORIZED)



REGULATION:
<0.05% Line
<0.05% Load

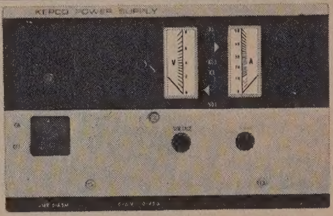
RIPPLE:
<0.25 mVrms

The ABC group of bench-style programmable voltage regulators span a wide range of voltages. The transistor group covers 0–2V to 0–100V; the hybrid group 0–200V to 0–2500V. All-transistor models employ a PNP series regulator, convection cooled, driven by a high gain transistor amplifier. These models feature 10-turn wirewound, 20 PPM TC voltage controls and panel-adjustable current limiting.

MODEL	VOLTS	AMPS	PRICE	WGT.
ABC 2–1M	0–2	0–1	$131.00	10
ABC 7.5–2M	0–7.5	0–2	175.00	14
ABC 10–0.75M	0–10	0–0.75	131.00	10
ABC 15–1M	0–15	0–1	175.00	13
ABC 18–0.5M	0–18	0–0.5	131.00	10
ABC 30–0.3M	0–30	0–0.3	131.00	10
ABC 40–0.5M	0–40	0–0.5	175.00	14
ABC 100–0.2M	0–100	0–0.2	197.00	14

Price includes volt/ammeter, for unmetered models, delete suffix "M" and deduct $20.00 from price (any quantity order).

JQE



REGULATION:
<0.0005% Line
<0.005% Load

RIPPLE:
<0.2 mV rms

JQE power supplies are compact general-purpose laboratory voltage regulators. They are equipped with a panel-adjusted overload current limiter and can be converted to current regulation by using external sensing and feedback resistors. JQE models feature a linear full-dissipation series NPN transistor-regulator driven by a monolithic linear I-C amplifier. Output is fully programmable with an offset zeroing control available as an option. An overvoltage crowbar is also an optional accessory (mounts internally). The JQE-HS high-speed option is recommended for current control because of its fast-recovery characteristics, and for fast programming applications.

MODEL	VOLTS	AMPS	PRICE	VP OPTION	WGT.
JQE 6–10M	0–6	0–10	$289.00	$ 75.00	21
JQE 6–22M	0–6	0–22	520.00	95.00	34
JQE 6–45M	0–6	0–45	625.00	95.00	48
JQE 6–90M	0–6	0–90	977.00	115.00	95
JQE 15–6M	0–15	0–6	289.00	75.00	21
JQE 15–12M	0–15	0–12	520.00	95.00	34
JQE 15–25M	0–15	0–25	625.00	95.00	48
JQE 15–50M	0–15	0–50	977.00	115.00	95
JQE 25–4M	0–25	0–4	289.00	75.00	21
JQE 25–9M	0–25	0–9	520.00	95.00	34
JQE 25–18M	0–25	0–18	625.00	95.00	48
JQE 25–36M	0–25	0–36	977.00	115.00	95
JQE 36–3M	0–36	0–3	289.00	75.00	21
JQE 36–6M	0–36	0–6	520.00	95.00	34
JQE 36–13M	0–36	0–13	625.00	95.00	48
JQE 36–25M	0–36	0–25	977.00	115.00	95
JQE 55–2M	0–55	0–2	300.00	75.00	21
JQE 55–4.5M	0–55	0–4.5	520.00	95.00	34
JQE 55–9M	0–55	0–9	625.00	95.00	48
JQE 55–18M	0–55	0–18	977.00	115.00	95
JQE 75–1.5M	0–75	0–1.5	300.00	75.00	21
JQE 75–3M	0–75	0–3	520.00	95.00	34
JQE 75–6.5M	0–75	0–6.5	625.00	95.00	48
JQE 75–13M	0–75	0–13	977.00	115.00	95
JQE 100–1M	0–100	0–1	300.00	75.00	21
JQE 100–2.5M	0–100	0–2.5	520.00	95.00	34
JQE 100–5M	0–100	0–5	625.00	95.00	48
JQE 100–10M	0–100	0–10	977.00	115.00	95

For Modular unmetered units: delete suffix "M" and deduct $30.00 from price.
Factory-Installed OVERVOLTAGE PROTECTOR: add suffix "VP" to model no. (See prices above).
HIGH-SPEED OPTION: (100,000 V/s): add suffix "HS" and $50.00 to price (includes offset control)
Built-in OFFSET VOLTAGE CONTROL: add suffix "E" to model no. and $10.00 to price.
For 0.005% per °C TC OPTION: add suffix "T" to model no. and $30.00 to price.

PR

REGULATION: <±1% Line – <±2% Load
RIPPLE: ≈1% rms

The Kepco PR design consists of a ferroresonant power transformer (Flux-O-Tran®) coupled to a variable autotransformer for adjustable output. The regulating transformer provides line stabilization and current limiting. The husky silicon rectifiers and capacitive filter provide large amounts of d-c in a simple, reliable package.

SINGLE PHASE INPUT – REGULATION: <±1% Line

MODEL	VOLTS	AMPS	PRICE	WGT.
PR 15–10M	0–7.5–15	0–10	$378.00	48
PR 15–30M	0–15	0–30	552.00	103
PR 38–5M	0–19–38	0–5	357.00	47
PR 38–15M	0–38	0–15	520.00	92
PR 80–2.5M	0–40–80	0–2.5	357.00	45
PR 80–8M	0–80	0–8	499.00	90
PR 155–1M	0–78–155	0–1	357.00	40
PR 155–4M	0–155	0–4	473.00	80
PR 220–3M	0–220	0–3	473.00	80
PR 310–0.6M	0–165–310	0–0.6	378.00	40
PR 310–2M	0–310	0–2	473.00	80

50 Hz OPTION: add suffix "—50" to model no. and $30.00 to price.

3-PHASE INPUT – REGULATION: <±2% Line – <±5% Load
RIPPLE: <3% rms

MODEL	VOLTS	AMPS	PRICE	WGT.
PR 20–100AM	0–20	0–100	$1,103.00	250
PR 40–50AM	0–40	0–50	940.00	250
PR 50–40AM	0–50	0–40	940.00	250

50 Hz OPTION: add suffix "—50" to model no. and $90.00 to price.
Price includes meters, for unmetered models, delete suffix "M".
In quantities of 12 or more units deduct $30.00 from price.

SM

REGULATION: <0.01% Line – <0.05% Load
RIPPLE: <1 mV rms

SM Power supplies combine the line stabilization of Kepco's PR design with a feedback-controlled, high gain d-c amplifier—using series PNP power transistors. The Kepco Flux-O-Tran®, a ferroresonant power transformer, feeds a variable autotransformer mechanically coupled to the feedback amplifier's voltage control permitting the SM design to offer all-transistor regulation up to 0–325 volts at 2 amperes.

MODEL	VOLTS	AMPS	PRICE	WGT.
SM 14–7AM	0–14	0–7	$426.00	46
SM 14–15AM	0–14	0–15	552.00	65
SM 14–30AM	0–14	0–30	762.00	107
SM 36–5AM	0–36	0–5	415.00	46
SM 36–10AM	0–36	0–10	552.00	66
SM 36–15AM	0–36	0–15	657.00	99
SM 75–2AM	0–75	0–2	447.00	46
SM 75–5AM	0–75	0–5	552.00	70
SM 75–8AM	0–75	0–8	657.00	100
SM 160–1AM	0–160	0–1	447.00	45
SM 160–2AM	0–160	0–2	552.00	70
SM 160–4AM	0–160	0–4	657.00	96
SM 325–0.5AM	0–165–325	0–0.5	462.00	46
SM 325–1AM	0–325	0–1	583.00	70
SM 325–2AM	0–325	0–2	709.00	96

50 Hz OPTION: add suffix "—50" to model no. and $40.00 to price.
Price includes meters, for unmetered models, delete suffix "M".
In quantities of 12 or more units deduct $30.00 from price.

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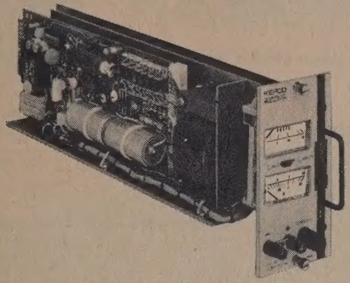
KEPCO POWER SUPPLIES • SHORT FORM CATALOG & PRICE SCHEDULE

SPECIAL PURPOSE POWER SUPPLIES



CC

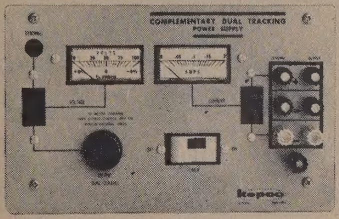
CURRENT REGULATION:
<0.0005% Line
<0.005% Load

RIPPLE: <0.02% rms

The CC plug-in modules are current controllers with built-in dual-range, current-sensing resistors and 10-turn control. They employ Kepco's monolithic linear I-C amplifier driving a self-cooled NPN series transistor-regulator. Capacitorless output filtering ensures rapid recovery from switching or load transients. Output currents ranges from true zero (no minimum) to the selected range (10% to 100% of the current rating) with 10-turn resolution. Metering is isolated by means of an I-C voltage follower.

MODEL	AMPS	VOLTS	PRICE	WGT.
CC 7–2M	0–2	0–7	$195.00	6
CC 15–1.5M	0–1.5	0–15	195.00	6
CC 21–1M	0–1	0–21	195.00	6
CC 40–0.5M	0–0.5	0–40	195.00	6
CC 72–0.3M	0–0.3	0–72	195.00	6
CC 100–0.2M	0–0.2	0–100	195.00	6

Uncased, available metered only.



CDT

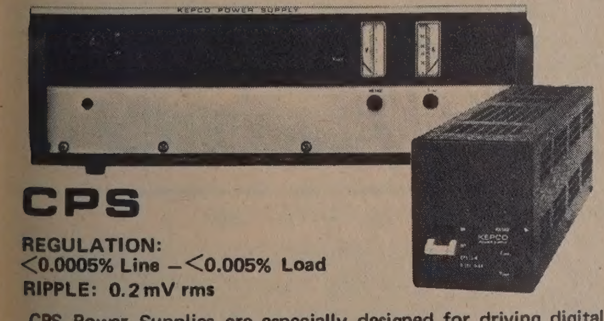
REGULATION:
<0.005% Line
<0.01% Load

RIPPLE:
<0.25 mV rms

The complementary dual-tracking power supplies consist of two regulators coupled together in a complementary manner using a common reference and a single output voltage control. They may be used to drive independent plus (+) and minus (–) loads or may be used in series for double voltage to a single load.

MODEL	VOLTS	AMPS	PRICE	WGT.
CDT 15–1.5M	0–±15	0–±1.5	$399.00	19
CDT 40–0.5M	0–±40	0–±0.5	399.00	19
CDT 100–0.2M	0–±100	0–±0.2	399.00	19

Available metered only.



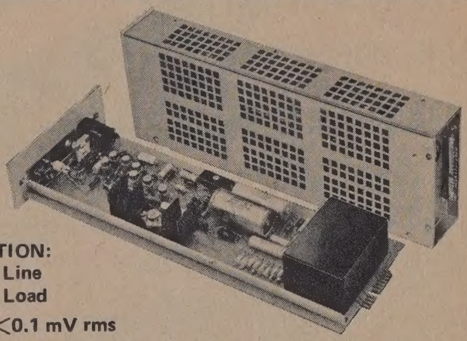
CPS

REGULATION:
<0.0005% Line – <0.005% Load
RIPPLE: 0.2 mV rms

CPS Power Supplies are especially designed for driving digital I-C's. They feature an integral overvoltage crowbar and a linear full-dissipation series NPN transistor-regulator driven by a monolithic linear amplifier. On/off switching and crowbar reset is accomplished by a panel-mounted circuit breaker. The metered models feature panel-mounted, 10-turn voltage controls and dual meters. The CPS Power Supplies are also available unmetered, in modular form for OEM's with controls recessed.

MODEL	VOLTS	AMPS	PRICE	WGT.
CPS 6–10M	0–6	0–10	$366.00	21
CPS 6–10	0–6	0–10	336.00	21
CPS 6–22M	0–6	0–22	585.00	45
CPS 6–22	0–6	0–22	555.00	45
CPS 6–45M	0–6	0–45	660.00	45
CPS 6–45	0–6	0–45	630.00	45
CPS 6–90M	0–6	0–90	995.00	77
CPS 6–90	0–6	0–90	965.00	77
CPS 15–6M	0–15	0–6	366.00	21
CPS 15–6	0–15	0–6	336.00	21
CPS 15–12M	0–15	0–12	585.00	45
CPS 15–12	0–15	0–12	555.00	45
CPS 15–25M	0–15	0–25	660.00	45
CPS 15–25	0–15	0–25	630.00	45
CPS 15–50M	0–15	0–50	995.00	77
CPS 15–50	0–15	0–50	965.00	77

Built-in OFFSET VOLTAGE CONTROL: add suffix "E" to model no. and $10.00 to price.
For 0.005% per °C TC OPTION: add suffix "T" to model no. and $30.00 to price.



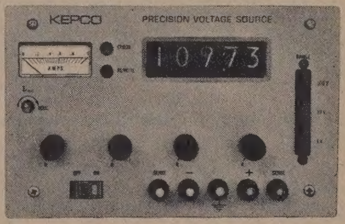
KG

REGULATION:
<0.001% Line
<0.005% Load
RIPPLE: <0.1 mV rms

The KG isolated module is designed for driving balanced electronic circuits and bridges - often used with electromechanical transducers. The KG module offers minimal common mode line-coupled current, achieved by stringent isolation of the power transformer and line-related components, and nonmetallic, low-capacitance mounting. The modules are designed for plug-in mounting 8-abreast in a 19-inch rack or in an individual plug-in case.

MODEL	VOLTS	AMPS	PRICE	WGT.
KG 25–0.2	0–25	0–0.2	$175.00	4
KG 100–0.05	0–100	0–0.05	175.00	4

Built-in OFFSET VOLTAGE CONTROL: add suffix "E" to model no. and $10.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.



PVS

REGULATION:
<0.0005% Line
<0.001% Load

RIPPLE:
<0.1 mV rms

The PVS Precision Voltage Source features an extremely low drift linear amplifier driving a self-cooled NPN power transistor stage. Voltage control is by means of digitally selected (1–2–4–8 BCD) precision–low TC, high stability feedback resistors with a 3-decade oven-controlled reference. Output is displayed on a 4½ digit readout with a built-in error-detecting system to prevent false indication. Output current is metered and the limit is adjustable. A remote digital programming connector is fitted in the voltage control (BCD switch closures) and to the display (decimal switch closures). Model with suffix "G" omits the remote digital control feature. The 0.02% overall accuracy qualifies the Precision Voltage Source as an instrument calibrator.

MODEL	VOLTS	AMPS	PRICE	WGT.
PVS 100–1M	0.0000–100.00	0–1	$875.00	28
*PVS 100–1MG	0.0000–100.00	0–1	815.00	28

* Less remote connector.

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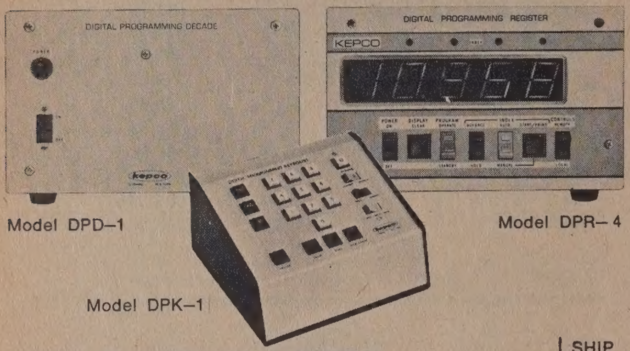
KEPCO POWER SUPPLIES • SHORT FORM CATALOG & PRICE SCHEDUL

PROGRAMMERS

Kepco's programmers are designed to control the output voltage and/or current of programmable power supplies in accordance with analog sweep or digital step commands. The DPD, DPR, DPK System is responsive to logic level signals for complete machine compatibility. The MP models are motorized rheostats for very slow sweeps. The Model FG–100 is an electronic sweep for moderate speeds. The KP decade boxes are useful for manual step programs.



Model DPD–1

Model DPR– 4

Model DPK–1

DIGITAL PROGRAMMING SYSTEM

MODEL	DESCRIPTION	PRICE	SHIP WGT. (LBS.)
DPK–1	Keyboard	$230.00	7
DPR–3	3-Digit Register	$ 980.00	24
DPR–4	4-Digit Register	1,090.00	24
DPR–5	5-Digit Register	1,200.00	24
DPD–1	0–1000.0V Decade	$790.00	17
DPD–2	0–100.00V Decade	735.00	17
DPD–3	0–1000.00V Decade	840.00	17
DPD–4	0–1000V Decade	710.00	17
DPD–5	0–100.0 Decade	660.00	17
DPD–6	0–10.00 Decade	660.00	17
DPD–7	Current Decade	630.00	17
A–3	Cable, 3′	$30.00	2
A–10	Cable, 10′	35.00	4
B–3	Cable, 3′	30.00	2
B–10	Cable, 10′	35.00	4
PC–3	Unwired mating plug	6.00	½

SYSTEM OPTIONS and ACCESSORIES

PROGRAM BOARDS		SUPPLIED IN DPD MODELS:						
MODEL	PRICE	–1	–2	–3	–4	–5	–6	–7
PB–10K	$100.00	*		*	*			
PB–1K	75.00	*	*	*	*	*		
PB–100	50.00	*	*	*	*	*	*	*
PB–10	50.00	*	*	*		*	*	*
PB–1	50.00		*	*			*	*

CURRENT CODE BOARDS: Plug into DPD–7 to control current. Board of choice is supplied with DPD–7, specified by appending suffix equal to current rating of supply being programmed, e.g.: DPD–7–15 for 15 amp code board. Additional code boards. **PRICE: $50.00 each.**

OPTIONAL OFFSET CONTROL: Add suffix "E" to model number, e.g.: DPD–2E for an optional E_{io} (voltage offset) zeroing control. Used to control power supplies that lack zeroing facilities. **PRICE: $50.00**

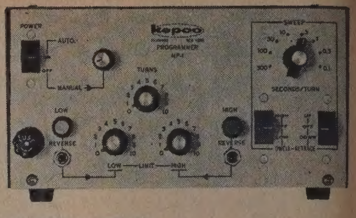
DIGITAL PROGRAMMING PANELS

6 digit voltage/3 digit Current, Manual Control

MODEL	RATIO Ω/V	PRICE	SHIP. WGT. (LBS.)
KP 1	1000	$273.00	10
KP 10	100	310.00	16

MOTORIZED PROGRAMMERS

Motor-Driven Rheostat



MODEL	SECONDS PER REVOLUTION (MAXIMUM: 10 REVOLUTIONS, 3600°)								PRICE	WGT
MP–1	0.1	0.3	1.0	3.0	10.0	30.0	100.0	300.0	$595.00	11
MP–10	1.0	3.0	10.0	30.0	100.0	300.0	1000.0	3000.0	595.00	11

PROGRAMMER FUNCTION GENERATOR

Triangular Waveform Generator — 0–20V 0.1V/sec., 1.0V/sec. 10V/sec. & 100V/sec.

MODEL	PRICE	WGT.
Model FG–100	$575.00	12

ACCESSORIES

AUTOTRANSFORMERS

115V a-c output from 220/230/240V a-c input 48–440 Hz

MODEL	POWER	PRICE	SHIP. WGT. (LBS.)
AT–100	100 VA	$ 27.00	5
AT–250	250 VA	37.00	8
AT–500	500 VA	53.00	14
AT–1000	1000 VA	79.00	23
AT–1500	1500 VA	105.00	30

VIX RELAY

Sensitive relay responds to autocrossover VIX signal with switch closure

MODEL	PRICE	SHIP. WGT. (LBS.)
VIX–1 (uncased)	$73.00	12
VIX–1C (cased)	83.00	13

VARIABLE RESISTIVE LOAD — (0–64Ω/0–1000Ω)

MODEL	PRICE	SHIP. WGT. (LBS.)
KT 6212	$578.00	50

OVERVOLTAGE CROWBARS

BOLT–ON PROTECTIVE DEVICES

MODEL	FOR USE WITH	PRICE	SHIP WGT. (LBS.)
VP–PAR	All PAR models, 3-80V d-c	$ 75.00	3
VP–PWR	All PWR models, 3-80V d-c	75.00	3
VP–PX	All PAX and PCX models	80.00	3
VP–KCA	All ABC, CK and KS models (except those listed below)	110.00	3
VP–KS–1	KS 36-30M, 60-20M & 120-10M	125.00	6
VP–KS–2	KS 8-50M, 8-100M & 18-50M	155.00	6

RACK MOUNTED LOAD PROTECTORS

MODEL	DESCRIPTION	PRICE	SHIP WGT (LBS
VIP–1	Overvoltage/Overcurrent	$132.00	21
VIP–3	Over and Undervoltage/ Over and Undercurrent	237.00	21
VIP–4	200 ampere Overvoltage crowbar	310.00	21

ELECTRONICS KIT For experimental and pedagogical use; contains plug panel and keyed charts for 39 basic circuits. Power Supply Model 103 is an ideal adjunct.

MODEL	PRICE	WGT. (LBS.)
Model 104	$29.50	7

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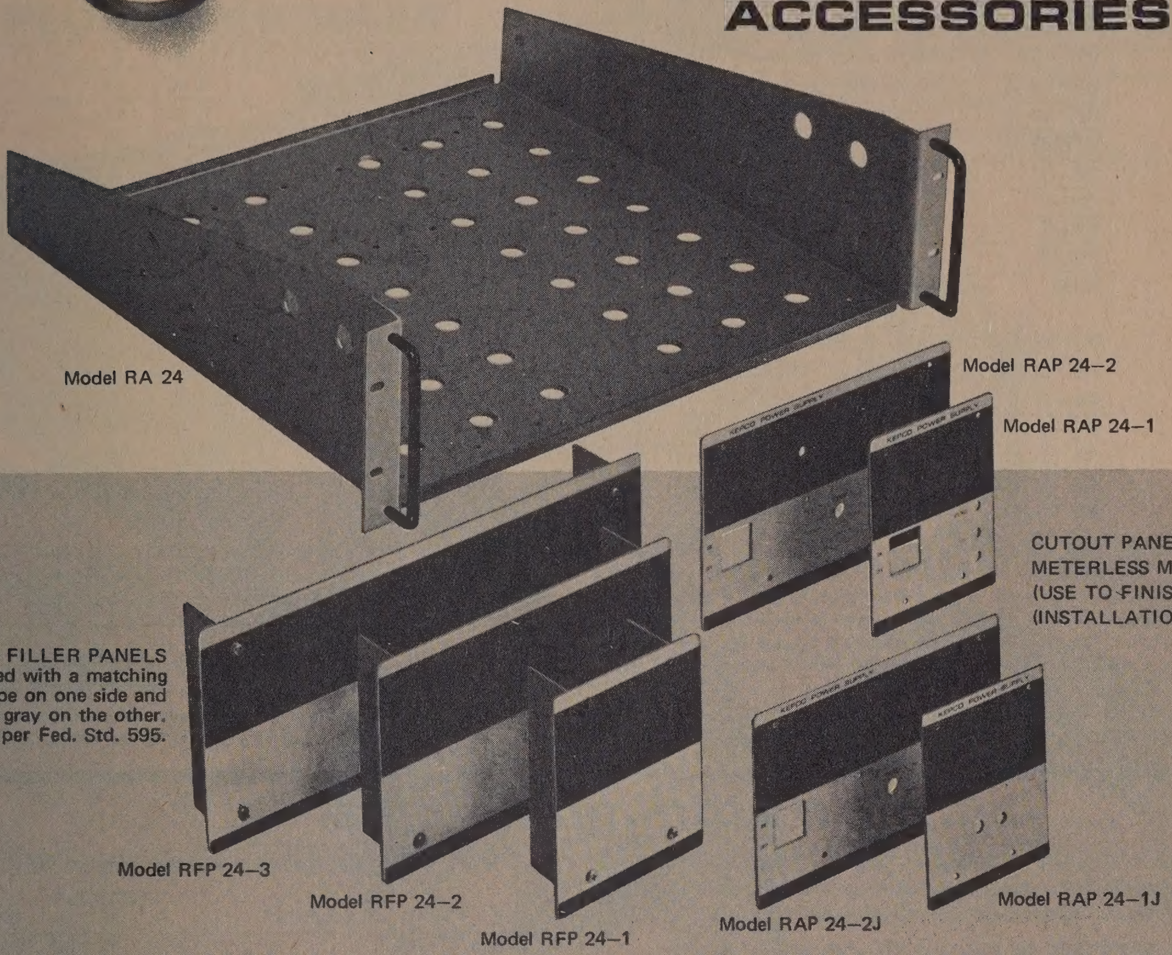
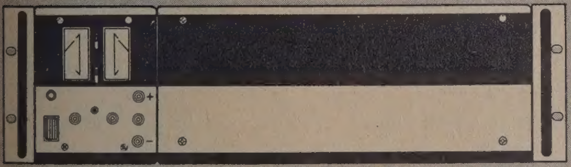
HARDWARE AND MOUNTING ACCESSORIES


Model RA 24
Model RAP 24–2
Model RAP 24–1
Model RFP 24–3
Model RFP 24–2
Model RFP 24–1
Model RAP 24–2J
Model RAP 24–1J

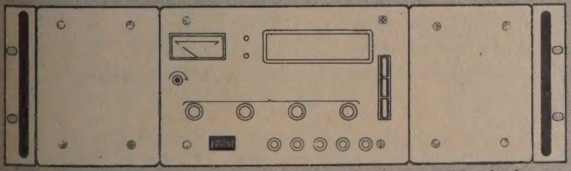
CUTOUT PANELS FOR METERLESS MODULES (USE TO FINISH RA–24 INSTALLATION).

BLANK FILLER PANELS are finished with a matching stripe on one side and solid gray on the other. Color 26440 per Fed. Std. 595.

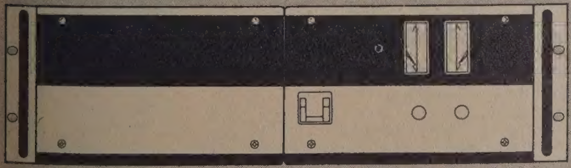
RIGHT OR LEFT LOCATION


JQE 6–10M
RFP 24–3

CENTER LOCATION


RFP 24–1
PVS 100–1M
RFP 24–1

RIGHT OR LEFT LOCATION


RFP 24–2
CPS 6–22M

RA 24 RACK SYSTEM

THE RA 24 WILL HOUSE ¼ & ½ RACK SIZED MODELS IN THE FOLLOWING GROUPS:

BOP, CDT, CPS, DPD, DPK, DPR, JQE, OPS 20, OPS 2000 & PVS

MODEL	DESCRIPTION	DIMENSIONS H	W	D	PRICE	SHIP. WGT. (LBS.)
RA–24	Rack Adapter for (2) ½ or (4) ¼ Rack Models	5⁷⁄₃₂″	19″	17⅞″	**$21.00**	10
RAP 24–1	Adapter for unmetered ¼ Rack CPS Models	5⁷⁄₃₂″	4⁵⁄₃₂″	—	6.00	½
RAP 24–2	Adapter for unmetered ½ Rack CPS Models	5⁷⁄₃₂″	8¹³⁄₃₂″	—	6.00	½
RAP 24–1J	Adapter for unmetered ¼ Rack JQE Models	5⁷⁄₃₂″	4⁵⁄₃₂″	—	6.00	½
RAP 24–2J	Adapter for unmetered ½ Rack JQE Models	5⁷⁄₃₂″	8¹³⁄₃₂″	—	6.00	½
RAP 24–45	Rack Adapter for ABC, CK, KP–1, MP, FG & VIX	—	—	—	11.00	½
RFP 24–1	¼ Filler Panel for RA–24	5⁷⁄₃₂″	4⁵⁄₃₂″	1⅝	6.00	½
RFP 24–2	½ Filler Panel for RA–24	5⁷⁄₃₂″	8¹³⁄₃₂″	1⅝	6.00	½
RFP 24–3	¾ Filler Panel for RA–24	5⁷⁄₃₂″	11³⁄₁₆″	1⅝	6.00	½
RA 29–1	Rack Adapter for DPK–1	—	—	—	11.00	3

½ & ¼ RACK POWER SUPPLIES AND PROGRAMMERS CAN BE MOUNTED TOGETHER OR WITH FILLER PANELS IN RA–24.

KEPCO POWER SUPPLIES • SHORT FORM CATALOG & PRICE SCHEDUL

HARDWARE AND MOUNTING EQUIPMENT

HARDWARE FOR PLUG-IN MODELS OPS-BTA, PCX-MAT AND CC POWER SUPPLIES.

OPS-B, PAX and PCX models can also be mounted using BPA—22 Adapter.

MODEL	DESCRIPTION	SIZE	PRICE	SHIP. WGT. (LBS.)
RA 22—6	Six-slot rack housing w/o plug boards*	5 7/32" H x 19" W x 16 3/8"D	$32.00	11
BPA—22	Blank panel assembly w/slide plate	5 7/32" H x 2 25/32"W x 14 5/8" D	11.00	2
RFP 22—1	Single filler panel	5 7/32" H x 2 25/32"W —	6.00	1/2
RFP 22—2	Double filler panel	5 7/32" H x 5 9/16"W —	6.00	1/2
RFP 22—3	Triple filler panel	5 7/32" H x 8 3/8" W —	6.00	1/2
CA—3	Single-slot housing w/plug board	5 7/32" H x 2 25/32"W x 16" D	20.00	6
CA—4	Double-slot housing w/plug board	5 7/32" H x 5 9/16"W x 16" D	30.00	7
CA—5	Triple-slot housing w/plug board	5 7/32" H x 8 3/8" W x 16" D	40.00	8
PC—2	Plug-in adapter*	5 7/32" H x 2 21/32"W —	9.00	1
8282	Plug-in Kit for BPA—22	— — —	6.00	1/2

*For plug-in convenience in the RA 22—6, use (1) PC—2 per slot.

CHASSIS MOUNTING TYPES OPS-B, PAX, PCX MODELS CAN BE ENCASED WITH CASE CA—1, FITTED WITH PLUG PC—1 FOR QUICK-DISCONNECT AND RACK MOUNTED IF DESIRED.

MODEL	DESCRIPTION	SIZE	PRICE	SHIP. WGT. (LBS.)
CA—1	Chassis mounting case (single)	2 11/16"H x 4 1/8" W x 13 3/16"D	11.00	2
PC—1	Connector	— — —	6.00	1/2
RA 12—1	1 cased unit Rack Adapter	3 15/32"H x 19" W —	11.00	3
RA 13—4	4 cased unit Rack Adapter	3 15/32"H x 19" W —	11.00	3
RA 11—6	6 cased unit Rack Adapter	5 7/32" H x 19" W —	11.00	3

The CC, PCX-MAT and OPS-BTA plug-in systems permit a wide variety of options. The assemblies CC, PCX-MAT or OPS-BTA having a panel, are equipped with a slide plate which enables them to slip into either Models CA—3 (single unit), CA—4 (dual), CA—5 (triple) or the Model RA 22—6. The Models CA—3, 4 and 5 are complete cases with integral PC connector, line cord, and barrier strip(s) for access to the control functions. The Model RA 22—6 requires the use of from one to six of Model PC—2 connectors (depending on how many instruments are to be plugged in) which must be ordered separately and installed. The RA 22—6 is equipped with a line cord.

The Blank Panel Adapter (Model BPA—22) permits the mounting of regular PAX, PCX and OPS-B modules (uncased style) in any of the above cases or rack adapters. The panel is, of course, blank. Filler panels, Model RFP 22—1, —2 and —3 are available to fill in blank slots in any of the cases Model CA—3, 4, 5 and RA 22—6.

Adapters, Models RA 12—1, RA 13—4 and RA 11—6, will mount one, four or six *cased* PAX, PCX or OPS-B modules in a 19-inch panel without any of the panel control features or metering. Connector PC—1 may be used to connect to such modules or their barrier strips may be utilized for wiring.

RACK ADAPTERS

Adapt bench style, modular and half-rack Power Supplies to the standard 19" wide equipment rack or cabinet. Panels and Rack Adapters are finished light gray Color 26440 per Fed. Std. 595.

RACK ADAPTERS for ABC, CK, FG—100, KP—1, MP—1, MP—10 and VIX 1—C.

MODEL	FOR USE WITH	DIMENSIONS H	W	PRICE	SHIP. WGT. (LBS.)
RA 1 *(Single)*	Model 103 only	10 1/2"	19"	$16.00	5
RA 4 *(Dual)*	Above Listed Models	5 7/32"	19"	16.00	4
RA 5 *(Single)*	Above Listed Models	5 7/32"	19"	16.00	4
FP 1	Filler Panel for RA 4	4 1/4"	8 5/32"	5.00	1/2

HARDWARE, ADAPTERS and ACCESSORY ITEMS

PAR, PRM Size "A" — 180 Series and PWR GROUPS

MODEL	DESCRIPTION	DIMENSIONS H	W	D	PRICE	SHIP. WGT. (LBS.)
CA—200	Case	6 15/16"	5"	10 7/16"	$11.00	4
RA 8—2	2 Unit Rack Adapter	5 7/32"	19"	—	11.00	4
RA 9—3	3 Unit Rack Adapter	6 31/32"	19"	—	11.00	4
RA 10—1	1 PRM Unit Adapter	5 7/32"	19"	—	11.00	4
RA 23—1	1 PWR Unit Adapter	5 7/32"	19"	—	11.00	4
RA 25—1	1 PAR Unit Adapter	5 7/32"	19"	—	11.00	4

PRM Size "B" — 120 Series and Size "D" — 60 Series Groups

MODEL	DESCRIPTION	H	W	D	PRICE	SHIP. WGT. (LBS.)
RA 14—3	3 Unit Rack Adapter	3 15/32"	19"	—	$11.00	3
RA 15—1	1 Size"B"Unit Adapter	3 15/32"	19"	—	11.00	3
RA 16—4	4 Unit Rack Adapter	5 7/32"	19"	—	11.00	3
RA 17—5	5 Unit Rack Adapter	5 7/32"	19"	—	11.00	3
RA 30—1	1 Size"D"Unit Adapter	3 15/32"	19"	—	11.00	3

PRM Size "C" — Dual Output and Extra-Filtered GROUPS

MODEL	DESCRIPTION	DIMENSIONS H	W	D	PRICE	SHIP. WGT. (LBS.)
CA—300	Case	6 15/16"	5"	14 7/16"	$11.00	4
RA 8—2	2 Unit Rack Adapter	5 7/32"	19"	—	11.00	3
RA 9—3	3 Unit Rack Adapter	6 31/32"	19"	—	11.00	3
RA 18—1	1 Unit Rack Adapter	5 7/32"	19"	—	11.00	3

PLUG-IN CABINETS for PRM Size "A" & "C"

MODEL	DESCRIPTION	H	W	D	PRICE	SHIP. WGT. (LBS.)
RA 20—3	3 Unit Housing	8 23/32"	19"	18"	100.00	12
RAP 20—1	1 Unit Panel Adapter	8 23/32"	5 1/2"	—	6.00	1/2
RFP 20—1	Rack Filler Panel	8 23/32"	5 1/2"	—	6.00	1/2

PLUG-IN CABINETS for PAR and PWR GROUPS

MODEL	DESCRIPTION	H	W	D	PRICE	SHIP. WGT. (LBS.)
RA 21—3	3 Unit Housing	8 25/32"	19"	13"	100.00	12
RAP 21—1	1 Unit Panel Adapter	8 25/32"	5 1/2"	—	6.00	1/2
RFP 21—1	Rack Filler Panel	8 25/32"	5 1/2"	—	6.00	1/2

KG GROUP

MODEL	DESCRIPTION	H	W	D	PRICE	SHIP. WGT. (LBS.)
CA—2	Single Unit Housing	5 1/32"	2 3/16"	14"	$16.00	2
RA 19—8	Multi Unit Housing (8)	5 1/4"	19"	14"	79.00	11
RFP 19—1	Single filler panel	5 7/32"	2 3/16"	—	6.00	1/2
RFP 19—2	Double filler panel	5 7/32"	4 3/16"	—	6.00	1/2
RFP 19—3	Triple filler panel	5 7/32"	6 5/16"	—	6.00	1/2

BKF, DTM and PAT Groups

MODEL	DESCRIPTION	H	W	D	PRICE	SHIP. WGT. (LBS.)
RA 26—1	1 Unit Rack Adapter	3 15/32"	19"	—	$11.00	3
RA 27—2	2 Unit Rack Adapter	3 15/32"	19"	—	11.00	3
RA 28—4	4 Unit Rack Adapter	6 31/32"	19"	—	11.00	3

PANEL MOUNTING HOLES ARE PRE-DRILLED IN STANDARD E.I.A. PATTERN

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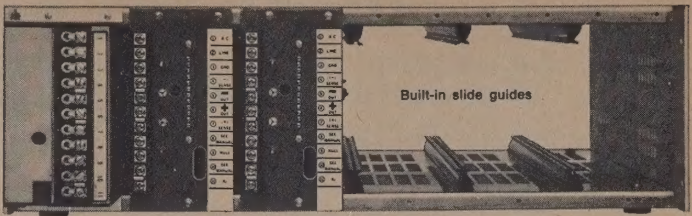
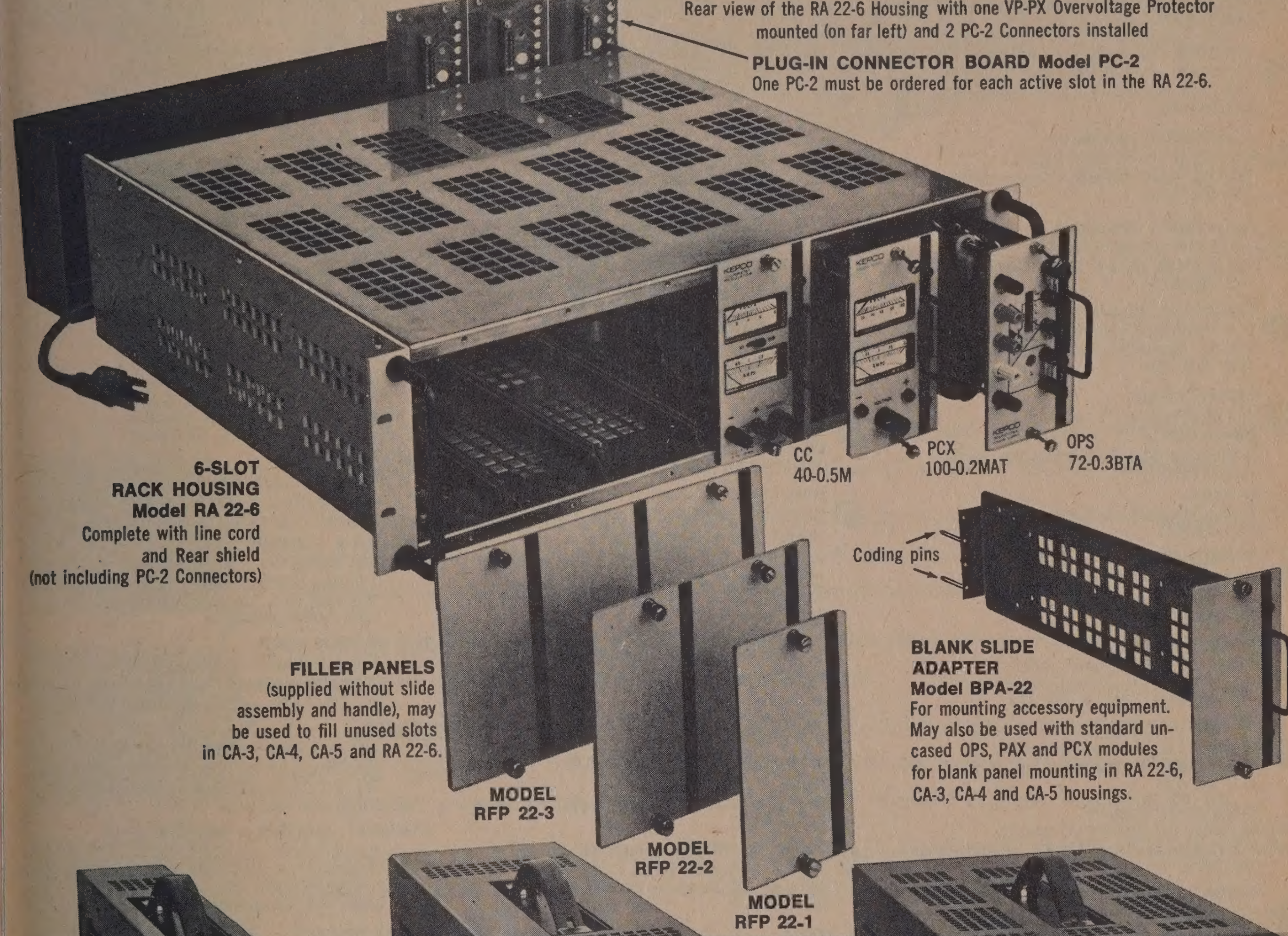
ENCLOSURES AND HARDWARE SYSTEMS FOR PLUG-IN MODULES



Rear view of the RA 22-6 Housing with one VP-PX Overvoltage Protector mounted (on far left) and 2 PC-2 Connectors installed



PLUG-IN CONNECTOR BOARD Model PC-2
One PC-2 must be ordered for each active slot in the RA 22-6.

6-SLOT RACK HOUSING Model RA 22-6
Complete with line cord and Rear shield (not including PC-2 Connectors)

FILLER PANELS
(supplied without slide assembly and handle), may be used to fill unused slots in CA-3, CA-4, CA-5 and RA 22-6.

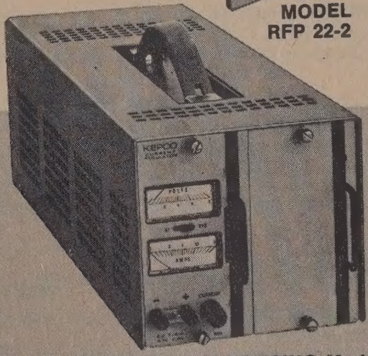
MODEL RFP 22-3

MODEL RFP 22-2

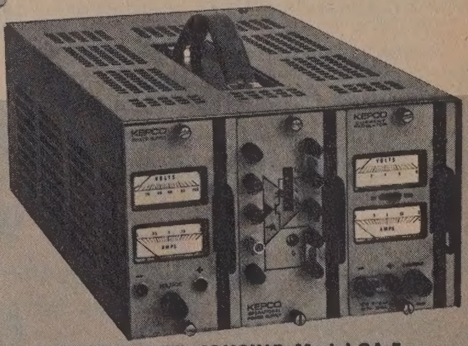
MODEL RFP 22-1

BLANK SLIDE ADAPTER Model BPA-22
For mounting accessory equipment. May also be used with standard uncased OPS, PAX and PCX modules for blank panel mounting in RA 22-6, CA-3, CA-4 and CA-5 housings.

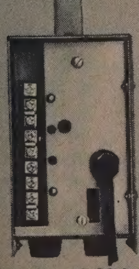
SINGLE UNIT HOUSING Model CA-3
Supplied complete with a built-in PC-2 connector. (shown with a PCX 100-0.2MAT plugged-in)



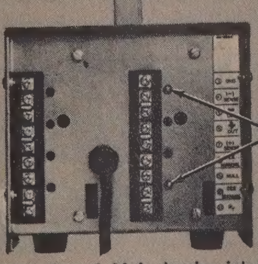
DOUBLE UNIT HOUSING Model CA-4
Supplied complete with a built-in dual PC-2 connector. (shown with a CC 40-0.5M and a BPA-22 plugged-in)



TRIPLE UNIT HOUSING Model CA-5
Supplied complete with a triple PC-2 connector.

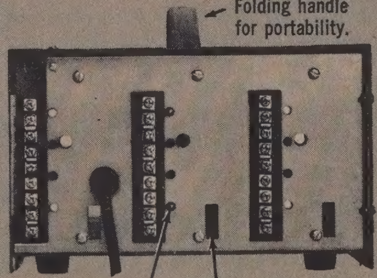


Typical rear view of CA-3, showing access terminals and connector.



Typical rear view of CA-4, showing integral connector (Double PC-2) supplied.

All plug-in models and the BPA-22 are supplied with two coding pins that can be arranged in 6 different patterns to key the housing slots.



Folding handle for portability.

Typical rear view of CA-5, showing coding pins, connectors and line cord.

Slot provides access to internal adjustments in mounted supplies.

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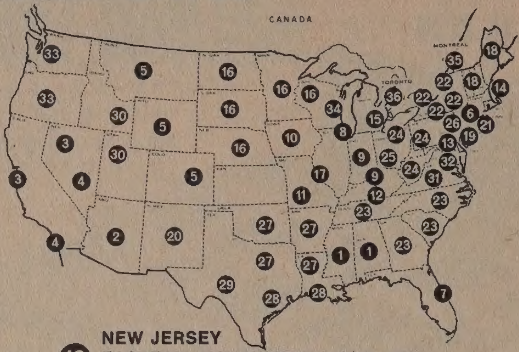

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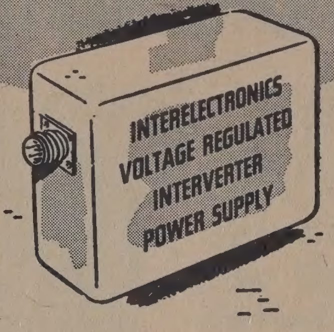

Interelectronics all-silicon thyratron-like gating elements and cubic-grain toroidal magnetic components convert DC to any desired number of AC or DC outputs from 1 to 10,000 watts.

Ultra-reliable in operation (over 260,000 logged hours), no moving parts, unharmed by shorting output or reversing input polarity. High conversion efficiency (to 92%, including voltage regulation by Interelectronics patented reflex high-efficiency magnetic amplifier circuitry).

Wide input voltage range (1 to 250 volts DC). Wide input voltage regulation (output voltage maintained with variations up to 50% in input voltage).

Light weight (to 6 watts/oz.), compact (to 8 watts/cu. in.), low ripple (to 0.01 mv. p-p), excellent voltage regulation (to 0.1%), precise frequency control (to 0.2%) with Interelectronics extreme environment magnetostrictive standards or to 0.0001% with fork or piezoelectric standards.

Complies with MIL specs. for shock (100G 11 misc.), acceleration (100G 15 min.), vibration (100G 5 to 5,000 cps.), temperature (to 150 degrees C), RF noise (I-26600).

AC single and polyphase units supply sine waveform output (to 2% harmonics), will deliver up to ten times rated line current into a short circuit to actuate MIL type magnetic circuit breakers or fuses, will start gyros and motors with starting current surges up to ten times normal operating line current.

Now in use in major missiles, powering telemeter transmitters, radar beacons, electronic equipment. Single and polyphase units now power airborne and marine missile gyros, synchros, servos, magnetic amplifiers.

Interelectronics—first and most experienced in the solid-state power supply field produces its own all-silicon solid-state gating elements, all high flux density magnetic components, high temperature ultra-reliable film capacitors and components, has complete facilities and know how—has designed and delivered more working KVA than any other firm!

For complete engineering data, write Interelectronics today, or call (914) ELmwood 8-8000 in Congers, N.Y.

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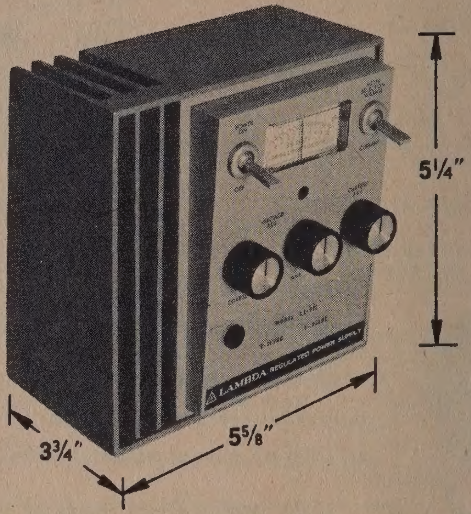
Now from Lambda. First I-C regulated bench power supply 0-10 vdc, 0-1 amp, $75.00

also available
0-20, 0-40, 0-120 vdc
0.01% regulation
250 µv rms ripple



Regulation
line 0.01% + 1mv
load 4mv

Ripple and noise
250 µv rms; 1 mv p-to-p

All-silicon DC power supply using integrated circuits to provide regulation system
except for input and output capacitors, rectifiers and series regulation transistors

Multi-position operation
lies flat or stands erect

AC input
105-132 vac 47-440 Hz (Current ratings based on 57-63 Hz.)

Weight
less than 4 lbs.

Output
5-way binding posts

Ambient operating temperature
0-50°C

Temperature coefficient
0.015% + 300 µv/°C

Adjustable current limiting
0% to 110% of rating

Storage temperature
−40°C to +85°C

Convection cooled

Die-cast aluminum construction

No overshoot
on turn-on, turn-off or power failure

Controls
coarse voltage adjust, fine voltage adjust, current adjust, ON/OFF switch, meter function switch

Indicators
power ON light and dual-function meter

Overvoltage protection
overvoltage accessories from LC series may be used

Model	ADJ. VOLT RANGE VDC	CURRENT RANGE (1)	Price (2)
LL-901	0-10v	0-1.0amp	$ 75
LL-902	0-20v	0-0.65amp	85
LL-903	0-40v	0-0.35amp	85
LL-905	0-120v	0-65ma	99

Note 1. Consult factory for operation at 50 Hz, 400 Hz or temperatures above 50°C. Ratings apply 0-50°C.
2. All prices F.O.B. Melville, N.Y. All prices and specifications subject to change without notice.

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Guaranteed for five years material and labor

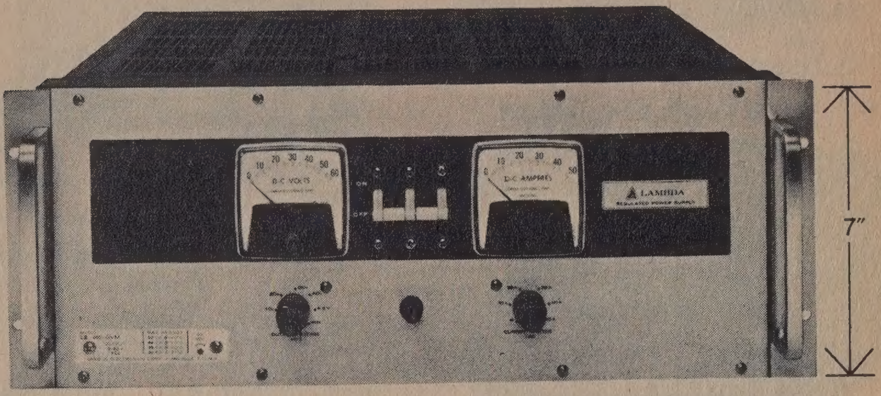
LB series high-current power supplies with efficiency to 80%

NEW

For test equipment and lab use—voltages 0-7.5, -15, -36, -60, -125, and -300 VDC currents up to 300 amps.

5 Year Guarantee

Convection cooled—no blowers



Built-in overvoltage protection on all models up to 70 VDC

Features and Data

- **Up to 80% efficiency**
- **Low Ripple**—10mv rms max.
- **Regulation**—(line) 0.05% + 6mv for line variations from 187-229 VAC or from 229-187 VAC. (load) 0.1% + 10mv for load variations from 0 to full load
- **AC Input**—208 ± 10% VAC: 57-63 Hz, 3 Ø 4 wire
- **Temperature coefficient**—0.03% + 0.5 mv/°C
- **All silicon-designed for maximum reliability**
- **Overvoltage protection**—standard on all models up to 70 VDC

LB Series, metered, full-rack Size: 7" x 19" x 18¾"

Model	Voltage Range	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	Price[2]
LB-701-FM-OV	0-7.5	300	270	235	200	$1,450
LB-702-FM-OV	0-15	180	170	160	150	1,450
LB-703-FM-OV	0-36	80	75	70	65	1,200
LB-704-FM-OV	0-60	50	47	44	40	1,300
LB-705-FM	0-125	25	22	19	16	1,100
LB-706-FM	0-300	10	9.5	9.0	8.0	1,250

Prices F.O.B. factory, Melville, N. Y. All specifications and prices subject to change without notice.

NOTES:

1 Current rating applies over entire voltage range.

2 Prices include meters. LB Series models are not available without meters. Prices for all models up to and including 60 VDC include built-in overvoltage protection. Prices and specifications are subject to change without notice.

3 Chassis Slides: Add suffix (-CS) to model number and add $100.00 to price.

- **Convection cooled**—no blowers, no external heat sinks
- **Multi-Current-Rated**
- **Remotely programable**
- **Remote sensing**
- **Transformer**—designed to MIL-T-27C Grade 6
- **Completely protected**—short circuit proof—continuously adjustable automatic current limiting
- **Constant voltage/constant current**
- **Series/Parallel operation**
- **Guaranteed for 5 years:** The only 5-year guarantee that includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.
- **Wide operating temperature range:** 0°C to +71°C
- **Storage Temperature:** −55°C to +85°C
- **2 Meters:** provide simultaneous monitoring of both voltage and current.
- **Fungus Proofing Option**—Add suffix "R" to model number and add $25.00 to price.

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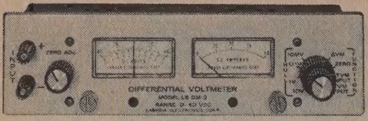
LS series is two instruments in one

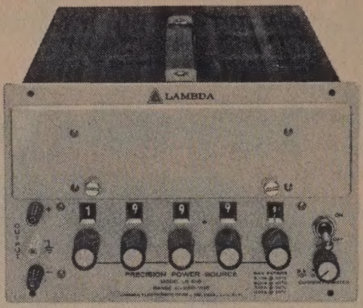
Expand the capability of your laboratory

With this plug-in



it becomes a high precision power differential voltmeter

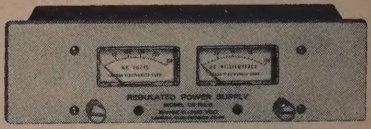
LAMBDA
DIFFERENTIAL VOLTMETER
PRECISION POWER SOURCE



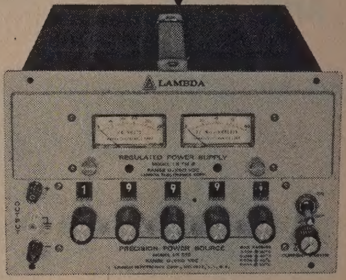
LS power source

ONE DAY
DELIVERY
ALL
MODELS

With this plug-in



it becomes a metered high precision power supply



FEATURES OF THE HIGH PRECISION POWER DIFFERENTIAL VOLTMETER

- **Draw power as you measure voltage...**

The first and only differential voltmeter to furnish high stability power output while being used as a voltmeter... no need for a separate power supply.

- **Plus all power supply specifications**

FEATURES OF THE METERED HIGH PRECISION POWER SOURCE

- **0.0005% plus 100μV Regulation** — best of any high stability power supply in this price range.
- **Ripple** — 35μV rms; 100μV p-p.
- **Accuracy**—0.01% + 1mV.
- **2 Meters**—monitor both voltage and current simultaneously and continuously.
- **Twice the power** — in a convenient ½-rack package.

- **Guaranteed for 5 years**—the only 5-year guarantee that includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

5 Year Guarantee

- **Multi-Current-Rated** — for 30°C, 40°C, 50°C, 60°C—Covers temperatures most often encountered in laboratory work.
- **5 Models**—with ranges of 0-10, 0-20, 0-40, 0-120, 0-250VDC—Wide selection of ranges to suit your specific needs.
- **Illuminated digital readout** — 5-digital voltage dials provide convenient precise adjustment (200μV resolution over entire range).
- **Only 5¼" high**—convenient half-rack size for rack or bench use.
- **Stability** — 0.001% + 100μV for 8 hours.
- **All silicon-designed for maximum reliability.**

- **Convection-cooled** — no blowers, no external heat sinks.
- **Remote programing**—by changes in voltage or resistance for convenience in systems, test equipment and automatic equipment applications.
- **Auto Series/Auto Parallel**—with Master-Slave tracking.
- **Constant voltage/Constant current.**
- **Completely protected** — short-circuit proof; continuously adjustable automatic current limiting.
- **Overvoltage protection**—available as low cost add-on accessory.
- **Rubber feet** — provided for bench use.
- **AC Input**—105-132VAC, 47-440 Hz (derate dc output current 10% at 50 Hz) 205-265VAC at extra charge. ("-V" option)
- **Fungus Proofing Option**—Add suffix "R" to model number and add $20.00 to price

- **Mount in Rack Adapters**—LRA-1 ($60.00 or LRA-2 ($35.00). Rack adapter LRA- only is available with chassis slide mounted. Add suffix "CS" to rack adapte model number and $50 to price.

Basic Non-Metered Model	Voltage Range	Max. Amps at Ambient of (1) 30°C	40°C	50°C	60°C	(2) Price
LS-511A	0-10VDC	2.8A	2.5A	2.1A	1.7A	$375
LS-512A	0-20VDC	1.8A	1.6A	1.3A	1.1A	375
LS-513A	0-40VDC	1.0A	0.9A	0.75A	0.6A	375
LS-515A	0-120VDC	0.33A	0.29A	0.25A	0.21A	375
LS-518A	0-250VDC	0.1A	0.09A	0.08A	0.07A	380

Metered Accessory Model	(2) Price
LS-FM1	$55
LS-FM2	55
LS-FM3	55
LS-FM5	55
LS-FM6	55

Diff. VM Accessory Model	(2) Price
LS-DM1	$85
LS-DM2	85
LS-DM3	85
LS-DM5	85
LS-DM6	85

Over Volt. Protect. Model	Adj. V. Range	Price
LHOV-4	3-24	$35
LHOV-4	3-24	35
LHOV-5	3-47	35

NOTES:

1 Current rating applies over entire voltage range. Ratings based on 55-65 Hz operation. Derate current 10% for 50 Hz.

2 This price is for non-metered Precision Power Source. Addition of Metered Accessory Plug-In (next two columns) is necessary to have Metered High Precision Power Supply. Addition of Differential Voltmeter Accessory Plug-In to the basic model is necessary for the unit to function as a High Precision Differential Voltmeter.

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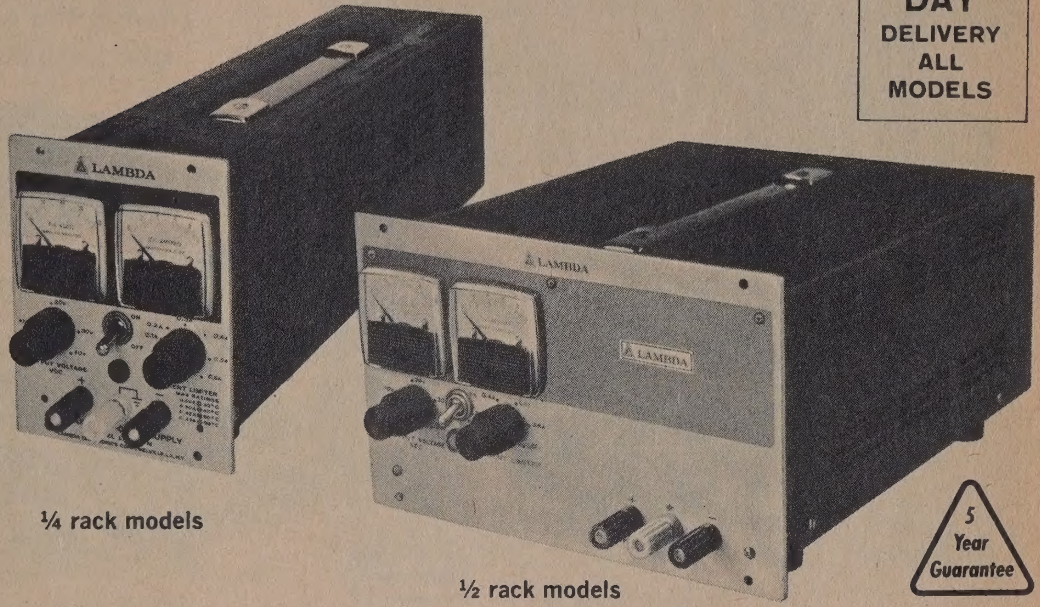
LR series high-performance power supplies regulation—0.0005%, ripple—35μv

ONE DAY DELIVERY ALL MODELS

For test equipment and lab use— rack or bench 0-20, 0-40, 0-120, 0-250 VDC, from 60 ma. to 1.8 amps.



¼ rack models

½ rack models

5 Year Guarantee

Features and Data

- **0.0005% plus 100μV regulation.**
- **35μV rms, 100μV p-to-p ripple.**
- **AC Input:** 105-132 VAC, 47-440 Hz (Ratings based on 55-65 Hz; derate current 10% at 50 Hz.) 205-265 VAC on request at extra charge ("-V" option).
- **2 meters** monitor both voltage and current simultaneously and continuously.
- **Accuracy**—0.01% plus 1mV
- **Stability**—0.001% plus 100μV for 8 hours
- **Temperature coefficient** —0.001% plus 10μV/°C
- **Multi-Current-Rated.**

LR Series ¼-rack models Size: 5$\frac{3}{16}$" x 4$\frac{3}{16}$" x 15½"

Model	Voltage Range	MAX. AMPS AT AMBIENT OF:[1]				Price
		30°C	40°C	50°C	60°C	
LR-602-FM	0-20 VDC	1.1	.95	.80	.64	$265
LR-603-FM	0-40 VDC	.60	.50	.42	.33	265
LR-605-FM	0-120 VDC	.23	.20	.17	.14	295
LR-606-FM	0-250 VDC	80ma	72ma	65ma	60ma	310

LR Series ½-rack models Size: 5$\frac{3}{16}$" x 8⅜" x 10⅝"

Model	Voltage Range	MAX. AMPS AT AMBIENT OF:[1]				Price[2]
		30°C	40°C	50°C	60°C	
LR-612-FM	0-20 VDC	1.8A	1.6A	1.3A	1.1A	$305
LR-613-FM	0-40 VDC	1.0A	0.9A	0.75A	0.6A	305
LR-615-FM	0-120 VDC	0.33A	0.29A	0.25A	0.21A	320
LR-616-FM	0-250 VDC	100ma	90ma	80ma	70ma	340

NOTES:

1 Current rating applies over entire voltage range. Ratings based on 55-65 Hz operation. Derate current 10% for 50 Hz input.

2 Prices are for metered models. LR Series models are not available without meters.

- **Guaranteed for 5 years.** The only 5-year guarantee that includes labor as well as parts. Guarantee applies to operation *at full published specifications* at end of 5 years.
- **Only 5¼" high.** Convenient ¼ and ½ rack sizes for rack or bench use.
- **All silicon-designed for maximum reliability.**
- **Convection Cooled**—no blowers, no external heat sinks.
- **Auto Series/Auto Parallel** with Master-Slave tracking.
- **Constant Voltage/Constant Current**
- **Completely protected**—short-circuit proof—continuously adjustable, automatic current limiting.
- **Overvoltage protection** available for all models up to 70 VDC.
- **Remotely Programable**

Accessories

Rack Adapter LRA-1 Price $60.00 • 5¼" H x 16½" D

Rack Adapter LRA-2 Price $35.00 • 5¼" H

OVERVOLTAGE PROTECTION ACCESSORIES

For Use With	Model	Adj. Volt Range	Price
LR-602-FM, LR-612-FM	LH-OV-4	3-24 V	$35
LR-603-FM, LR-613-FM	LH-OV-5	3-47 V	35

Prices F.O.B. factory, Melville, N. Y. All specifications and prices subject to change without notice.

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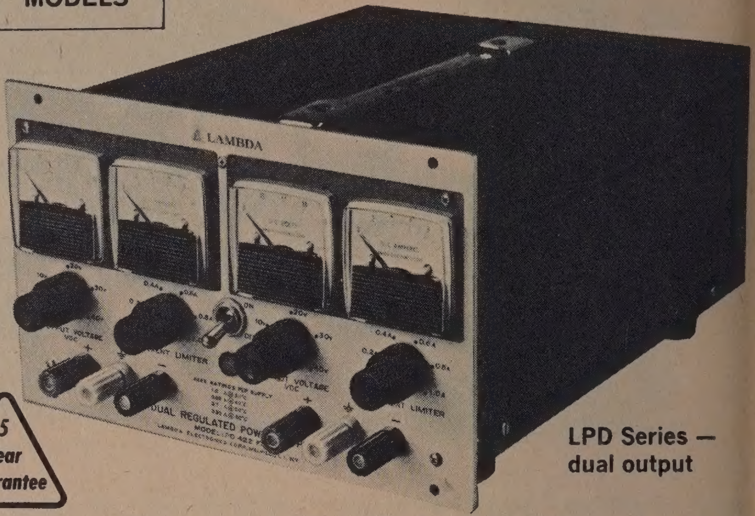
LP/LPD series general purpose power supplies for test equipment and lab use–bench or rack

LP Series — single output

ONE DAY DELIVERY ALL MODELS

- Twice the voltage (up to 500 VDC) with outputs in series.
- Twice the current (up to 3.4 amps) with outputs in parallel.



LPD Series — dual output

5 Year Guarantee

Features and Data

- **5 LPD Models with two independent DC outputs offer widest choice**—Up to ±250 VDC, up to 1.7 amps. Either output may be + or −, or both outputs may be + or −.
- **Series/Parallel operation** with LPD Series, both outputs yield *two times* the voltage or *two times* the current—up to 500 volts or up to 3.4 amps.
- **Regulation** (line or load)—0.01% + 1mV.
- **Ripple**—500 μV RMS, 1.5 mV p-p.
  Models LP-415 and LP-425-FM only—1mV RMS, 3mV p-p.

LP Series ¼-rack models Size: 5³⁄₁₆″ x 4³⁄₁₆″ x 10″

Model	Voltage Range VDC	MAX. AMPS AT AMBIENT OF:[1]				Price[2]
		30°C	40°C	50°C	60°C	
LP-410*	0-10	0-2A	0-1.8A	0-1.6A	0-1.4A	$129
LP-411*	0-20	0-1.2A	0-1.1A	0-1.0A	0-0.8A	119
LP-412*	0-40	0-0.70A	0-0.65A	0-0.60A	0-0.50A	114
LP-413*	0-60	0-0.45A	0-0.41A	0-0.37A	0-0.33A	129
LP-414	0-120	0-0.20A	0-0.18A	0-0.16A	0-0.12A	149
LP-415	0-250	0-80mA	0-72mA	0-65mA	0-60mA	164

LPD Series ½-rack models Size: 5³⁄₁₆″ x 8⅜″ x 10⅝″

	Voltage Range Per output/ Outputs in series	I MAX AMPS AT AMBIENT OF: (1) Per output/Outputs in parallel				
Model	VDC	30°C	40°C	50°C	60°C	Price (3)
LPD-421-FM*	0-±20/0-40	1.7A/3.4A	1.5A/3.0A	1.3A/2.6A	0.9A/1.8A	$325
LPD-422-FM*	0-±40/0-80	1.0A/2.0A	0.85A/1.7A	0.7A/1.4A	0.55A/1.1A	260
LPD-423-FM*	0-±60/0-120	0.7A/1.4A	0.6A/1.2A	0.5A/1.0A	0.4A/0.8A	325
LPD-424-FM	0-±120/0-240	0.38A/0.76A	0.32A/0.64A	0.26A/0.52A	0.20A/0.40A	325
LPD-425-FM	0-±250/0-500	0.13A/0.26A	0.12A/0.24A	0.11A/0.22A	0.10A/0.20A	350

NOTES:

* Overvoltage Protection available as an accessory. Each output requires separate OV accessory—add $35.00 for each output.

1 Current rating applies over entire voltage range. Ratings based on 57-63 Hz operation.

2 Prices of LP series are for non-metered models. For metered models, add suffix (-FM) and add $10.00 to price.

3 Prices of LPD series are for metered models. LPD Series models are not available without meters.

- **AC Input**—105-132 VAC 47-440 Hz (ratings based on 57-63 Hz operation). For operation at 205-265 VAC, add suffix "-V" to model numbers.
- **Temperature coefficient**—0.015% + 0.5mV/°C.
- **Auto Series/Auto Parallel with Master-Slave tracking**
- **All silicon-designed for maximum reliability**
- **Convection cooled**—no blowers, no external heat sinks.
- **Constant voltage/constant current.**
- **Designed to meet RFI** per MIL STD 826A.
- **Remotely programable.**
- **Remote sensing.**
- **Fungus Proofing Option**—Add suffix "R" to model number and add $15.00 to price.

Accessories

Rack Adapter LRA-1 Price $60.00 • 5¼″ H x 16½″ D

Rack Adapter LRA-2 Price $35.00 • 5¼″ H

OVERVOLTAGE PROTECTION ACCESSORIES

For Use With	Model	Adj. Volt Range	Price per Output
LP-410; (0-10VDC)	LH-OV-4	3-24V	$35
LP-411; LPD-421-FM (0-20VDC)	LH-OV-4	3-24V	35
LP-412; LPD-422-FM (0-40VDC)	LH-OV-5	3-47V	35
LP-413; LPD-423-FM (0-60VDC)	LH-OV-6	3-70V	35

Prices F.O.B. factory, Melville, N. Y. All specifications and prices subject to change without notice.

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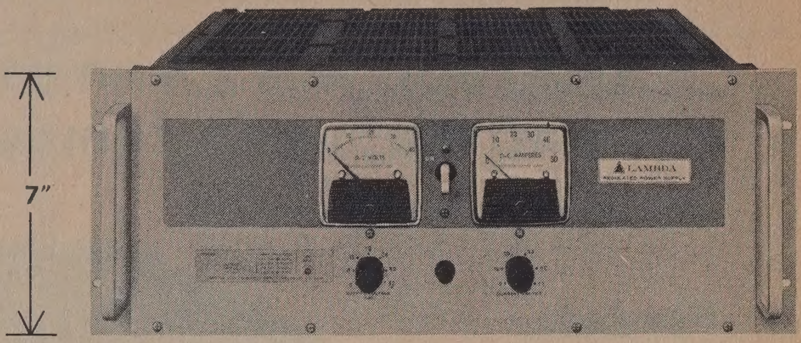
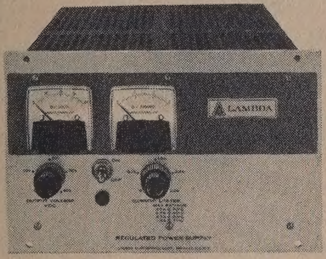
LK series high-current power supplies all silicon, convection cooled–bench or rack

For test equipment and lab use— 0-20, 0-36, 0-60 VDC from 0-4.0 amps. to 0-66 amps.

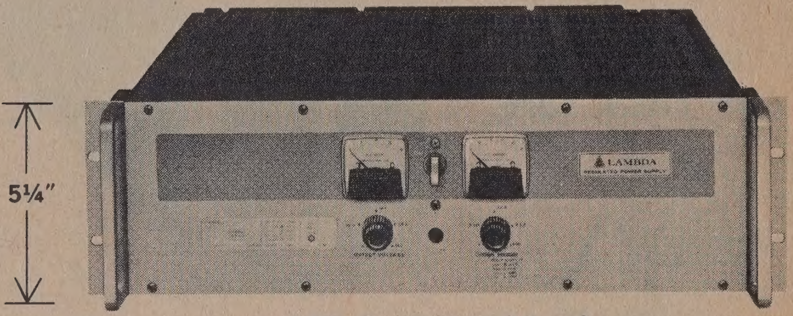


ONE DAY DELIVERY ALL MODELS

5 Year Guarantee



LK Series metered ½-rack



LK Series metered full-rack

Features and Data

- **All silicon-designed for maximum reliability**
- **Convection Cooled**—no blowers, no external heat sinks.
- **Regulation**—.015% or 1 mV (line or load)
- **Ripple**—500 uV RMS
- **AC Input**—105-132 VAC, 57-63 Hz. LK7 "series" 188-238 VAC, 57-63 Hz (derate current 10% at 50 Hz.)
- **No Voltage Spikes or Overshoot** on "turn on", "turn off" or power failure
- **Temperature coefficient**—0.015% + 0.5mV/°C.
- **Series/Parallel Operation**
- **Completely Protected**—short circuit proof—Continuously adjustable automatic current limiting
- **Constant Voltage/Constant Current**
- **Remotely Programable**
- **Meet Mil. Environment Specs.**
  Vibration: MIL-T-4807A
  Shock: MIL-E-4970A Proc. 1 & 2
  Humidity: MIL-STD-819 Meth. 507
  Temp. Shock: MIL-E-5272C (ASG) Proc. 1
  Altitude: MIL-E-4970A (ASG) Proc. 1
  Marking: MIL-STD-130
  Quality: MIL-Q-9858

LK Series full-rack models Size 7" x 19" x 18½"

Model[2]	ADJ. VOLT. RANGE VDC	CURRENT RANGE AT AMBIENT OF:[1]				Price[2]
		40°C	50°C	60°C	71°C	
LK-360 FM	0-20	0-66A	0-59A	0-50A	0-40A	$995
LK-361 FM	0-36	0-48A	0-43A	0-36A	0-30A	950
LK-362 FM	0-60	0-25A	0-24A	0-22A	0-19A	995

LK Series full-rack models Size 5$\frac{3}{16}$" x 19" x 16½"

Model[2]	ADJ. VOLT. RANGE VDC	CURRENT RANGE AT AMBIENT OF:[1]				Price[2]
		40°C	50°C	60°C	71°C	
LK-350	0-20	0-35A	0-31A	0-26A	0-20A	$675
LK-351	0-36	0-25A	0-23A	0-20A	0-15A	640
LK-352	0-60	0-15A	0-14A	0-12.5A	0-10A	650

LK Series ½-rack models Size 5$\frac{3}{16}$" x 8⅜" x 16½"

Model[2]	ADJ. VOLT. RANGE VDC	CURRENT RANGE AT AMBIENT OF:[1]				Price[2]
		40°C	50°C	60°C	71°C	
LK-340 A	0-20	0- 8.0A	0- 7.0A	0- 6.1A	0-4.9A	$330
LK-341 A	0-20	0-13.5A	0-11.0A	0-10.0A	0-7.7A	385
LK-342 A	0-36	0- 5.2A	0- 5.0A	0- 4.5A	0-3.7A	335
LK-343 A	0-36	0- 9.0A	0- 8.5A	0- 7.6A	0-6.1A	395
LK-344 A	0-60	0- 4.0A	0- 3.5A	0- 3.0A	0-2.5A	340
LK-345 A	0-60	0- 6.0A	0- 5.2A	0- 4.5A	0-4.0A	395

Prices F.O.B. factory, Melville, N. Y. All specifications and prices subject to change without notice.

OVERVOLTAGE PROTECTION ACCESSORIES

For Use With	Model	Adj. Volt Range	Price
LK-340A, 341A	LH-OV-4	3-24 VDC	$35
LK-342A, 343A	LH-OV-5	3-47 VDC	35
LK-344A, 345A	LH-OV-6	3-70 VDC	35
LK-350-352 LK-360 FM-362 FM	Overvoltage Protection up to 70 VDC as a built-in option for full-rack models. To order, add suffix (-OV) and add $90.00 to price of models LK-350–352, add $120.00 for models LK-360-FM–362-FM.		

NOTES:

1 Current rating applies over entire voltage range.

2 Prices are for non-metered models. For metered models, add suffix (-FM) and add $30.00 to price. Models LK-360-FM, LK-361-FM, and LK-362-FM which are metered models not available without meters.

3 Chassis Slides for full rack models: Add suffix (-CS) to model number and add $60.00 to the price, except for models LK-360-FM–LK-362-FM, for which add $100.00.

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CABLE: LAMBDATRON, MELVILLE, N.Y.

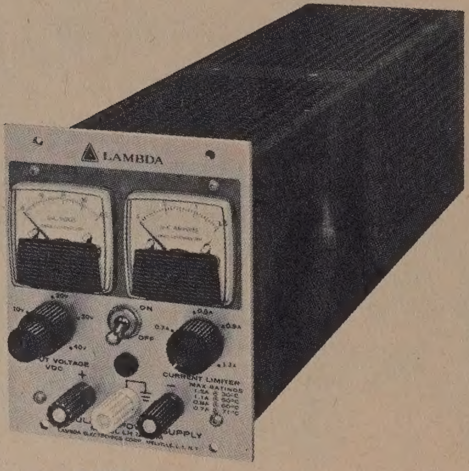
Now higher power ratings on 0-20/40 VDC LH series 1/4 rack power supplies

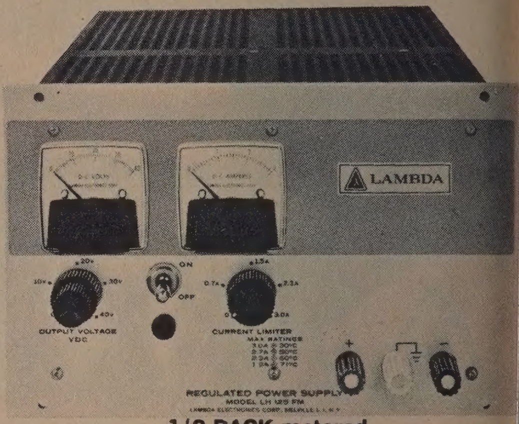
0-20 VDC was 2.4 amps—now 3.3 amps, 0-40 VDC was 1.3 amps—now 1.8 amps

For test equipment and lab—bench or rack use

5 Year Guarantee

ONE DAY DELIVERY


1/4 RACK metered


1/2 RACK metered

Features and Data

- **All silicon-designed for maximum reliability**
- **Convection Cooled**—no blowers, no external heat sinks.
- **Regulation**—.015% or 1 mV (line or load)
- **Ripple**—250μV RMS
- **AC Input**—105-135 VAC (models with suffix B— 105-132 VAC), 45-480 Hz. For operation at 205-265 VAC, add suffix "-V" to model number.
- **No Voltage Spikes or Overshoot** on "turn on", "turn off" or power failure
- **Temperature coefficient**—0.015% + 0.5mV/°C.
- **Series/Parallel Operation**
- **Completely Protected**—short circuit proof—Continuously adjustable automatic current limiting
- **Fungus Proofing Option**—Add suffix "R" to model number and add $20.00 to price

LH Series ½-rack models Size 5³⁄₁₆" x 8⅜" x 15⅝"

Model[2]	ADJ. VOLT. RANGE VDC	CURRENT RANGE AT AMBIENT OF:[1]				Price[2]
		30°C	50°C	60°C	71°C	
LH-119A	0-10	0-9.0A	0-8.0A	0-6.9A	0-5.8A	$289
LH-122A	0-20	0-5.7A	0-4.7A	0-4.0A	0-3.3A	260
LH-125A	0-40	0-3.0A	0-2.7A	0-2.3A	0-1.9A	269
LH-128A	0-60	0-2.4A	0-2.1A	0-1.8A	0-1.5A	315
LH-131	0-120	0-1.2A	0-0.9A	0-0.8A	0-0.6A	320

LH Series ¼-rack models Size 5³⁄₁₆" x 4³⁄₁₆" x 15½"

Model[2]	ADJ. VOLT. RANGE VDC	CURRENT RANGE AT AMBIENT OF:[1]				Price[2]
		30°C	50°C	60°C	71°C	
LH-118A	0-10	0-4.0A	0-3.5A	0-2.9A	0-2.3A	$180
LH-121B	0-20	0-3.3A	0-2.6A	0-2.3A	0-1.9A	170
LH-124B	0-40	0-1.8A	0-1.4A	0-1.2A	0-1.0A	170
LH-127A	0-60	0-0.9A	0-0.7A	0-0.6A	0-0.5A	185
LH-130	0-120	0-0.50A	0-0.40A	0-0.35A	0-0.25A	240

Prices F.O.B. factory, Melville, N. Y. All specifications and prices subject to change without notice.

- **Constant Voltage/Constant Current**
- **Remotely Programable**
- **Meet Mil. Environment Specs.**
  Vibration: MIL-T-4807A
  Shock: MIL-E-4970A Proc. 1 & 2
  Humidity: MIL-STD-819 Meth. 507
  Temp. Shock: MIL-E-5272C (ASG) Proc. 1
  Altitude: MIL-E-4970A (ASG) Proc. 1
  Marking: MIL-STD-130
  Quality: MIL-Q-9858

Accessories

Rack Adapter LRA-1 Price $60.00 • 5¼" H x 16½" D

CHASSIS SLIDES: To order LRA-1 with chassis slides order LRA-1-CS, and add $50.00 to price.

Rack Adapter LRA-2 Price $35.00 • 5¼" H

OVERVOLTAGE PROTECTION ACCESSORIES

For Use With	Model	Adj. Volt. Range	Price
LH-118A—121B, 122A	LH-OV-4	3-24 VDC	$35
LH-124B—125A	LH-OV-5	3-47 VDC	35
LH-127A—128A	LH-OV-6	3-70 VDC	35

NOTES:

1 Current rating applies over entire voltage range. Derate 10% for 50 Hz operation.

2 Prices are for non-metered models. For metered models, add suffix (-FM) and add $30.00 to price.

3 Overvoltage protection up to 70 VDC is available as a bolt-on accessory for models with suffix (A) or (B). To order, see chart; add suffix (-OV) and add $35.00 to price.

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"TABTRON" VARIABLE DC POWER SUPPLIES, COMPLETELY BUILT, DESIGNED FOR CONTINUOUS SERVICE, READY TO USE. "VARIAC"® VARIABLE TRANSFORMER, ISOLATION RECTIFIER TRANSFORMER, FULL WAVE BRIDGE RECTIFIER. METERS, VOLTS AND AMP., 115/60Cy INPT. OTHER INPTS TO ORDER.

DESCRIPTION

Model	Variable DC Volts & Amps Ripple & Regulation	Price
T10V500AV	0 to 9VDC @ 500Amp/4% Rip/3 φ inpt	$936
T12V10ACE	0 to 12VDC @ 10A/0.1% Rip @ 2A	57
T12V15ARM	0 to 12VDC @ 15A/1% Rip ±5% Reg	207
T12V20A	0 to 12VDC @ 20Amp/int up to 30A	117
T12V50A	0 to 12VDC @ 50Amp	189
T12V300AY	0 to 12VDC @ 300Amp/inpt 3 φ	585
T16V5ACE	0 to 16VDC @ 5A/0.5% Rip	69
T16V50A	0 to 16VDC @ 50Amps	210
T24V25A	0 to 24VDC @ 25Amps	190
T32V5A	0 to 32VDC @ 5Amps	66
T32V5ACC	0 to 32VDC @ 5Amp/0.5% Rip/160Mv	88
T28V5ARC	0 to 28VDC @ 5Amp/0.05% Rip/14Mv	144
T32V12ACC	0 to 32VDC @ 12Amp/0.5% Rip	171
T32V15ARM	0 to 32VDC @ 15Amp/1% Rip/±5% Reg	243

DESCRIPTION

Model	Variable DC Volts & Amps Ripple & Regulation	Price
T32V24A	0 to 32VDC @ 24Amps	$189
T32V24ACC	0 to 32VDC @ 24Amp/0.5% Rip 160Mv	252
T32V30ARM	0 to 32VDC @ 30A/1% Rip/±5% Reg	387
T32V50A	0 to 32VDC @ 50Amps	360
T32V50ACC	0 to 32VDC @ 50A/1% Rip/160Mv	420
T48V5ACC	0 to 48VDC @ 5A/0.5% Rip/240Mv	135
T60V5ACC	0 to 60VDC @ 5A/0.5% Rip/300Mv	207
T130V2ACC	0 to 130VDC @ 2A/1% Rip/1.3V	119
T120V5ACC	0 to 120VDC @ 5A/1% Rip/1.2V	270
T130V10ACC	0 to 130VDC @ 10A/1% Rip/1.3V	387
T220V10A	0 to 220VDC @ 10Amps	405
T220V10ACC	0 to 220VDC @ 10A/1% Rip/2.2V	495
T300V1ACC	0 to 300VDC @ 1A/0.03% Rip/90Mv	225
T300V2ACC	0 to 300VDC @ 2A/0.03% Rip/90Mv	351

LOW-COST "TAB-PAKS" DC POWER for PILOT LIGHTS, RELAYS & SOLENOIDS!

B12VER	12VDC @ 2Amp	$ 15
B12V2BF	12VDC @ 2Amp Filtered	22
B12VGR	12VDC @ 4Amp	24
B12VNR	12VDC @ 24Amp	64
B24VAR	24VDC @ 1Amp	16
B24VER	24VDC @ 2Amps	$ 18
B24V2BF	24VDC @ 2Amps Filtered	27
B24VJR	24VDC @ 6Amps	32
B24V6BF	24VDC @ 6Amps Filtered	45
B24VLR	24VDC @ 12Amps	56
B48VAR	48VDC @ 1Amp	$ 30
B48VER	48VDC @ 2Amp	40
B60V2BF	60VDC @ 2Amp Filtered	66
B115VAR	115VDC @ 1Amp	63
B115VER	115VDC @ 2Amp	72

REGULATED FIXED CONSTANT VOLTAGE DC SUPPLIES

Low Ripple & 1% Line Regulation   100 to 130 VAC at 60 cys & 1 Phase

F6V4½	6V @ 4½ A	$ 72
F6V9	6V @ 9A	79
F6V16	6V @ 16A	84
F6V40	6V @ 40A	108
F12V2	12V @ 2A	72
F12V4½	12V @ 4½ A	79
F12V9	12V @ 9A	84
F12V20	12V @ 20A	108
F15V2	15V @ 2A	75
F15V3.5	15V @ 3.5A	79
F15V8	15V @ 8A	$ 84
F15V16	15V @ 16A	108
F15V30	15V @ 30A	162
F18V6	18V @ 6A	84
F18V13	18V @ 13A	108
F24V1.2	24V @ 1.2A	72
F24V2.1	24V @ 2.1A	79
F24V4.5	24V @ 4.5A	84
F24V11	24V @ 11A	108
F24V20	24V @ 20A	162
F28V1	28V @ 1A	$ 72
F28V2	28V @ 2A	79
F28V4	28V @ 4A	84
F28V9	28V @ 9A	108
F28V16	28V @ 16A	171
F36V1.2	36V @ 1.2A	75
F36V3.2	36V @ 3.2A	84
F36V6	36V @ 6A	108
F48V2.5	48V @ 2.5A	84
F48V5	48V @ 5A	108
F60V.5	60V @ .5A	$ 72
F60V1.2	60V @ 1.2A	79
F60V2	60V @ 2A	84
F60V4	60V @ 4A	108
F60V8	60V @ 8A	171
F120V.3	120V @ .3A	75
F120V.6	120V @ .6A	81
F120V1	120V @ 1A	90
F120V2	120V @ 2A	108
F120V4	120V @ 4A	169

BATTERY CHARGERS for NICKEL CADMIUM "NBC", LEAD, SILVER, ALKALI "ABC" AUTOMATIC SENSING TO 0.06V!

NBC75D04	"NICAD" ADJ one to 75 Cells up to 40Ma	$ 10
NBC25V1A	"NICAD" & other ADJ/1 to 25V up to 1Amp	20
NBC60D5A	"NICAD" & others ADJ 1 to 60 Cells to 500Ma	36
BC612A3	6 & 12V to 3A (115 & 230V/50-60 cys) & trickle	15
BC612A5	6 & 12V to 5A (115V/50 to 800 cys) & trickle	28
BC12-24VT5A	12 & 24V to 5A (115V/50 to 800 cys) & trickle	48
ABC6V3A	Automatic CHG. 6V to 3A & Trickle	45
ABC12V4A	Automatic CHG. 12V to 4A & ADJ Trickle	$ 50
ABC24V4A	Automatic CHG. 24V to 4A & ADJ Trickle	72
ABC12V20A	Automatic CHG. 12V to 20A & ADJ Trickle	117
ABC12V70AR	up to 12V @ 70Amp & ADJ Float	261
ABC14V3AR	up to 14V @ 3A & ADJ 20Ma/Float	90
ABC14V50AR	up to 14V @ 50A & ADJ to 5A/Float	300
ABC30V8AR	up to 30V @ 8Amp & Float 0.8A	180

"SILTAB" ® FWB SILICON RECTIFIER FINNED STACKS -65%C to +150%C CONVECTION COOLED*

Max DC Amps	36VAC 32VDC		70VAC 62VDC		140VAC 125VDC		280VAC 250VDC		840VAC 750VDC		1120VAC 1000VDC		1400VAC 1250VDC		2800VAC 2500VDC	
1.5	JA36	$1.50	JA70	$ 1.80	JA140	$ 1.75	JA280	$ 1.90	JA840	$6.00	JA1120	$9.00	JA1400	$12.00	JA2800	$15.00
6	JJ36	5.90	JJ70	6.90	JJ140	7.90	JJ280	8.90	JJ840	18.00	JJ1120	21.00	JJ1400	24.00	JJ2800	36.00
12	JL36	7.50	JL70	8.80	JL140	11.75	JL280	15.00	JL840	29.45	JL1120	36.00	JL1400	43.00	JL2800	54.00
24	JN36	10.00	JN70	15.00	JN140	20.00	JN280	30.00								
50	JS36	20.00	JS70	27.00	JS140	36.15	JS280	45.45								
100	JT35	27.00	JT70	36.75	JT140	45.90	JT280	63.00								

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3 φ THREE PHASE FULL WAVE BRIDGE 3 φ

DC Amps	36VAC 48VDC		105VAC 144VDC		185VAC 248VDC		280VAC 375VDC	
12	YJ36	7.45	YJ105	13.75	YJ185	21.00	YJ280	30.00
18	YW36	10.00	JW105	18.60	YW185	33.45	YW280	45.60
60	YS36	27.75	YS105	37.90	YS185	48.15	YS280	60.00
*100	YT36	36.00	YT105	48.60	YT185	57.90	YT280	69.30

C.T. 3 Star

DC Amps	18V to C.T. 24VDC	
6	FJ36	3.75
18	FW36	4.90
60	FS36	17.00
100	FT36	22.00

24-HOUR SERVICE ON REPLACEMENT
We can supply exact equals on all makes and types of rectifiers — size, type current to your specifications.

RECTIFIERS — TRANSFORMERS — CHOKES

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"TECHNICAL APPARATUS BUILDERS" mfgr. Power Rectifiers to your specs. From one amp up to and above 1000 amps, "NEMA" & Jan. Specs.

"TABTRAN" RECTIFIER TRANSFORMERS AND CHOKES

Transformer Number	Secondaries	Second AC Amps	Primary Volts	Net Price
TR4000R	Dual (2) Sec'd each 0-16V	1	115	$4.00
TR4001	Dual (2) Sec'd each 0-9-15-18	1	115	5.45
TR4002	Volts at rated current per	2	115	7.80
TR4003	each winding.	5	115	12.90
TR4005B	Secondary series connected.	12	115	20.00
TR4006B	Taps give 0-9-18-27-36 Volts	25	115	39.60
TR4007B	Secondary parallel 0-9-18	50	115 & 220	55.00
TR4008B	Volts at twice (2X) the current.	100	115 & 220	108.00

Choke Number	Inductance Henries	AC Amps	Resistance Ohms	IR Drop Volts	Net Price
CR6001	0.1	1	1.4	1.4	$3.90
CR6002	0.1	2	0.67	1.34	6.45
CR6007	0.01	4	0.1	0.04	6.00
CR6003	0.07	5	0.6	3.00	11.00
CR6004	0.015	12	0.1	1.2	6.63
CR6005	0.005	25	0.025	0.60	27.50
CR6006	0.001	50	0.001	0.05	38.00
CR6010	0.5	100	.005		43.00
CR6011	0.3	200	.0025		68.00
CR6012	0.055	500	.00027		92.00
CR6013	0.015	1000	.000065		102.00

All prices and specifications subject to change   Write for Complete Catalog!

"TABTRAN" INDUSTRIAL TRANSFORMERS & CHOKES

Transformer Number	Secondaries	Second AC Amps	Primary Volts	Net Price
T5601	56V or 28 V.C.T.	1	115	$12.10
T5602	Dual (2) sec'd each 28 V.C.T.	2	115	13.50
T5604	Series 0-14-28-42-56V	4	115	22.80
T5608	at Secondary AC-Amps	8	115	41.10
T5612	Parallel 0-14-28V	12	115	54.50
T5625	at 2X Current	25	115	89.50
T1200		.5	115	12.30
T1201	120V or 60 V.C.T.	1	115	15.70
T1202	Dual (2) sec'd each 60 V.C.T.	2	115	22.40
T1204	Series 0-30-60-90-120V	4	115	43.10
T1206	At Secondary AC-Amps	6	115	52.60
T1208	Parallel 0-30-60V	8	115	65.80
T1212	at 2X Current	12	115	103.00
T1220		20	115	122.00

INDUSTRIAL ISOLATION & CONTROL TRANSFORMERS

CT050/50 WATTS	$15.00
CT075/75 WATTS	18.00
CT100/100 WATTS	22.00
CT150/150 WATTS	26.00
CT250/250 WATTS	31.00
CT500/500 WATTS	Query
CT750/750 WATTS	Query
CT1000/1KVA	Query
CT2000/2KVA	Query
CT3000/3KVA	Query

FOR (230/460V/Sec'd) ADD LETTER (D) DCT & 25% TO PRICE.

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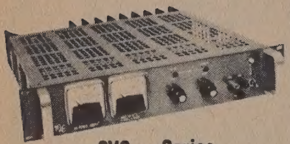
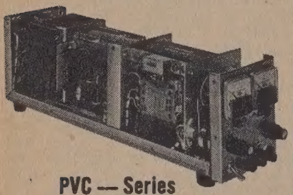
POWER SUPPLIES

MAY 1969 PRICE LIST



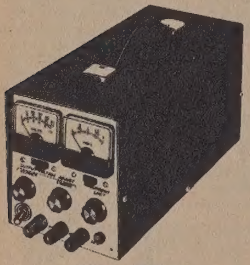
SVC — Series

- All Silicon Design
- Regulated Voltage and / or Current
- Mode Indicator Lamps
- 0-71°C Operating
- 0-20V, 0-40V, 0-60V, 0-125V units



PVC — Series

- 3 models — 25, 50, 100 watts.
- Integrated circuits for current and voltage regulation.
- Circuits and filter circuits mounted on plug-in cards for easy servicing.
- Size — 4¾" (H), 4" (W), 13" (D) and larger.



LVC — Series

- Miniature size — 4¾" (H), 4" (W), 12" (D) and larger.
- Bench or ¼ rack. Series regulated.

VOLTAGE AND / OR CURRENT REGULATED DC POWER SUPPLIES:

- Automatic Crossover Feature
- Remote Programming — Remote Sensing
- Full Range Adjustability
- Static Load Regulation (voltage): ±0.01%
- RMS Ripple (voltage): 250 microvolts to 1 mv max.

SVC-Series

Metered Models — Add Suffix "M" to Model designation and $20.00 to price shown.

Model	Volts	Amps	Price
SVC-20-7.5	0-20	0-7.5	$355.
SVC-20-15	0-20	0-15	470.
SVC-20-30	0-20	0-30	670.
SVC-40-5	0-40	0-5	325.
SVC-40-10	0-40	0-10	455.
SVC-40-20	0-40	0-20	650.
SVC-60-3.5	0-60	0-3.5	345.
SVC-60-7	0-60	0-7	575.
SVC-60-14	0-60	0-14	670.
SVC-125-1.6	0-125	0-1.6	495.
SVC-125-3.2	0-125	0-3.2	745.
SVC-125-6.5	0-125	0-6.5	1090.
RP3 Panel			30.
RP4 Panel			30.
Cover Plate			10.

RVC-Series

Metered Models — Add Suffix "M" to Model designation and $20.00 to price shown.

Model	Volts	Amps	Price
RVC-36-5	0-36	0-5	$355.
RVC-36-15	0-36	0-15	525.
RVC-36-25	0-36	0-25	670.

RB-Series

Model	Volts	Amps	Price
RB-18-3-M	0-18	0-3	$225.
RB-36-2-M	0-36	0-2	225.
RB-50-1.5-M	0-50	0-1.5	245.

PVC-Series

Watts	Model	Volts	Amps	Price
25	PVC-10-2	0-10	0-2	$148.
	PVC-20-1	0-20	0-1	148.
	PVC-50-0.5	0-50	0-0.5	148.
50	2 PVC-10-2	0-10 Dual	0-2 Dual	$296.
		0-20	0-2	
		0-10	0-4	
	2 PVC-20-1	0-20 Dual	0-1 Dual	296.
		0-40	0-1	
		0-20	0-2	
	2 PVC-50-0.5	0-50 Dual	0-0.5 Dual	296.
		0-100	0-0.5	
		0-50	0-1	
	PVC-10-4	0-10	0-4	$195.
	PVC-20-2	0-20	0-2	195.
	PVC-50-1	0-50	0-1	195.
100	2 PVC-10-4	0-10 Dual	0-4 Dual	$390.
		0-20	0-4	
		0-10	0-8	
	2 PVC-20-2	0-20 Dual	0-2 Dual	390.
		0-40	0-2	
		0-20	0-4	
	2 PVC-50-1	0-50 Dual	0-1 Dual	390.
		0-100	0-1	
		0-50	0-2	
	PVC-10-8	0-10	0-8	$295.
	PVC-20-4	0-20	0-4	295.
	PVC-50-2	0-50	0-2	295.

PVC — Series

Watts	Model	Volts	Amps	Price
200	2 PVC-10-8	0-10 Dual	0-8 Dual	$590.
		0-20	0-8	
		0-10	0-16	
	2 PVC-20-4	0-20 Dual	0-4 Dual	590.
		0-40	0-4	
		0-20	0-8	
	2 PVC-50-2	0-50 Dual	0-2 Dual	590.
		0-100	0-2	
		0-50	0-4	

LVC-Series

Model	Volts	Amps	Price
LVC10-2	0-10	0-2	$124.00
LVC20-1	0-20	0-1	
LVC50-.5	0-50	0-.5	
2 LVC10-2	0-10 Dual	0-2 Dual	$248.00
	0-20	0-2	
	0-10	0-4	
2 LVC20-1	0-20 Dual	0-1 Dual	$248.00
	0-40	0-1	
	0-20	0-2	
2 LVC50-.5	0-50 Dual	0-.5 Dual	$248.00
	0-100	0-.5	
	0-50	0-1	

VOLTAGE REGULATED DC POWER SUPPLIES:

- Adjustable From Zero to Maximum Ratings
- Electronic Current Limiting (Adjustable / Fixed)
- Constant Current Adaptability
- Remote Programming — Remote Sensing

Series Regulator, Magnetic Amplifier Buffer, Closed Loop Transistorized Circuitry.

Load Regulation: ±0.005% to ±0.01%

Ripple: 3 mv p-p

QR-Series

Unmetered Models—Add Prefix "E" to Model designation and subtract $20.00 from price shown.

Model	Volts	Amps	Price
QR-10-10	0-10	0-10	$410.
QR-15-20	0-15	0-20	510.
QR-18-6	0-18	0-6	410.
QR-36-4	0-36	0-4	430.
QR-36-10	0-36	0-10	490.
QR-60-2.5	0-60	0-2.5	420.
QR-60-6	0-60	0-6	550.
QR-160-1.2	0-160	0-1.2	650.
QRP-160-3	60-160	0-3	720.

Series Regulator, SCR Buffer Closed Loop Transistorized Circuitry.

Load Regulation: ±0.01%

Ripple: 1 mv RMS

CR-Series

Unmetered Models—Add Prefix "E" to Model designation and subtract $20.00 from price shown.

Model	Volts	Amps	Price
CR-18-30	0-18	0-30	$600.
CR-36-8	0-36	0-8	475.
CR-36-15	0-36	0-15	520.
CR-36-20	0-36	0-20	620.
CR-36-30	0-36	0-30	745.
CR-36-50	0-36	0-50	1475.
CR-60-9	0-60	0-9	620.
CR-60-18	0-60	0-18	900.

Series Regulator, Closed Loop Amplifier

Half Rack Bench Supply (Rack Adaptable)

Load Regulation: ±0.02%

Ripple: 2 mv p-p

TR-Series

Unmetered Models—Add Prefix "E" to Model designation and subtract $10.00 from price shown.

Model	Volts	Amps	Price
TR-18-3	0-18	0-3	$195.
TR-36-2	0-36	0-2	195.

RP PANELS FOR
TR, RB, TFC LINES

RP-1, RP-1A or RP-2 $20.00

MODULES:

Series Regulator, Closed Loop Amplifier

Regulation: ±0.05%

Ripple: 3 mv to 5 mv p-p

P-Series

Page 10

Model	Volts	Amps	Price
P-30-1	10-33	0-1	$114.
P-56-0.5	36-56	0-0.5	174.
P-72-0.5	56-72	0-0.5	174.

UNLIMITED *from* NJE!

VOLTAGE REGULATED DC POWER SUPPLIES:

- **Wide and Narrow "Slot" Adjustable**
- **Remote Programming — Remote Sensing**

Series Regulator, SCR Buffer, Closed Loop Transitorized Amplifier.
Load Regulation: ±0.01%
Ripple: 1 mv RMS
Adjustable Electronic Current Limiting

SY-Series

Pages 11 and 12

Metered Models — Add Suffix "M" to Model designation and $20.00 to price shown.

Model	Volts	Amps	Price
SY-18-30	5-18	0-30	$560.
SY-36-10	10-36	0-10	370.
SY-36-20	10-36	0-20	465.
SY-36-30	10-36	0-30	625.
SY-60-6	10-60	0-6	400.
SY-60-12	10-60	0-12	495.
SY-60-18	10-60	0-18	645.

SCR Rectifiers, Closed Loop Transistorized Amplifier.
Load Regulation: 0.5%
Ripple: 1% RMS max.
Adaptable to Constant Current.

TC-Series

Pages 13 and 14

Unmetered Models—Add Prefix "E" to Model designation and subtract $20.00 from price shown.

Model	Volts	Amps	Price
TC-14-15	5-14	0-15	$365.
TC-14-30	5-14	0-30	500.
TC-14-200	5-14	0-200	1550.
TC-32-10	10-32	0-10	320.
TC-32-20	10-32	0-20	445.
TC-32-30	10-32	0-30	585.
TC-32-50	10-32	0-50	865.
TC-32-120	10-32	0-120	1570.
TC-52-6	20-52	0-6	420.
TC-52-12	20-52	0-12	465.
TC-52-30	20-52	0-30	850.
TC-80-4	25-80	0-4	320.
TC-80-8	25-80	0-8	545.
TC-80-20	25-80	0-20	850.
TC-100-6	40-100	0-6	625.

Series Regulator, Closed Loop Transistorized Amplifier.
Load Regulation: ±0.01%
RMS Ripple: 200 microvolts to 1 mv
Electronic Current Limiting

SR-Series

Pages 15 and 16

Metered Models — Add Suffix "M" to Model designation and $20.00 to price shown.

Model	Volts	Amps	Price
SR-6-20	5.5-6.5	0-20	$540.
SR-8-20	7.5-8.5	0-20	540.
SR-10-7.5	9-11	0-7.5	330.
SR-10-15	9-11	0-15	530.
SR-12-7.5	11-13	0-7.5	330.
SR-12-15	11-13	0-15	530.
SR-15-6	14-16	0-6	330.
SR-15-12	14-16	0-12	530.
SR-20-5.5	18-22	0-5.5	330.
SR-20-11	18-22	0-11	530.
SR-24-5	22-26	0-5	330.
SR-24-10	22-26	0-10	530.
SR-28-5	26-30	0-5	330.
SR-28-10	26-30	0-10	530.
SR-48-3	44-52	0-3	350.
SR-48-6	44-52	0-6	550.
SR-100-1.5	92-108	0-1.5	385.
SR-100-3	92-108	0-3	600.
SR-120-1.3	110-130	0-1.3	385.
SR-120-2.6	110-130	0-2.6	600.
SR-150-1	140-160	0-1	385.
SR-150-2	140-160	0-2	600.

FC and TFC Series:

Frequency Converters 50-60 CPS to 380-420 CPS
Page 17

Model	Volts	VA	Price
TFC-26-100	24-30	0-100	$420.
TFC-26-200	24-30	0-200	640.
TFC-115-100	105-130	0-100	410.
TFC-115-200	105-130	0-200	630.
FC-26-500	24-30	0-500	1180.
FC-115-500	95-135	0-500	1120.
FC-115-1000	95-135	0-1000	1920.

MULTIPHASE ADAPTERS

(To adapt above single phase frequency converters to — 2 or 3 phase operation)

TPAB-2-20	(2 phase, bench adapter)	$430.
TPAR-2-20	(2 phase, 3½ rack adapter)	430.
TPAB-3-30	(3 phase, bench adapter)	430.
TPAR-3-30	(3 phase, 3½ rack adapter)	430.

HIGH VOLTAGE DC POWER SUPPLIES:

Brute Force — H, HH, 3H, 4H Series
Air or Oil Insulated
Voltage Outputs Up To 250 KV DC
Specifications: Pages 19, 20
Prices: Consult Local Representative or Factory

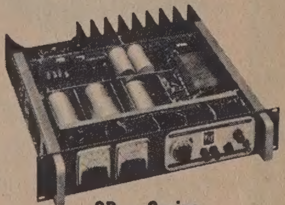
S-Series — Regulated High Voltage

Load Regulation: ±100 mv to ±0.01% max.
RMS Ripple: 5 mv to 15 mv max.
Page 21

Model	Volts	MA	Price
S-325	500-2500	0-10ma	$355.
S-326	500-2500	0-50ma	390.
S-327	500-5000	0-10ma	510.
S-328	1000-10,000	0-10ma	1900.
S-330	5000-15,000	0-2ma	2750.

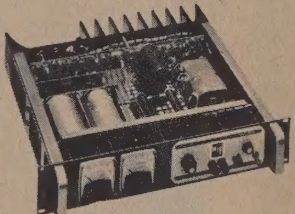
SY — Series

- **Wide Slot Voltage Adjustable (5-18V) (10-36V) (10-60V)**
- **0-50°C Operating**
- **75 Microsecond response**



CR — Series

- **Variable Voltage (3-7 mv resolution) (0-18V) (0-36V) (0-60V)**
- **0-45°C operating**
- **Variable current limiting**
- **100 Microsecond response**



RVC — Series

- **Regulated Voltage and/or Current**
- **0-36 Volt Supplies**
- **0-50°C Operating**
- **50 microsecond response**

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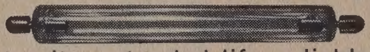
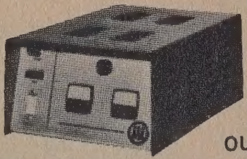
Where The Resource is Light and The Product is... Imagination!

Illumination Industries offers the highest concentration of experience and talent for creative and rapid response to standard and custom design requirements.

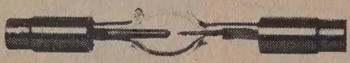
Our goal as a company from our beginning in 1965, has been to produce high quality, state-of-the-art products. We have gathered the best in management, technical, and engineering personnel to insure our high standards and to keep pace with the changing demands our our customers. Illumination Industries offers not only a line of reliable products, but an experienced capable staff unmatched by any competition.



Xenon Flash & Strobe Lamps Outstanding features: seal integrity, extended life, reliable triggering, high conversion efficiency.
Operating characteristics: 8 to 18,000 joules, glass to metal seals and solder seals; output of 15 to 50 lumen-seconds per joule input.
Model Numbers: F-38, F-38-U, F-42, F-81, F-47, F-47-U, F-70, F-60, F-90, F-91, FRT-6, FFT-6, FRT-76, Mini Strobe.



Power Supplies Outstanding features: constant power to lamp throughout lamp life, solid-state, rugged design, low current ripple, ample starting energy to restart hot lamps.
Operating characteristics: 35 to 500 watts; integrated starter circuits, DC output, 50 or 60 cycle and 117 to 220 volts.
Model numbers: CA-35, CA-75/100, CA-150, CA-200, CA-350, CA-500, CA-610, modulators.



Mercury Short Arc Lamps Outstanding features: extreme arc stability, intense source of ultraviolet and visible radiation, performance proved reliability, constant lumen output throughout lamp life.
Operating characteristics: 100 to 500 watts; 2,000 to 30,000 lumens.
Model numbers: III-107, III-110, III-610, III-660, III-200-2, III-200-3, III-202, III-203, III-350, III-500-2, III-360, III-120.

Xenon Short Arc Lamps Outstanding features: ultra arc stability, intense sources of ultraviolet and infrared radiation, history-proven reliability, capable of continuous, modulated or pulsed operation.
Operating characteristics: 35 to 300 watts; 600 to 7,500 lumens.
Model numbers: X-35, X-36, X-50, X-75, X-76, X-150, X-200, X-300, X-80, X-160, X-310.

Lamphousings Outstanding features: 2″ or 3″ optics, positive linkage focusing adjustment in X-Y-Z axis, spherical rear mirror, detachable backplate for ease of lamp installation and prefocusing.
Operating characteristics: will hold 35 to 350 watt short arc lamps, pyrex or quartz optics, collimated light, integral filter sets.
Model numbers: LH-350, LH-350 Quartz, LH-360 W, LH-360 WO, LH-370, LH-370 Quartz.

Custom Design Capability Illumination Industries offers the highest concentration of experience and talent for creative and rapid response to unique customer requirements.
The company's engineering and manufacturing staff have a depth of experience unequalled in the industry and they welcome the opportunity of assisting customers in the solution of their lamp and power supply problems.

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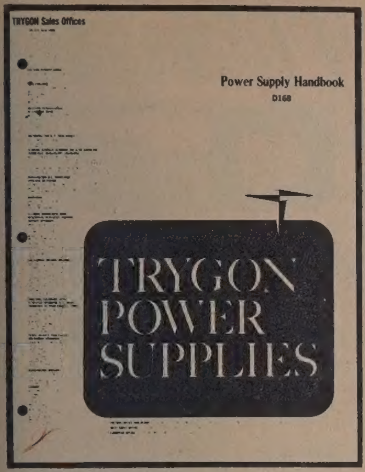

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SUPPLIES
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E/M

SCR Series—High Power
The SCR Series is designed for high power requirements up to 500 Amps. and for voltages up to 500 Volts in a single unit.

RE Series — Lab Type
The RE Series is designed for both precise laboratory and systems applications. Ratings include 40 Volts at 5 and 10 Amps., 60 Volts at 2.5 and 5 Amps.

RIC Series — Slot
The RIC Series designed for I.C. logic and all OEM applications includes built in O.V. protection. Ratings include 2 to 6 Volts at 5 and 10 Amps., 10 to 20 Volts at 2.5 and 5 Amps.

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the Simple Power Supply from KEPCO

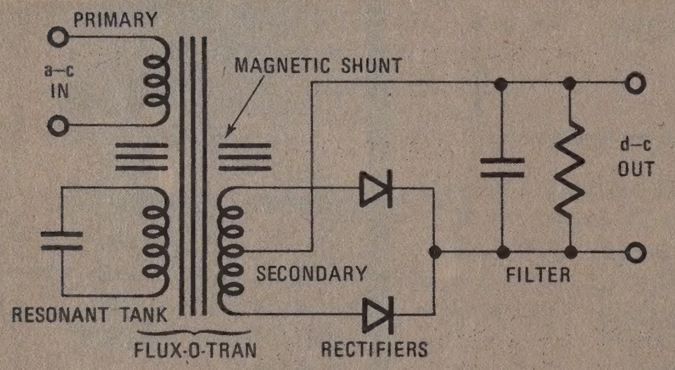
PRM REGULATED POWER MODULES

Simple? . . . yes, in the number of parts required — but they are a complex-performing power supply system providing voltage regulation (line ±1%), low output impedance and current limiting overload protection.

The Kepco PRM design owes its performance to its self-regulating power transformer, the Flux-O-Tran® which, by ferroresonant operation, provides the regulation and overload limiting action.

Some of the advantages of the extraordinary simplicity are:

- No overvoltage risk — for IC's (therefore, no need for expensive crowbars).
- Extreme reliability. (MTBF >130,000 hours).
- Operating simplicity. (Just connect a-c and d-c and go!).
- Use as the main source for local point-of-load regulators.
- Low cost, prices range from $85.00 for a 60 watt model to $197.00 for a 300 watt, dual-output model.


PRIMARY
a–c IN
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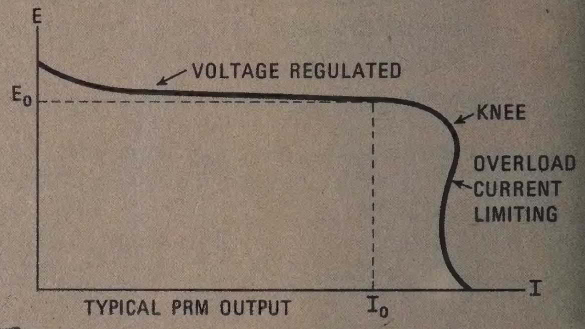
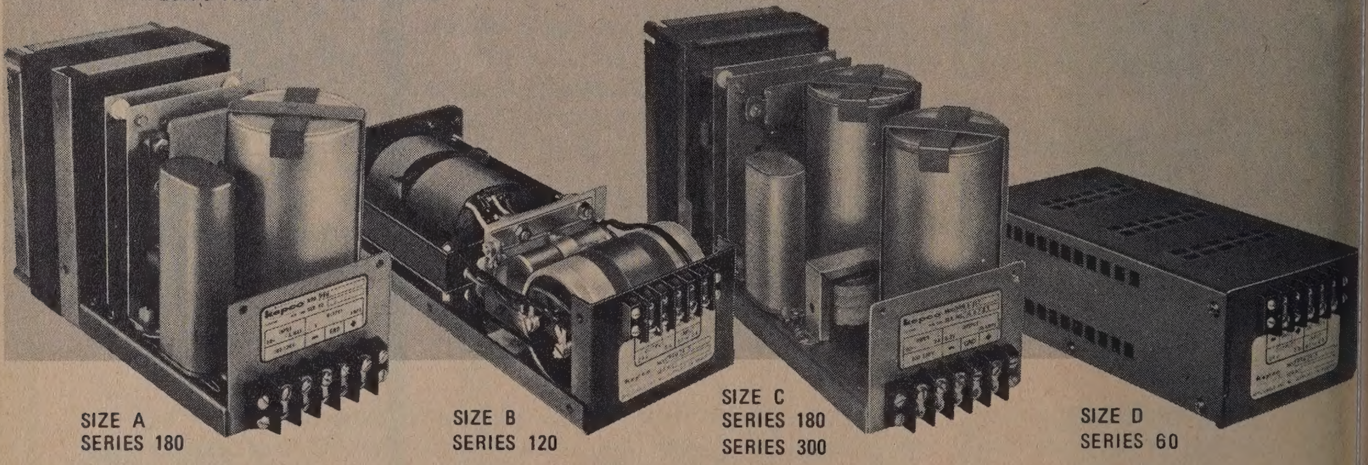
d–c OUT
SECONDARY
FILTER
RESONANT TANK
FLUX-O-TRAN
RECTIFIERS



TYPICAL PRM OUTPUT


SIZE A
SERIES 180
SIZE B
SERIES 120
SIZE C
SERIES 180
SERIES 300
SIZE D
SERIES 60

Models are available from 4.2 volts to 260 volts d-c at various currents in groups of approximately 60 watts, 120 watts, 180 watts and 300 watts. Write Department O-09 with your requirements.

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O INC FLUSHING N Y . . . . ADV PGS 476, 4th Cover
VOLT CORP HACKENSACK N J . . . . .ADV PG 443
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TIC CAPACITORS INC CHICAGO ILL
ER INC, ELECTRONICS DIV BURNSVILLE . . . . MINN
LMAN HIGH VOLTAGE ELECTRONICS CORP BRONX . N Y
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-SIGNAL CORP SUB SINGER CO WOODBURY . . . . . . N Y
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tt Transistor Labs, Inc Los Angeles . . . . .Cal
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Electric Corp Cuba . . . . .N Y
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Electronics, Inc Harbor City .Cal
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nce Electronics Ltd Ilford Essex . . . . .England
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Thompson Industries Inc Indio . . . . .Cal
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nler Instruments Inc Fort Lee .N J
Transformer Div, Gladding-Keystone Corp Oneonta . . NY
Power Corp El Segundo . . . . .Cal
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D. C. POWER SUPPLIES

Opad
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D.C. VOLTS	D.C. AMPS	MODEL	STYLE	MAX. RIPPLE	DIMENSIONS H X W X D	FIG.	A.C. INPUT	BULLETIN
0-32	0-5	KM75	RACK	100MV	8¾" X 19" X 9½"	A	115 VAC 60 Hz 1Ø	102A
	0-5	KM75B	BENCH	100MV	9" X 17" X 9"	C		
	0-10	KM81	RACK	100MV	8¾" X 19" X 9½"	A		
	0-10	KM81B	BENCH	100MV	9" X 17" X 9"	C		
	0-20	KM87	RACK	100MV	8¾" X 19" X 9½"	A		
	0-20	KM87B	BENCH	100MV	10½" X 22" X 12"	D		
	0-40	KM93	RACK	100MV	12¼" X 19" X 13"	B		
	0-40	KM93B	BENCH	100MV	14" X 22" X 15"	E		
	0-100	KM100	RACK	160MV	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	104
	0-150	KM150	BENCH	160MV	19¼" X 22" X 18"	G		
0-60	0-10	KN5	RACK	150MV	10½" X 19" X 13½"	B	115 VAC 60 Hz 1Ø	106
	0-10	KN5B	BENCH	150MV	12¼" X 22" X 15"	E		
	0-20	KN10	RACK	150MV	12¼" X 19" X 13½"	B		
	0-20	KN10B	BENCH	150MV	14" X 22" X 15"	E		
0-125	0-5	RS20	RACK	1.25V	10½" X 19" X 13"	B	117 VAC 60 Hz 1Ø	204A
	0-5	RS20B	BENCH	1.25V	12¼" X 22" X 15"	E		
	0-10	RS30	RACK	1.25V	12¼" X 19" X 13"	B		
	0-10	RS30B	BENCH	1.25V	14" X 22" X 15"	E		
	0-20	RS40	RACK	1.25V	17½" X 19" X 13"	—		
	0-20	RS40B	BENCH	1.25V	19¼" X 22" X 15"	G		
	0-24	RS50	RACK	1.25V	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	205
	0-40	RS60	BENCH	1.25V	19¼" X 22" X 18"	G		
	0-80	RS70	FLOOR	2.5V	48" X 22" X 18"	H		
	0-120	RS80	FLOOR	2.5V	48" X 22" X 24"	H		
0-250	0-5	RU60	RACK	2.5V	12¼" X 19" X 13½"	B	11/ VAC 60 Hz 1Ø	206
	0-5	RU60B	BENCH	2.5V	14" X 22" X 15"	E		
	0-10	RU70	RACK	2.5V	17½" X 19" X 13½"	—		
	0-10	RU70B	BENCH	2.5V	19" X 22" X 15"	G		
	0-12	RU80	RACK	625MV	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	207
	0-20	RU90	BENCH	625MV	19¼" X 22" X 18"	G		
	0-40	RU100	FLOOR	625MV	48" X 22" X 18"	H		
	0-60	RU150	FLOOR	2.5V	48" X 22" X 24"	H		
0-500	0-5	RW80	RACK	1.25V	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	210
	0-10	RW90	BENCH	1.25V	19¼" X 22" X 18"	G		
	0-20	RW100	FLOOR	1.25V	48" X 22" X 18"	H		
	0-30	RW150	FLOOR	1.25V	48" X 22" X 24"	H		
	0-40	RW200	FLOOR	1.25V	52" X 22" X 24"	H		
0-1000	0-2.5	SX80	RACK	2.5V	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	215
	0-5	SX90	BENCH	2.5V	19¼" X 22" X 18"	G		
	0-10	SX100	FLOOR	2.5V	48" X 22" X 18"	H		
	0-15	SX150	FLOOR	2.5V	48" X 22" X 24"	H		
	0-20	SX200	FLOOR	2.5V	52" X 22" X 24"	H		
0-1500	0-1.5	TY80	RACK	3.75V	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	217
	0-3	TY90	BENCH	3.75V	19¼" X 22" X 18"	G		
	0-7	TY100	FLOOR	3.75V	48" X 22" X 18"	H		
	0-10	TY150	FLOOR	3.75V	48" X 22" X 24"	H		
	0-13	TY200	FLOOR	3.75V	52" X 22" X 24"	H		
0-2000	0-1.25	VZ80	RACK	5V	12¼" X 19" X 17¼"	F	208-230 VAC 60 Hz 3Ø*	219
	0-2.25	VZ90	BENCH	5V	19¼" X 22" X 18"	G		
	0-5	VZ100	FLOOR	5V	48" X 22" X 18"	H		
	0-7.5	VZ150	FLOOR	5V	48" X 22" X 24"	H		
	0-10	VZ200	FLOOR	5V	52" X 22" X 24"	H		

*Three-phase units, incorporating the exclusive FAZEGUARD Sensor (Patented), a solid state phase failure circuit that will turn off the power supply if one or more of the three input phases opens.

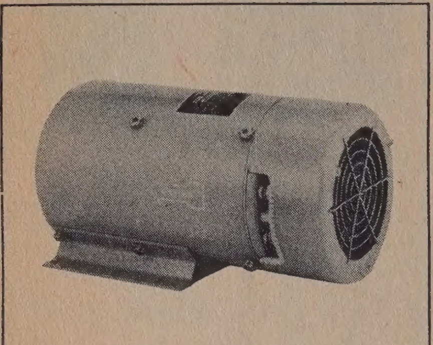
Opad

OPAD ELECTRIC COMPANY, INC.
43-5 WALKER STREET • NEW YORK, N. Y. 10013
Telephone: (212) WOrth 6-0380

CENTER LINE QUALITY ®

TUNG-SOL®

28G5P SERIES POWER SUPPLIES



up to 200 AMPS. D. C. in compact weight-saving packages

The Tung-Sol 28G5P series consists of four standard units that supply 25, 50, 100 or 200 amps. at 28 volts D.C. These are production power supplies available on an off-the-shelf basis. These transformer-rectifiers are designed for continuous operation under the most adverse environmental conditions. Their light weight and small package size allows remote installation of the transformer-rectifiers in communications shelters, field equipment, GSE, and maintenance shops. They are ideal for equipment that is to be transported by air.

An internal blower together with a modified pressure cooling system insure uniform heat dissipation in any mounting attitude.

28G5P25 Output: 25 Amps. Size: 10¼" L x 5" W x 5¼" H Weight: 15 lbs.	**28G5P50** Output: 50 Amps. Size: 12" L x 6" W x 6¼" H Weight: 25 lbs.
28G5P100 Output: 100 Amps. Size: 12" L x 8" W x 8¼" H Weight: 40 lbs.	**28G5P200** Output: 200 Amps. Size: 16½" L x 8" W x 8¼" H Weight: 65 lbs.

TUNG-SOL DIVISION
Wagner Electric Corporation
630 W. Mt. Pleasant Avenue, Livingston, N.J. 07039
TWX: 710-994-4865 Phone: (201) 992-1100; (212) 732-5426
® Reg. T.M. Wagner Electric Corporation

Dressen-Barnes Electronics Corp Pasadena	Cal
Dresser Systems, Inc Houston	Tex
Dynalectron Corp Aerospace Prods Div San Leandro	Cal
Eastern Delta Corp Fair Lawn	N J
EICO Electronic Instrument Co Inc Brooklyn	NY
Elasco-Eastern Inc Bloomfield	Conn
Elcor, Div Halliburton Co Silver Spring	Md
Electran Mfg Co Constant Voltage Co Div Chicago	Ill
Electro Development Corp Lynnwood	Wash
Electronic Design Labs Inc Philadelphia	Pa
Electronic Research Associates Inc Cedar Grove	N J
Electro-Pacific Inc Goleta	Cal
Electro Powerpacs Corp Cambridge	Mass
Electro Products Labs Inc Power Supply Div Chicago	Ill
Electro-Standards Labs Inc Miami	Fla
Electro Technic Products Chicago	Ill
Elgin Electronics Inc Erie	Pa
EMP Electronics Inc Tempe	Ariz
Energy Systems Inc Palo Alto	Cal
EPD Industries Inc Long Beach	Cal
Extrudonics Inc New Brunswick	N J
Fairlane Electronics, Inc Long Valley	N J
Ferranti, Ltd Lancashire	England
Ferrotran Electronics Co Inc New York	N Y
Fidelity Amplifier Co Chicago	Ill
Field Electronics Inc Chatham	N J
Fisher Berkeley Corp Emeryville	Cal
Fisher Engineering Inc Huntington	Ind
Forest Electric Co Melrose Park	Ill
Freed Transformer Co Inc Brooklyn	N Y
Fullmer Electronics Inc Northridge	Cal
Gar Enterprises Inc Pasadena	Cal
Gates Electronic Co Inc Bronx	N Y
General Electric Co, ECSO Schenectady	N Y
General Radio Co West Concord	Mass
Geo Space Corp Houston	Tex
Glenn Pacific A Teledyne Co Oakland	Cal
Glentek Inc Santa Monica	Cal
Glentronics Inc Glendora	Cal
Grafix Inc Albuquerque	N Mex
Grand Transformers Inc Grand Haven	Mich
Grason Stadler Co Inc West Concord	Mass
Green Rectifier Corp Fair Lawn	N J
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Gulton Industries Inc Metuchen	N J
Gulton Industries Inc Engineered Magnetics Div Hawthorne	Cal
Harvard Apparatus Co Inc Millis	Mass
Heath Co Benton Harbor	Mich
Heller Corp, G K Las Vegas	Nev
Helm Instrument Co Inc Toledo	Ohio
High Voltage Engineering Corp Burlington	Mass
Hipotronics Inc Brewster	N Y
Hirst Electric Industries Ltd Crawley, Sussex	England
Holmes Co, Carl E Los Angeles	Cal
Hyperion Industries Corp Watertown	Mass
Industrial Electronetics Corp Satellite Beach	Fla
Intercontinental Electronics Corp East Rochester	N Y
Interelectronics Corp Congers	N Y
Ionic Electrostatic Corp Garfield	N J
I T I Electronics Inc Clifton	N J
Jet Electronics Corp Albuquerque	N M
Karg Labs Inc South Norwalk	Conn
Kato Engineering Co Mankato	Minn
Kepco Inc Flushing	N Y
Kilovolt Corp Hackensack	N J
Kinelogic Corp Pasadena	Cal
Kurz & Root Co Appleton	Wis
LAD Electro-Systems Inc Hicksville	N Y
LaMarche Mfg Co Des Plaines	Ill
La Radiotechnique Compelec Paris 11e	France
Larago Electronics Mfgrs Inc Melbourne	Fla
Ledex Div Ledex Inc Dayton	Ohio
Lehigh Valley Electronics Inc Fogelsville	Pa
Life Instrument Co Inc Franklin	Mass
Ling Electronics Div LTV Altec Inc Anaheim	Cal
Litton Industries, Electron Tube Div San Carlos	Cal
Macarr Inc Bronx	N Y
Madison Labs, Inc Madison	Conn
Magnetic Circuit Elements Inc Monterey	Cal
Magnetic Engineering Corp Danbury	Conn
Magnetics Inc Butler	Pa
Magnetika Inc Venice	Cal
Maricopa Controls Scottsdale	Ariz
Melcor Electronics Corp Farmingdale	N Y
Merrimack Magnetics Corp Lowell	Mass
Micro Instrument Co Hawthorne	Cal
Mid-Eastern Industries Inc Scotch Plains	N J
MIL Associates Hudson	NH
Millen Mfg Co Inc, James Malden	Mass
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NJE Corp Kenilworth	N J
Norbatrol Electronics Corp Murrysville	Pa
Northeast Electronics Corp Concord	N H
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Opad Electric Co, Inc New York	N Y
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Pace Communications Corp Harbor City	Cal
Pacific Instrument Co Oakland	cal
Pacific Transformer Co Redwood City	Cal
Payne Engineering Co South Charleston	W Va
Peco Corp Mountain View	Cal
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim	Cal
Pek, Inc Sunnyvale	Cal
Peschel Instruments Inc Cape Coral	Fla
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17	Ont
Plastic Capacitors Inc Chicago	Ill
Power Control Corp Pittsburgh	Pa
Powercube Corp Waltham	Mass
Power Electronics Mfg Inc Tulsa	
Power Inc, Electronics Div Burnsville	
Power/Mate Corp Hackensack	
Powertec Div, Airtronics Corp Chatsworth	
Precision Electronics Corp Marshfield	
Prentice Electronics Corp Palo Alto	
Private Tele Communications Inc Chicago	
Qutronic Transformer Corp Oneonta	
Ramm Rectifier Co, Inc Bronx	
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Reliance Electric Co Cleveland	
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Roband Electronics Ltd Surrey	Eng
Robicon Corp Pittsburgh	
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Rundel Electric Co Sub Magnetics Inc Millbrae	
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Scientific Instruments Co Chatsworth	
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Siltronics Inc Oakmont	
S K G Associates Inc Boston	
Skyway Magnetics Inglewood	
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Westinghouse Electric Corp, Gen Control Div Pittsburgh	
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TM

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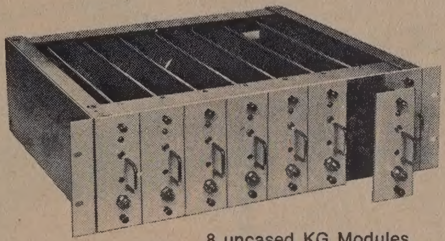
FOR
TRANSDUCER
BRIDGES



8 uncased KG Modules in multiunit Housing RA 19–8

Kepco's KG Power Supplies have been especially optimized for unusual isolation of its DC terminals. This isolation is reflected in the lumped parameters for input-output coupling, and ground coupling:

Isolation Ratings:
10,000 megohms to ground in parallel with 200 pF maximum
Leakage Current:
50 nA maximum
Input-Output Coupling:
1 pF maximum

Condensed specifications:
Line Regulation: 0.001%
Load Regulation: 0.005% or 0.5 mV*
Ripple: 100 microvolts rms
8-Hour Stability: 0.005% or 1 mV*
**whichever is greater*

MODEL	DC OUTPUT RANGE VOLTS	DC OUTPUT RANGE AMPS	PRICE
KG 25–0.2	0–25	0–0.2	$175.00
KG 100–0.05	0–100	0–0.05	175.00

FOR COMPLETE SPECIFICATIONS
AND APPLICATIONS NOTES
WRITE DEPT. AR–09

kepco ®

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Hewlett-Packard Palo Alto . . . . Cal
Honeywell Test Instruments Div Denver . . . . Colo
Ikor, Inc Burlington . . . . Mass
Incor Inc Plainview . . . . N Y
Inet Power A Teledyne Co Gardena . . . . Cal
Instrulab Inc Dayton . . . . Ohio
Interelectronics Corp Congers . . . . N Y
Kepco Inc Flushing . . . . N Y
Kikusui Electronics Corp
  Kanagawa City . . . . Kanagawa Pref Japan
Kilovolt Corp Hackensack . . . . N J
Larago Electronics Mfgrs Inc Melbourne . . . . Fla
Life Instrument Co Inc Franklin . . . . Mass
Litton Industries, Electron Tube Div San Carlos . . . . . . Cal
Maricopa Controls Scottsdale . . . . Ariz
McKee-Pedersen Instruments Danville . . . . Cal
Mid-Eastern Industries Inc Scotch Plains . . . . N J
MIL Associates Hudson . . . . NH
3M Company St Paul . . . . Minn
Newport Labs Inc Santa Ana . . . . Cal
NJE Corp Kenilworth . . . . N J
North Electric Co Galion . . . . Ohio
North Hills Electronics Inc Glen Cove . . . . N Y
Nothelfer Winding Labs Inc Trenton . . . . N J
Opad Electric Co, Inc New York . . . . N Y
Pacific Transformer Co Redwood City . . . . Cal
Power Control Corp Pittsburgh . . . . Pa
Power/Mate Corp Hackensack . . . . N J
Powertec Div, Airtronics Corp Chatsworth . . . . Cal
P P M Inc Cleveland . . . . Ohio
Prentice Electronics Corp Palo Alto . . . . Cal
Qutronic Transformer Corp Oneonta . . . . N Y
Ramm Rectifier Co, Inc Bronx . . . . N Y
Reaction Research Labs of America Groton . . . . Conn
Rho Engineering Co Los Angeles . . . . Cal
RO Associates Inc Menlo Park . . . . Cal
Schauer Mfg Corp Cincinnati . . . . Ohio
Scintillonics Inc Fort Collins . . . . Colo
Scott Electronics Corp Orlando . . . . Fla
Semiconductor Circuits, Inc Woburn . . . . Mass
S K G Associates Inc Boston . . . . Mass
Sonex Inc Philadelphia . . . . Pa
Spar Electronics Inc San Diego . . . . Cal
Spatron Inc Alhambra . . . . Cal
Spellman High Voltage Electronics Corp Bronx . . . . N Y
SRC Div Crescent Technology Corp Newport Beach, ... Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn . . . . N Y
Todd Products Corp Hicksville . . . . NY
Transformer Electronics Co Boulder . . . . Colo
Transformer Engineers San Gabriel . . . . Cal
Trio Laboratories Inc Plainview . . . . N Y
Unholtz-Dickie Corp Hamden . . . . Conn
Unitron Div Electric Machy Mfg Co Garland . . . . Tex
Valor Instruments Inc Torrance . . . . Cal
Varo Inc, Static Power Div Plano . . . . Tex
Vector Engineering Inc Springfield . . . . N J

Pain

Killer.

If vendors have you in a pinch and another source of supply will help, turn to the Electronics Buyers' Guide. You'll find all the information you need on over 1,363 sources of power supplies, listed under 11 headings from *AC Regulated Power Supplies to Laser Power Supplies.*

Electronics Buyers' Guide

POWER
SUPPLIES
BY

E/M

SCR Series–High Power
The SCR Series is designed for high power requirements up to 500 Amps. and for voltages up to 500 Volts in a single unit.

RE Series – Lab Type
The RE Series is designed for both precise laboratory and systems applications. Ratings include 40 Volts at 5 and 10 Amps., 60 Volts at 2.5 and 5 Amps.

RIC Series – Slot
The RIC Series designed for I.C. logic and all OEM applications includes built in O.V. protection. Ratings include 2 to 6 Volts at 5 and 10 Amps., 10 to 20 Volts at 2.5 and 5 Amps.

E/M
ELECTRONIC
MEASUREMENTS
division of ROWAN INDUSTRIES
2 Crescent Place • Oceanport, N. J. 07757
(201) 229-5000

Velonex Div Pulse Engineering Inc Santa Clara .... Cal
Venus Scientific Inc Farmingdale .... N Y
Wanlass Electric Co Santa Ana .... Cal

POWER SUPPLIES—LASER

CONDENSER PRODUCTS CORP BROOKSVILLE .... FLA
ELECTRONIC MEASUREMENTS DIV ROWAN INDUSTRIES INC OCEANPORT N J .... ADV PG 480
HEWLETT-PACKARD PALO ALTO .... CAL
INTERELECTRONICS CORP CONGERS N Y .... ADV PG 463
KEPCO INC FLUSHING N Y .... ADV PG 4th Cover
KILOVOLT CORP HACKENSACK N J .... ADV PG 443
OPAD ELECTRIC CO, INC NEW YORK .... N Y
PLASTIC CAPACITORS INC CHICAGO ILL
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX . N Y
Abtronics, Inc Livermore .... Cal
Advanced Energy Conversion Menlo Park .... Cal
Advanced Kinetics, Inc Costa Mesa .... Cal
American Optical Corp Tech Prods Gr Laser Prods Dept Southbridge .... Mass
Amglo Corp Chicago Ill
AMP Inc, Capitron Div Elizabethtown .... Pa
Arnold Magnetics Corp Culver City .... Cal
Cober Electronics Inc Stamford .... Conn
Coherent Radiation Labs Palo Alto .... Cal
Component Technology Corp Sunnyvale .... Cal
Condenser Products Corp Brooksville .... Fla
Del Electronics Corp Mt Vernon .... N Y
Drusch & Co 92 Rueil Malmaison .... France
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electronic Measurements Div Rowan Industries Inc Oceanport .... N J
Electro Powerpacs Corp Cambridge .... Mass
Fisher Engineering Inc Huntington .... Ind
Gates Electronic Co Inc Bronx .... N Y
Hadron, Inc. Westbury .... N Y
Hewlett-Packard Palo Alto .... Cal
Hughes Aircraft Co, Electron Dynamics Div Torrance .... Cal
Interelectronics Corp Congers .... N Y
International Laser Systems Inc Orlando .... Fla
Kepco Inc Flushing .... N Y
Kilovolt Corp Hackensack .... N J
LAD Electro-Systems Inc Hicksville .... N Y
Laser Tool Corp. Framingham .... Mass
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Power Equipment Div Cleveland .... Ohio
Leitz Canada Ltd, Ernst Midland .... Ont
Magnetic Engineering Corp Danbury .... Conn
Magnetika Inc Venice .... Cal
MIL Associates Hudson .... NH
Opad Electric Co, Inc New York .... N Y
Pek, Inc Sunnyvale .... Cal
Plastic Capacitors Inc Chicago Ill
Powertec Div, Airtronics Corp Chatsworth .... Cal
Prentice Electronics Corp Palo Alto .... Cal
Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
Scientific Instruments Co Chatsworth .... Cal
S K G Associates Inc Boston .... Mass
Spectra-Physics Mountain View .... Cal
Spellman High Voltage Electronics Corp Bronx .... N Y
Thiem-Transrex Inc Torrance .... Cal
Todd Products Corp Hicksville .... NY
TRW Instruments El Segundo .... Cal
University Labs Inc Berkeley .... Cal
Vari Tech Co Grand Rapids .... Mich
Venus Scientific Inc Farmingdale .... N Y
Wabash Magnetics Inc Electro Magnetic Prods Div Wabash .... Ind
Wilmore Electronics Co Inc Durham .... NC

POWER SUPPLIES—MODULAR

ANALOG DEVICES INC CAMBRIDGE .... MASS
CGS UNITS INC ROCHESTER .... N Y
COMPUTER PRODUCTS INC FORT LAUDERDALE FLA .... ADV PG 487
DRESSEN-BARNES ELECTRONICS CORP PASADENA .... CAL
ELECTRONIC MEASUREMENTS DIV ROWAN INDUSTRIES INC OCEANPORT .... N J
GAR ENTERPRISES INC PASADENA CAL .... ADV PG 631
HEWLETT-PACKARD PALO ALTO .... CAL
HYBRID SYSTEMS CORP BURLINGTON .... MASS
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK .. NY
INTRONICS INC NEWTON MASS .... ADV PG 397
KEPCO INC FLUSHING N Y ... ADV PGS 481-483, 4th Cover
LAMBDA ELECTRONICS CORP MELVILLE N Y .... ADV PGS 484-486A
NJE CORP KENILWORTH N J .... ADV PGS 472,473
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
PLASTIC CAPACITORS INC CHICAGO ILL
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX . N Y
TRANSFORMER ELECTRONICS CO BOULDER COLO .... ADV PGS 2nd Cover & Facing Page
TRYGON ELECTRONICS INC ROOSEVELT .... N Y
Abbott Transistor Labs, Inc Los Angeles .... Cal
ACDC Electronics, Inc Burbank .... Cal
Acopian Corp Easton .... Pa
ADC Products Minneapolis .... Minn
Advanced Energy Conversion Menlo Park .... Cal
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ .... U K
Almond Instruments Co Covina .... Cal
Analog Devices Inc Cambridge .... Mass
Analogic Corp Wakefield .... Mass
A P T Electronic Industries Ltd Surrey .... England
Ault, Inc Minneapolis .... Minn
Barden Co Los Angeles .... Cal
Burr-Brown Research Corp Tucson .... Ariz
California Electronic Mfg Co Inc Alamo .... Cal
Canadian Research Institute Don Mills .... Ont
CGS Units Inc Rochester .... N Y
Cober Electronics Inc Stamford .... Conn
Computer Logic Corp Santa Monica .... Cal
Computer Products Inc Fort Lauderdale .... Fla
Control Science Corp Alexandria .... Va

Electronics Buyers' Guid

Your black book of
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Check the green section

Del Electronics Corp Mt Vernon ....
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Drusch & Co 92 Rueil Malmaison ....
Elasco-Eastern Inc Bloomfield ....
Electran Mfg Co Constant Voltage Co Div Chicago ....
Electronic Design Labs Inc Philadelphia ....
Electronic Measurements Div Rowan Industries Inc Oceanport ....
Electronic Research Associates Inc Cedar Grove ....
Elgin Electronics Inc Erie ....
EMP Electronics Inc Tempe ....
Fenlow Electronics Ltd Weybridge ....
Ferrotran Electronics Co Inc New York ....
Fullmer Electronics Inc Northridge ....
Gar Enterprises Inc Pasadena ....
Helm Instrument Co Inc Toledo ....
Hewlett-Packard Palo Alto ....
Hybrid Systems Corp Burlington ....
IBM, Industrial Products Marketing New York ....
Incor Inc Plainview ....
Intronics Inc Newton ....
ITT Europe Inc Components Gp Brussels 1 ....
Kepco Inc Flushing ....
Lambda Electronics Corp Melville ....
Larago Electronics Mfgrs Inc Melbourne ....
Lectrotech, Inc Chicago ....
Litton Industries, Electron Tube Div San Carlos ....
Maricopa Controls Scottsdale ....
Mastech Inc Syracuse ....
Micronetics Div Teledyne Systems Co San Diego ....
Micro Power Inc Long Island City ....
Microwave Associates Inc Burlington ....
Mid-Eastern Industries Inc Scotch Plains ....
MIL Associates Hudson ....
Monitor Systems Inc an Aydin Co Fort Washington ....
National Coil Co Inc Douglas ....
Newport Labs Inc Santa Ana ....
NJE Corp Kenilworth ....
North Hills Electronics Inc Glen Cove ....
Nuclear Enterprises Ltd Edinburgh ....
Pastoriza Div Analog Devices Cambridge ....
Philbrick/Nexus Research A Teledyne Co Dedham ....
Phipps Precision Products Van Nuys ....
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Plastic Capacitors Inc Chicago ....
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Prentice Electronics Corp Palo Alto ....
Reaction Research Labs of America Groton ....
Rho Engineering Co Los Angeles ....
Roband Electronics Ltd Surrey ....
Rosemount Plug-In Inc Nashville ....
Scintillonics Inc Fort Collins ....
Scott Electronics Corp Orlando ....
Semiconductor Circuits, Inc Woburn ....
S K G Associates Inc Boston ....
Solartron Electronic Group Ltd Farnbrough ....
Sonex Inc Philadelphia ....
Sorensen Operation, Raytheon Co. Norwalk ....
Space Age Microcircuits Chatham ....
Spar Electronics Inc San Diego ....
Spellman High Voltage Electronics Corp Bronx ....
Taft Electrosystems Inc Applied Elctns Div Metucher
Techmetric Co Redwood City ....
Technipower Inc, Sub Benrus Watch Co Inc Ridgefiel
Time Zero Corp Torrance ....
Todd Products Corp Hicksville ....
Tranchant Electronique 92 Clichy ....
Transformer Electronics Co Boulder ....
Trygon Electronics Inc Roosevelt ....
Universal Electronics Co Santa Monica ....
Valor Instruments Inc Torrance ....
Velonex Div Pulse Engineering Inc Santa Clara ....
Venus Scientific Inc Farmingdale ....
Virginia Electronics Co Inc Falls Church ....
VP Co Pasadena ....
Yaskawa Electric Mfg Co Ltd Tokyo ....

KEPCO MODULAR POWER SUPPLIES

TM

PRIMARY LISTING:

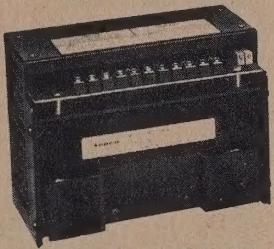
BKF	(15 & 25W; slot)
DTM	(Dual Tracking)
PAR	(100W; slot)
PAT	(20W; Programmable)
PAX	(10W; Programmable)
PCX	(20W; Programmable)
PRM	(60–300W; fixed)
PWR	(100W; slot)

CROSS REFERENCE:

BOP	(unmetered)	See Page 454
CPS	(unmetered)	See Page 457
JQE	(unmetered)	See Page 456
OPS-B		See Page 454

lodular power supplies are designed for "built-in" regulated power in a variety of tyles. All will chassis or panel mount, and some (the PAX-PCX) are available for lug-in service. With the "MAT" option (meters-adjustments-terminals), the PCX ower supplies may be used individually as bench supplies or combined for multile output (up to 6 at a time). The PRM and PWR models make use of Kepco's erroresonant power transformer, Flux-O-Tran®. Special voltage-fixed PRM modles are also available built to order.

DTM



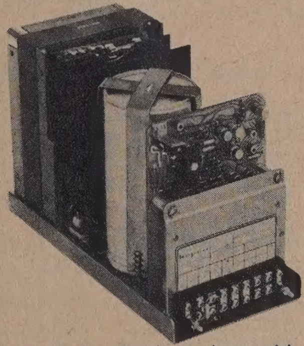
REGULATION:
<0.05% Line
<0.05% Load

RIPPLE:
<0.5 mV rms

The Model DTM 2X16–0.6 provides a tracked pair of d-c voltages for operating circuit modules, amplifiers and devices requiring matched plus and minus voltages. The circuit consists of a pair of regulators sharing a common reference and driving separate series regulators.

MODEL	VOLTS	AMPS	PRICE	WGT.
DTM 2X 16–0.6	0 to +16	0 to +0.6	$120.00	5
	0 to −16	0 to −0.6		

PAR



REGULATION:
<0.005% Line
<0.01% Load

RIPPLE:
<0.25 mV rms

The PAR modules couple a high gain d-c feedback regulator with convection cooled NPN pass transistors to a conventional power transformer for 50–440 Hz power frequency accommodation. The PAR modules produce a fixed voltage with a ±5% adjustment range at a current rating which depends upon the ambient temperature. PAR models may be programmed to a lesser nominal voltage (with current derating) by substituting for the resistor wired across the control terminals.

MODEL	VOLTS	AMPS at ambient temp 65°C† 55°C††	40°C† 30°C††	PRICE	WGT.
PAR–4	4±5%	0–9.0	0–11.0	$205.00	20
PAR–7	7±5%	0–8.0	0–10.0	205.00	20
PAR–12	12±5%	0–5.5	0–7.0	205.00	20
PAR–15	15±5%	0–4.6	0–6.0	205.00	20
PAR–24	24±5%	0–3.4	0–4.0	205.00	20
PAR–28	28±5%	0–3.1	0–3.7	205.00	20
PAR–36	36±5%	0–2.3	0–2.8	205.00	20
PAR–48	48±5%	0–1.8	0–2.3	205.00	20
PAR–60	60±5%	0–1.5	0–2.0	205.00	20

†Uncased: ††Cased CASED UNIT: add suffix "C" to model no. and $11.00 to price.

BKF

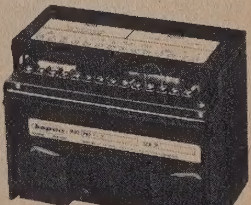
REGULATION:
<0.05% Line
<0.05% Load

RIPPLE:
<0.5 mV rms

The Kepco BKF design combines an I-C driven series transistor regulator, with a modified re-entrant overcurrent circuit. Voltage is controlled with a ±10% adjustment range, protected by a built-in overvoltage crowbar. The crowbar trip point is tabulated for each model.

MODEL	VOLTS	AMPS	OV TRIP POINT (max.)	PRICE	WGT.
BKF 5–3	5.0 ±10%	0–3	6.5	$120.00	7
BKF 5–5	5.0 ±10%	0–5	6.5	138.00	7
BKF 12–1.4	12.0 ±10%	0–1.4	15.3	120.00	7
BKF 12–2.4	12.0 ±10%	0–2.4	15.3	138.00	7
BKF 15–1.2	15.0 ±10%	0–1.2	19.5	120.00	7
BKF 15–2	15.0 ±10%	0–2	19.5	138.00	7
BKF 24–0.8	24.0 ±10%	0–0.8	30.0	120.00	7
BKF 24–1.2	24.0 ±10%	0–1.2	30.0	138.00	7
BKF 28–0.6	28.0 ±10%	0–0.6	34.2	120.00	7
BKF 28–1	28.0 ±10%	0–1	34.2	138.00	7

PAT



REGULATION:
<0.0005% Line
<0.005% Load

RIPPLE:
<0.1 mV rms

The Kepco PAT series of voltage regulated modular power supplies features compact repairable construction of a precision programmable regulator. The output is a self-cooled series NPN transistor driven by a monolithic linear I-C amplifier and protected by adjustable current limiting. The regulator will control current when equipped with an external pair of sensing and feedback resistors.

MODEL	VOLTS	AMPS	PRICE	WGT.
PAT 7–2	0–7	0–2	$121.00	6
PAT 15–1.5	0–15	0–1.5	121.00	6
PAT 21–1	0–21	0–1	121.00	6
PAT 40–0.5	0–40	0–0.5	121.00	6
PAT 72–0.3	0–72	0–0.3	121.00	6
PAT 100–0.2	0–100	0–0.2	121.00	6

Built-in OFFSET VOLTAGE CONTROL: add suffix "E" to model no. and $10.00 to price.
For 0.005% per °C TC OPTION: add suffix "T" to model no. and $30.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.

All Prices Net F.O.B. Flushing, N. Y. — Prices and Specifications Subject to Change Without Notice

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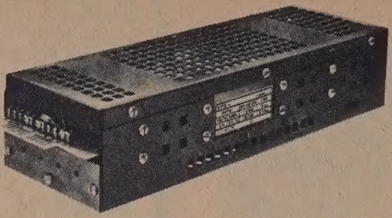
KEPCO MODULAR POWER SUPPLIES

PAX



REGULATION:
<0.05% Line
<0.05% Load

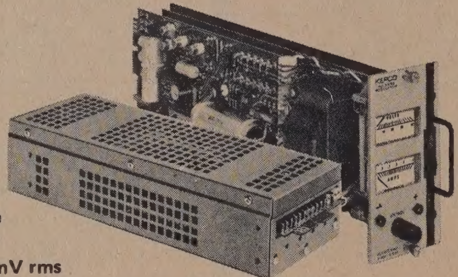
RIPPLE:
<0.25 mV rms

PAX modules are low cost, single-amplifier power supplies that can be used with voltage or current feedback. The HS models (high speed) are especially recommended for current control because of their fast-recovery characteristics. In the PAX design, a convection-cooled PNP series pass transistor is used, the negative output terminal is common to the signal input. The PAX models are thus the signal-complement of the PCX and OPS designs.

MODEL	VOLTS	AMPS	PRICE	WGT.
PAX 7–1	0–7	0–1	$ 94.00	4
PAX 7–1HS	0–7	0–1	104.00	4
PAX 15–0.75	0–15	0–0.75	94.00	4
PAX 15–0.75HS	0–15	0–0.75	104.00	4
PAX 21–0.5	0–21	0–0.5	94.00	4
PAX 21–0.5HS	0–21	0–0.5	104.00	4
PAX 36–0.3	0–36	0–0.3	94.00	4
PAX 36–0.3HS	0–36	0–0.3	104.00	4
PAX 72–0.15	0–72	0–0.15	94.00	4
PAX 72–0.15HS	0–72	0–0.15	104.00	4
PAX 100–0.1	0–100	0–0.1	94.00	4
PAX 100–0.1HS	0–100	0–0.1	104.00	4

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.

PCX



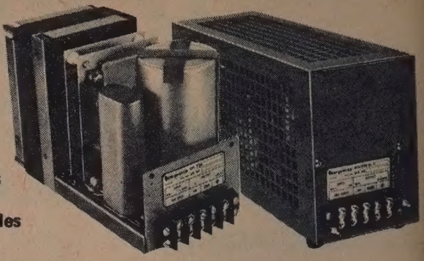
REGULATION:
<0.0005% Line
<0.005% Load
RIPPLE: <0.1 mV rms

The PCX group of voltage regulators are available in two forms—as programmable modules for OEM's or (with the suffix "MAT") as metered plug-ins with a built-in, 10-turn voltage control. The regulator is a self-cooled series NPN transistor driven by Kepco's monolithic linear I-C amplifier and protected by adjustable current limiting. The regulator will control current when equipped with an external pair of sensing and feedback resistors. The PCX series, with its I-C regulator replaces Kepco's PBX design group.

MODEL	VOLTS	AMPS	PRICE	WGT.
*PCX 7–2	0–7	0–2	$111.00	4
PCX 7–2MAT	0–7	0–2	168.00	6
*PCX 15–1.5	0–15	0–1.5	111.00	4
PCX 15–1.5MAT	0–15	0–1.5	168.00	6
*PCX 21–1	0–21	0–1	111.00	4
PCX 21–1MAT	0–21	0–1	168.00	6
*PCX 40–0.5	0–40	0–0.5	111.00	4
PCX 40–0.5MAT	0–40	0–0.5	168.00	6
*PCX 72–0.3	0–72	0–0.3	111.00	4
PCX 72–0.3MAT	0–72	0–0.3	168.00	6
*PCX 100–0.2	0–100	0–0.2	111.00	4
PCX 100–0.2MAT	0–100	0–0.2	168.00	6

*Uncased Models, for Dust Cover Case: add suffix "C" to model no. and $11.00 to price.
Models with suffix "MAT" fit plug-in housings CA-3, CA-4, CA-5 and RA 22-6. (See Page 11).
For 0.005% per °C TC OPTION: add suffix "T" to model no. and $30.00 to price.
PROGRAMMING CALIBRATION CONTROL: add suffix "R" to model no. and $10.00 to price.
Built-in OFFSET VOLTAGE CONTROL: add suffix "E" to model no. and $10.00 to price.

PRM



REGULATION:
Line: <± 1%
Load: See tables

RIPPLE: See tables

The Kepco PRM voltage regulated modules are simple, reliable, efficient, fixed output sources. The design is based on a ferroresonant power transformer called Flux-O-Tran® which provides both regulating and overload current limiting. The extra-filtered models (suffix F) have a Pi section LC filter, reducing their ripple to about a tenth that of the single section capacitor-filtered models. The *dual* output models have two independent d-c circuits that may be used in series or in parallel or separately.

SIZE "A" – 180 SERIES

MODEL	DC OUTPUT		LOAD REGULATION* ΔV INCREASE		RIPPLE (max) RMS	PRICE	SHIP WGT. (lbs.)
	VOLTS	AMPS	100%-50% LOAD	100%–25% LOAD	VOLTS		
PRM 5–25	5.2	0–25	0.5	0.8	0.4	$125.00	22
PRM 6–25	6.3	0–25	0.5	0.8	0.4	125.00	22
PRM 12–15	12	0–15	0.6	1.0	0.4	125.00	22
PRM 18–10	18	0–10	0.6	1.0	0.3	125.00	22
PRM 24–8	24	0–8	0.7	1.2	0.3	125.00	22
PRM 28–7	28	0–7	0.7	1.2	0.4	125.00	22
PRM 36–5	36	0–5	0.8	1.3	0.4	125.00	22
PRM 48–4	48	0–4	1.0	1.8	0.3	125.00	22
PRM 60–3	60	0–3	1.1	1.9	0.3	125.00	22
PRM 120–1.5	120	0–1.5	2.2	3.6	0.3	125.00	22

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

SIZE "B" – 120 SERIES

MODEL	DC OUTPUT		LOAD REGULATION* ΔV INCREASE		RIPPLE (max) RMS	PRICE	SHIP WGT. (lbs.)
	VOLTS	AMPS	100% - 50% LOAD	100% -25% LOAD	VOLTS		
PRM 5–15	5.2	0–15	0.5	0.8	0.4	$104.00	17
PRM 6–15	6.3	0–15	0.5	0.8	0.4	104.00	17
PRM 12–10	12	0–10	0.6	1.0	0.4	104.00	17
PRM 18–6.7	18	0–6.7	0.8	1.3	0.3	104.00	17
PRM 24–5	24	0–5	1.0	1.7	0.3	104.00	17
PRM 28–4.3	28	0–4.3	1.2	2.0	0.3	104.00	17
PRM 36–3.3	36	0–3.3	1.5	2.4	0.3	104.00	17
PRM 48–2.5	48	0–2.5	2.0	3.4	0.3	104.00	17
PRM 60–2	60	0–2	2.3	3.8	0.3	104.00	17
PRM 120–1	120	0–1	4.6	7.6	0.3	104.00	17

Available Cased only.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

EXTRA-FILTERED – SIZE "C" – 180 SERIES

MODEL	DC OUTPUT		LOAD REGULATION* ΔV INCREASE		RIPPLE (max) RMS	PRICE	SHIP WGT. (lbs.)
	VOLTS	AMPS	100%-50% LOAD	100%-25% LOAD	VOLTS		
PRM 5–25F	5.2	0–25	0.7	1.2	0.04	$178.00	28
PRM 6–25F	6.3	0–25	0.7	1.2	0.04	178.00	28
PRM 12–15F	12	0–15	0.9	1.4	0.02	178.00	28
PRM 18–10F	18	0–10	0.9	1.5	0.01	178.00	28
PRM 24–8F	24	0–8	1.2	2.0	0.005	178.00	28
PRM 28–7F	28	0–7	1.3	2.1	0.005	178.00	28
PRM 36–5F	36	0–5	1.5	2.4	0.005	178.00	28
PRM 48–4F	48	0–4	1.7	2.9	0.003	178.00	28
PRM 60–3F	60	0–3	2.3	3.6	0.003	178.00	28
PRM 120–1.5F	120	0–1.5	3.8	6.8	0.003	178.00	28

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

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KEPCO MODULAR POWER SUPPLIES

DUAL OUTPUT – SIZE "C" – 300 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION* ΔV INCREASE 100%-50% LOAD	LOAD REGULATION* ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS VOLTS	PRICE	SHIP WGT. (lbs.)
PRM 2X4.5–20	4.5 4.5	0–20 0–20	0.5	0.7	0.3	$197.00	38
PRM 2X5–20	5.2 5.2	0–20 0–20	0.5	0.7	0.3	197.00	38
PRM 2X6–20	6.3 6.3	0–20 0–20	0.5	0.7	0.3	197.00	38
PRM 2X12–12	12 12	0–12 0–12	0.5	0.7	0.3	197.00	38
PRM 2X15–10	15 15	0–10 0–10	0.5	1.0	0.3	197.00	38
PRM 2X18–8	18 18	0–8 0–8	0.6	1.6	0.3	197.00	38
PRM 2X24–6	24 24	0–6 0–6	0.6	1.0	0.3	197.00	38
PRM 2X28–5	28 28	0–5 0–5	0.7	1.2	0.3	197.00	38
PRM 2X36–4	36 36	0–4 0–4	0.7	1.2	0.3	197.00	38
PRM 2X48–3	48 48	0–3 0–3	0.8	1.4	0.3	197.00	38
PRM 2X60–2.5	60 60	0–2.5 0–2.5	1.0	1.7	0.3	197.00	38

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

*Measured at 115V AC Line

SIZE "D" – 60 SERIES

MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION ΔV INCREASE 100%-50% LOAD	LOAD REGULATION ΔV INCREASE 100%-25% LOAD	RIPPLE (max) RMS %	PRICE	SHIP WGT. (lbs.)
PRM 5–10	4.2	12.0	0.5	0.7	0.50	$89.00	12
	4.6	11.0					
	5.0	10.0					
	5.4	9.3					
	5.8	8.6					
PRM 6.3–8	5.5	9.1	0.5	0.8	0.33	89.00	12
	5.9	8.5					
	6.3	8.0					
	6.7	7.5					
	7.1	7.1					
PRM 8–7	7.2	7.8	0.5	0.8	0.33	89.00	12
	7.6	7.5					
	8.0	7.0					
	8.4	6.7					
	8.8	6.4					
PRM 10–6	8.4	7.1	0.6	0.9	0.33	89.00	12
	9.2	6.5					
	10.0	6.0					
	10.8	5.6					
	11.6	5.2					
PRM 12–5	10.4	5.7	0.7	1.2	0.33	89.00	12
	11.2	5.4					
	12.0	5.0					
	12.8	4.7					
	13.6	4.5					
PRM 15–4	13.4	4.5	0.9	1.3	0.33	85.00	12
	14.2	4.2					
	15.0	4.0					
	15.8	3.8					
	16.6	3.6					
PRM 18–3.3	16.4	3.6	1.0	1.6	0.33	85.00	12
	17.2	3.5					
	18.0	3.3					
	18.8	3.2					
	19.6	3.1					
PRM 21–2.9	17.9	3.4	1.0	1.7	0.33	85.00	12
	19.4	3.1					
	21.0	2.9					
	22.6	2.7					
	24.2	2.6					
PRM 26–2.3	22	2.7	1.3	2.0	0.33	85.00	12
	24	2.5					
	26	2.3					
	28	2.1					
	30	2.0					

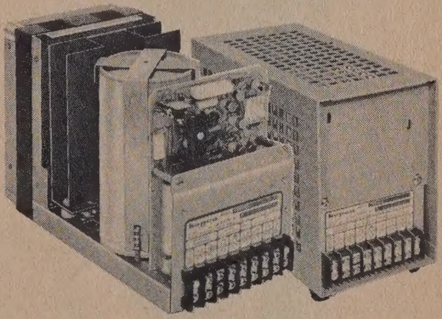
MODEL	DC OUTPUT VOLTS	DC OUTPUT AMPS	LOAD REGULATION 100%-50% LOAD	LOAD REGULATION 100%-25% LOAD	RIPPLE %	PRICE	SHIP WGT.
PRM 36–1.7	32	1.9	1.7	2.7	0.33	85.00	12
	34	1.8					
	36	1.7					
	38	1.6					
	40	1.5					
PRM 48–1.25	42	1.43	2.1	3.4	0.33	85.00	11
	45	1.33					
	48	1.25					
	51	1.18					
	54	1.11					
PRM 60–1	52	1.15	1.2	2.1	0.33	85.00	11
	56	1.07					
	60	1.00					
	64	0.94					
	68	0.88					
PRM 70–0.86	60	1.00	1.3	2.5	0.33	85.00	11
	65	0.92					
	70	0.86					
	75	0.80					
	80	0.75					
PRM 90–0.67	80	0.75	1.9	3.4	0.33	85.00	11
	85	0.71					
	90	0.67					
	95	0.63					
	100	0.60					
PRM 120–0.50	110	0.54	2.3	5.0	0.33	85.00	11
	115	0.52					
	120	0.50					
	125	0.48					
	130	0.46					
PRM 160–0.37	140	0.43	3.0	6.0	0.33	85.00	11
	150	0.40					
	160	0.37					
	170	0.35					
	180	0.33					
PRM 240–0.25	220	0.27	4.0	8.2	0.33	85.00	11
	230	0.26					
	240	0.25					
	250	0.24					
	260	0.23					

Available Cased only. Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

PWR

REGULATION:
<0.005% Line
<0.05% Load

RIPPLE:
<0.25 mV rms



The PWR modules couple a high-gain, d-c feedback regulator and convection-cooled NPN series pass transistors to a ferro-resonant Flux-O-Tran® power transformer to provide well regulated voltage with a ±5% adjustment range around the nominal level. The nominal voltage for each model is set by a fixed resistor wired externally across the connection barrier strip. This resistor may be changed, or a variable resistor substituted, to alter the nominal setting. The output current derates when the nominal setting is reduced.

MODEL	VOLTS	AMPS	PRICE	WGT.
PWR 4–14	4±5%	0–14	$220.00	21
PWR 7–11	7±5%	0–11	220.00	21
PWR 12–7	12±5%	0–7	220.00	21
PWR 15–6	15±5%	0–6	220.00	21
PWR 24–4	24±5%	0–4	220.00	21
PWR 28–3.3	28±5%	0–3.3	220.00	21
PWR 36–3	36±5%	0–3	220.00	21
PWR 48–2	48±5%	0–2	220.00	21
PWR 60–1.5	60±5%	0–1.5	220.00	21

CASED UNIT: add suffix "C" to model no. and $11.00 to price.
50 Hz OPTION: add suffix "—50" to model no. and $15.00 to price.

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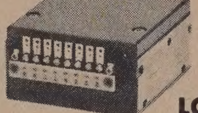
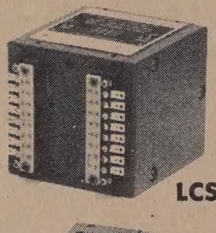
Com-Pak Mark II™ LC series I-C regulated power supplies now in 5 different packages

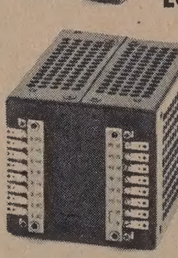
Select from this condensed list of models.



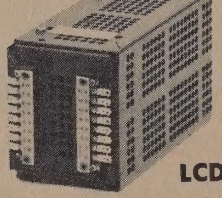
LCS-1



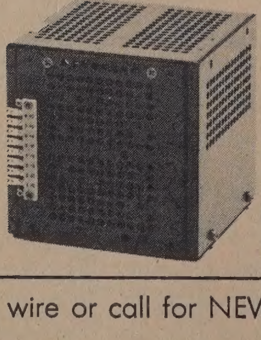
LCS-2, LCD-2



LCS-3, LCD-3



LCD-A



LCS-4, LCD-4

INDUSTRIAL LC COM-PAK MARK II MODELS

Regulation, Line or Load — .01% + 1 mV
Ripple and Noise — 200 µV rms; 1 mV p to p
Temp. Coeff. — .01% + 300 µV/°C
AC Input — 105-132 VAC, 57-63 Hz

SERIES	MODEL NO.	VOLTAGE (VDC)	CURRENT (MA) (40° C)	PRICE
LC COM-PAK MARK II SINGLE OUTPUT 1 21/32" X 3 5/32" X 3 9/32"	LCS-1-01A	0-7	275	$ 70
	LCS-1-02A	0-18	130	70
	LCS-1-03A	0-32	90	70
	LCS-1-04A	0-60	50	80
	LCS-1-05A	0-120	18	85
LC COM-PAK MARK II SINGLE OUTPUT 3 9/32" X 3 5/32" X 3 9/32"	LCS-2-01	0-7	550	$ 80
	LCS-2-02	0-18	330	80
	LCS-2-03	0-32	240	80
	LCS-2-04	0-60	145	90
	LCS-2-05	0-120	50	90
LC COM-PAK MARK II SINGLE OUTPUT 3 3/16" X 3 3/4" X 5"	LCS-3-01	0-7	1200	$ 90
	LCS-3-02	0-18	750	90
	LCS-3-03	0-32	400	90
	LCS-3-04	0-60	240	99
			(AMPS)	
LC COM-PAK MARK II SINGLE OUTPUT 4 29/32" X 4 29/32" X 5"	LCS-4-01	0-7	3.3	$130
	LCS-4-02	0-18	1.8	130
	LCS-4-03	0-32	1.0	130
	LCS-4-04	0-60	0.55	140
	LCS-4-05	0-120	0.25	140
LC COM-PAK MARK II SINGLE OUTPUT FIXED VOLTAGE 4 29/32" X 4 29/32" X 5"	LCS-4-3	3±5%	4.5	$130
	LCS-4-3P6	3.6±5%	4.5	130
	LCS-4-4	4±5%	4.5	130
	LCS-4-4P5	4.5±5%	4.4	130
	LCS-4-5	5±5%	4.4	130
	LCS-4-6	6±5%	4.0	130
	LCS-4-8	8±5%	4.0	130
	LCS-4-10	10±5%	3.2	130
	LCS-4-12	12±5%	3.1	130
	LCS-4-15	15±5%	2.8	130
	LCS-4-18	18±5%	2.6	130
	LCS-4-20	20±5%	2.4	130
	LCS-4-24	24±5%	2.2	130
	LCS-4-28	28±5%	2.0	130
	LCS-4-36	36±5%	1.8	140
	LCS-4-48	48±5%	1.2	140
	LCS-4-100	100±5%	0.46	140
	LCS-4-120	120±5%	0.40	140
	LCS-4-150	150±5%	0.32	180

SERIES	MODEL NO.	VOLTAGE (VDC)	CURRENT (MA) (40° C)	PRICE
LC COM-PAK MARK II DUAL OUTPUT 3 5/32" X 3 9/32" X 3 9/32"	LCD-2-11	0-7	300	$125
		0-7	300	
	LCD-2-12	0-18	160	125
		0-7	300	
	LCD-2-13	0-32	120	125
		0-7	300	
	LCD-2-22	0-18	160	125
		0-18	160	
	LCD-2-23	0-32	120	125
		0-18	160	
	LCD-2-33	0-32	120	125
		0-32	120	
	LCD-2-44	0-60	65	170
		0-60	65	
	LCD-2-55	0-120	30	170
		0-120	30	
LC COM-PAK MARK II DUAL OUTPUT 3 3/16" X 3 3/4" X 5"	LCD-3-11	0-7	700	$150
		0-7	700	
	LCD-3-12	0-7	700	150
		0-18	400	
	LCD-3-13	0-7	700	150
		0-32	225	
	LCD-3-22	0-18	400	15
		0-18	400	
	LCD-3-23	0-18	400	15
		0-32	225	
	LCD-3-33	0-32	225	15
		0-32	225	
	LCD-3-44	0-60	130	17
		0-60	130	
			(AMPS)	
LC COM-PAK MARK II DUAL OUTPUT 3 3/16" X 3 3/4" X 6 1/2"	LCD-A-11	0-7	1.0	$15
		0-7	1.0	
	LCD-A-12	0-18	0.5	15
		0-7	1.0	
	LCD-A-13	0-32	0.35	15
		0-7	1.0	
	LCD-A-22	0-18	0.5	15
		0-18	0.5	
	LCD-A-23	0-32	0.35	15
		0-18	0.5	
	LCD-A-33	0-32	0.35	15
		0-32	0.35	
	LCD-A-44	0-60	0.2	18
		0-60	0.2	
	LCD-A-55	0-120	75 ma	20
		0-120	75 ma	
LC COM-PAK MARK II DUAL OUTPUT 4 29/32" X 4 29/32" X 5"	LCD-4-11	0-7	1.8	$19
		0-7	1.8	
	LCD-4-12	0-18	1.0	19
		0-7	1.8	
	LCD-4-13	0-32	0.6	19
		0-7	1.8	
	LCD-4-22	0-18	1.0	19
		0-18	1.0	
	LCD-4-23	0-32	0.6	19
		0-18	1.0	
	LCD-4-33	0-32	0.6	19
		0-32	0.6	
	LCD-4-44	0-60	0.33	2
		0-60	0.33	
	LCD-4-55	0-120	0.12	2
		0-120	0.12	
	LCD-4-152	15±5%	1.5	2
	Fixed	15±5%	1.5	

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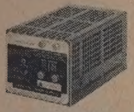
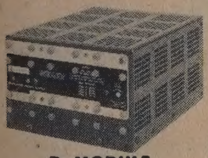


A MODULE
up to 120 volts • up to 2.0 amps

B MODULE
up to 150 volts • up to 3.8 amps

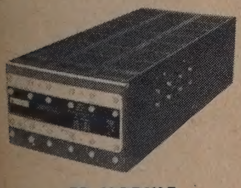
C MODULE
up to 150 volts • up to 5.3 amps

CC MODULE
up to 150 volts • up to 11.0 amps



D MODULE
up to 150 volts • up to 13.1 amps

E MODULE
up to 150 volts • up to 22.0 amps



EE MODULE
up to 150 volts • up to 33 amps

FIXED VOLTAGE MODELS

Package B 3 3/16″ x 4 15/16″ x 6 1/2″

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
LM-B-3	3	3.8	$119
LM-B-3-P-6	3.6	3.8	119
LM-B-4	4	3.8	119
LM-B-4-P-5	4.5	3.7	119
LM-B-5	5	3.7	119
LM-B-6	6	3.2	119
LM-B-8	8	3.2	119
LM-B-10	10	2.7	119
LM-B-12	12	2.5	119
LM-B-15	15	2.2	119
LM-B-18	18	2.0	119
LM-B-20	20	1.8	119
LM-B-24	24	1.4	119
LM-B-28	28	1.3	119
LM-B-36	36	1.1	119
LM-B-48	48	0.9	119
LM-B-100	100	0.37	139
LM-B-120	120	0.30	139
LM-B-150	150	0.25	139

Package C 3 3/16″ x 4 15/16″ x 9 3/8″

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
LM-C-3	3	5.3	$139
LM-C-3-P-6	3.6	5.2	139
LM-C-4	4	5.2	139
LM-C-4-P-5	4.5	5.1	139
LM-C-5	5	5.1	139
LM-C-6	6	4.8	139
LM-C-8	8	4.6	139
LM-C-10	10	4.2	139
LM-C-12	12	4.0	139
LM-C-15	15	3.5	139
LM-C-18	18	3.2	139
LM-C-20	20	3.1	139
LM-C-24	24	2.5	139
LM-C-28	28	2.3	139
LM-C-36	36	2.0	159
LM-C-48	48	1.6	159
LM-C-100	100	0.55	159
LM-C-120	120	0.49	159
LM-C-150	150	0.39	159

Package CC 4 15/16″ x 4 15/16″ x 9 3/8″

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
LM-CC-3	3	11.0	$179
LM-CC-3-P-6	3.6	11.0	179
LM-CC-4	4	11.0	179
LM-CC-4-P-5	4.5	10.5	179
LM-CC-5	5	10.5	179
LM-CC-6	6	9.0	179
LM-CC-8	8	8.5	179
LM-CC-10	10	7.5	179
LM-CC-12	12	7.3	179
LM-CC-15	15	6.0	179
LM-CC-18	18	5.5	179
LM-CC-20	20	5.0	179
LM-CC-24	24	4.0	179
LM-CC-28	28	3.5	179
LM-CC-36	36	3.0	199
LM-CC-48	48	2.5	199
LM-CC-100	100	1.0	199
LM-CC-120	120	0.9	199
LM-CC-150	150	0.7	199

Package D 4 15/16″ x 7 1/2″ x 9 3/8″

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
LM-D-3	3	13.1	$209
LM-D-3-P-6	3.6	13.1	209
LM-D-4	4	13.1	209
LM-D-4-P-5	4.5	13.1	209
LM-D-5	5	12.6	209
LM-D-6	6	12.6	209
LM-D-8	8	12.2	209
LM-D-10	10	10.8	209
LM-D-12	12	10.0	209
LM-D-15	15	9.0	219
LM-D-18	18	7.9	219
LM-D-20	20	7.4	219
LM-D-24	24	6.7	219
LM-D-28	28	6.0	219
LM-D-36	36	5.4	239
LM-D-48	48	4.1	239
LM-D-100	100	1.7	239
LM-D-120	120	1.5	239
LM-D-150	150	1.1	239

Package E 4 15/16″ x 7 1/2″ x 11 3/4″

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
LM-E-3	3	22.0	$269
LM-E-3-P-6	3.6	21.0	269
LM-E-4	4	21.0	269
LM-E-4-P-5	4.5	20.0	269
LM-E-5	5	20.0	269
LM-E-6	6	19.0	269
LM-E-8	8	18.0	269
LM-E-10	10	16.0	269
LM-E-12	12	15.0	269
LM-E-15	15	14.0	269
LM-E-18	18	13.0	269
LM-E-20	20	12.0	269
LM-E-24	24	11.0	269
LM-E-28	28	10.0	269
LM-E-36	36	8.0	269
LM-E-48	48	6.0	299
LM-E-100	100	2.0	299
LM-E-120	120	1.7	299
LM-E-150	150	1.4	299

Package EE 4 15/16″ x 7 1/2″ x 16 1/2″

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
LM-EE-3	3	33.0	$320
LM-EE-3-P-6	3.6	32.0	320
LM-EE-4	4	32.0	320
LM-EE-4-P-5	4.5	31.0	320
LM-EE-5	5	31.0	320
LM-EE-6	6	30.0	320
LM-EE-8	8	28.0	320
LM-EE-10	10	24.0	320
LM-EE-12	12	21.0	320
LM-EE-15	15	19.0	320
LM-EE-18	18	16.5	320
LM-EE-20	20	15.2	320
LM-EE-24	24	14.0	320
LM-EE-28	28	13.0	320
LM-EE-36	36	10.4	320
LM-EE-48	48	7.7	320
LM-EE-100	100	3.3	350
LM-EE-120	120	3.0	350
LM-EE-150	150	2.2	350

WIDE RANGE MODELS

Package A 3 3/16″ x 3 3/4″ x 6 1/2″

Model No.	Adj. Voltage Range VDC	Current Amps (40 C)	Price
LM-201	0-7	0.85	$ 79
LM-202	0-7	1.7	89
LM-252	0-7	2.0	99
LM-203	0-15	0.45	79
LM-204	0-15	0.90	89
LM-258	0-15	1.2	99
LM-261	0-24	0.70	89
LM-262	0-24	0.80	99
LM-206	0-32	0.50	89
LM-264	0-32	0.66	99
LM-266	0-60	0.35	109
LM-267	0-120	0.10	109
LM-268	0-120	0.15	119

Package B 3 3/16″ 4 15/16″ x 6 1/2″

Model No.	Adj. Voltage Range VDC	Current Amps (40 C)	Price
LM-B-0-7	0-7	2.8	$109
LM-B-0-14	0-14	1.6	109
LM-B-0 32	0-32	0.8	109
LM-B-0-60	0-60	0.45	109
LM-217	8.5-14	2.1	119
LM-218	13-23	1.5	119
LM-219	22-32	1.2	119
LM-220	30-60	0.70	129

Package C 3 3/16″ x 4 15/16″ x 9 3/8″

Model No.	Adj. Voltage Range VDC	Current Amps (40 C)	Price
LM-225	0-7	4.0	$139
LM-C-0-14	0-14	2.2	139
LM-C-0-32	0-32	1.1	139
LM-C-0-60	0-60	0.60	139
LM-226	8.5-14	3.3	139
LM-227	13-23	2.3	139
LM-228	22-32	2.0	139
LM-229	30-60	1.1	149

Package D 4 15/16″ x 7 1/2″ x 9 3/8″

Model No.	Adj. Voltage Range VDC	Current Amps (40 C)	Price
LM-234	0-7	8.3	$199
LM-D-0-14	0-14	4.9	199
LM-D-0-32	0-32	2.5	180
LM-D-0-60	0-60	1.3	239
LM-235	8.5-14	7.7	199
LM-236	13-23	5.8	209
LM-237	22-32	5.0	219
LM-238	30-60	2.6	239

Package E 4 15/16″ x 7 1/2″ x 11 3/4″

Model No.	Adj. Voltage Range VDC	Current Amps (40 C)	Price
LM-E-0-7	0-7	12.0	$249
LM-E-0-14	0-14	7.4	249
LM-E-0-32	0-32	3.7	249
LM-E-0-60	0-60	2.1	249

Package EE 4 15/16″ x 7 1/2″ x 16 1/2″

Model No.	Adj. Voltage Range VDC	Current Amps (40 C)	Price
LM-EE-0-7	0-7	16.0	$320
LM-EE-0-14	0-14	10.2	320
LM-EE-0-32	0-32	5.2	320
LM-EE-0-60	0-60	2.7	320

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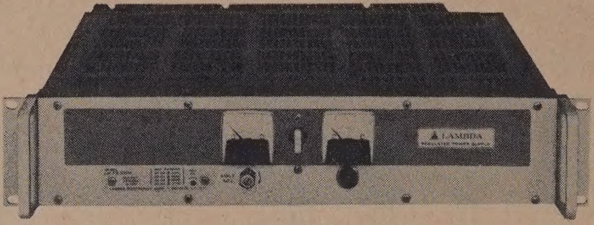
LM series full-rack power supplies

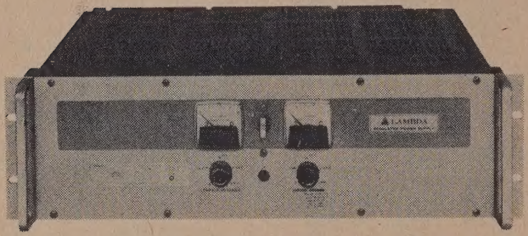
All silicon, programable, convection-cooled units up to 150 volts, up to 150 amps.

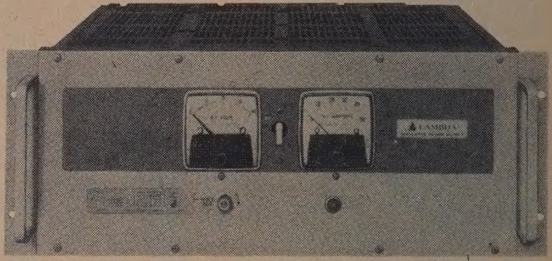
Package F
up to 150 volts • up to 48 amps



Package H
up to 12 volts • up to 150 amps

Package G
up to 150 volts • up to 95 amps





Select from this condensed list of models.

LM FULL RACK

	Package F & G	Package H
Regulation Line —	.05% + 4 mV	.01% + 1 mV
Regulation Load —	.03% + 3 mV	.02% + 2 mV
Ripple and Noise —	1 mV rms, 3 mV p-p	½ mV p-to-p 1½ mV p-to-p
Temp. Coeff. —	.03%/°C	.01%/°C
AC Input —	105-132 VAC, 45-440 Hz	105-132 VAC, 45-440 Hz

FIXED VOLTAGE MODELS

Model No.	Voltage VDC±5%	Current Amps (40°C)	Price
Package F 3½" x 19" x 16½"			
LM-F-3	3	48.0	$450
LM-F-3-P-6	3.6	48.0	450
LM-F-4	4	48.0	450
LM-F-4-P-5	4.5	48.0	450
LM-F-5	5	48.0	450
LM-F-6	6	47.0	450
LM-F-8	8	44.0	450
LM-F-10	10	38.0	450
LM-F-12	12	33.0	450
LM-F-15	15	25.0	450
LM-F-18	18	25.0	450
LM-F-20	20	23.0	450
LM-F-24	24	20.0	450
LM-F-28	28	19.0	450
LM-F-36	36	13.0	500
LM-F-48	48	10.0	500
LM-F-100-M	100	4.3	530
LM-F-120-M	120	3.7	530
LM-F-150-M	150	3.1	530
Package G 5¼" x 19" x 16½"			
LM-G-3	3	95.0	$575
LM-G-3-P-6	3.6	85.0	575
LM-G-4	4	85.0	575
LM-G-4-P-5	4.5	85.0	575
LM-G-5	5	80.0	575
LM-G-6	6	80.0	575
LM-G-8	8	68.0	575
LM-G-10	10	64.0	575
LM-G-12	12	56.0	575
LM-G-15	15	45.0	$575
LM-G-18	18	38.0	575
LM-G-20	20	35.0	575
LM-G-24	24	32.0	575
LM-G-28	28	28.0	575
LM-G-36	36	22.0	575
LM-G-48	48	17.0	600
LM-G-100-M	100	7.5	680
LM-G-120-M	120	6.5	680
LM-G-150-M	150	5.5	680
Package H 7" x 19" x 18½"			
LM-H-3-OV-Y-M	3	150	$995
LM-H-3-P-6-OV-Y-M	3.6	130	995
LM-H-4-OV-Y-M	4	135	995
LM-H-4-P-5-OV-Y-M	4.5	120	995
LM-H-5-OV-Y-M	5	130	995
LM-H-6-OV-Y-M	6	117	995
LM-H-10-OV-Y-M	10	95	995
LM-H-12-OV-Y-M	12	90	995

WIDE RANGE MODELS

Model No.	Adj. Voltage Range VDC	Current Amps (40°C)	Price
Package F 3½" x 19" x 16½"			
LM-F-0-7	0-7	25.0	$450
Package G 5¼" x 19" x 16½"			
LM-G-0-7	0-7	35.0	$575
Package H 7" x 19" x 18½"			
LM-H-0-7-OV-Y-M	0-7	52.0	$875

OVERVOLTAGE PROTECTION

Built-in overvoltage protection is standard on all package H models and available as an option on all package F and G models up to 70 VDC. To order for F and G packages, add suffix "-OV" to model number and add $90.00 to price. Price of package H models includes overvoltage protection.

PRICES OF F AND G PACKAGES ARE FOR NON-METERED MODELS, EXCEPT FOR MODEL NUMBERS FOLLOWED BY SUFFIX "M" FOR METERED MODELS ADD SUFFIX "M" TO MODEL NUMBER AND $30.00 TO PRICE.

PACKAGE H MODELS ARE AVAILABLE ONLY WITH OVERVOLTAGE PROTECTION. HIGH PERFORMANCE OPTION, AND METERS ALL OF WHICH ARE INCLUDED IN THE PRICE.

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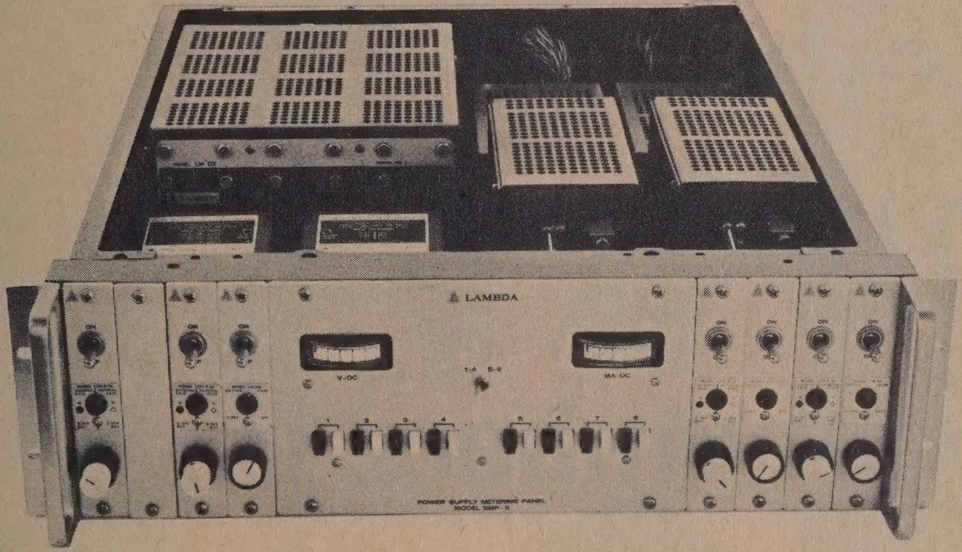
Now assemble complete power supply systems to meet your specific need with standard Lambda component power supplies and accessories.



Here's an easy way to get multiple-output, power supply systems with all the advantages of custom-designed systems, but without long delays and high costs. Lambda's new Power Supply Assembly Concept makes custom-design systems obsolete ...greatly simplifies your job. You simply select from more than 260 component power supplies and assemble your system with standard accessories. Or let Lambda do the assembly for you at a modest charge.

Lambda, through the 14 power packages of the LC/LM power components can supply voltages to 150 vdc and currents to 150 amps dc to fit any application. With 4 standard rack sizes Lambda can supply up to 16 diifferent outputs per rack.

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1. List your individual voltage and current requirements.
2. Select the power modules you need for proper voltages and currents...remember you can series/parallel units.
3. Select the System Power Protector or System Power Sequencer if required.
4. Select the overvoltage protection units required.
5. Select the smallest rack adapter that will house your modules.
6. Select the necessary power control panels and metering panel.
7. Select all the required cables.
8. Select blank panels.
9. Order all the power supplies and accessories needed to assemble your system. If you prefer, Lambda will assemble the system for you. Add 5% to the total cost of all power supplies and accessories to determine the cost for Lambda to assemble.

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MODERN VALUE-ENGINEERED PRODUCTS

PM500 SERIES DC POWER SUPPLIES

The PM400, PM500 and PM600 Series is a family of encapsulated, single and dual output regulated DC power supplies having output voltages and currents from 3.6 VDC @ 250 mA to 180 VDC @ 10 mA in P.C. mount, octal mount and bench model configurations. The new Model PM502 "dual 15" op-amp supply is a pin-for-pin replacement for other manufacturers' supplies.

DECIMAL DISPLAY MODULES

The DM500 Series are self-contained, plug-in decimal display units. The DM507 has an IC BCD-to-decimal decoder/driver, an IC decade counter, a side view in-line numerical indicator tube and a quad latch storage register. The popular DM519 has the decoder/driver, decade counter and indicator tube. The DM523 has the decoder/driver, indicator tube and storage register and the DM529 has the decoder/driver and indicator tube. All models plug into a standard 15 position (0.156" spacing) connector. The indicator tube, included in all models, provides numerical readout from 0 to 9 including decimal point. **An attractive bezel and mounting chassis is available for complete assemblies.**

DIGITAL PANEL METERS

The new DP400 Series measures DC voltage accurately (.05% ±½ count) with up to 4000 count resolution. Using revolutionary encoding techniques, it offers 8 voltage ranges (200 mV to 400 V) with internally selectable decimal point position. Temperature coefficient is .005%/°F and the operating temperature range is 30° to 140° F. DP400 Series is available in quantity orders for measuring current and resistance.

ANALOG OUTPUT SYSTEM

The AOS 700 Series Analog Output System provides complete analog output capability at the lowest available cost. The system is offered in several convenient basic configurations from a simple 1 to 16 channel package that includes power supplies, to a full output system including complete interfacing logic for direct compatibility with several popular digital computers. All digital inputs are compatible with TTL and DTL logic levels.

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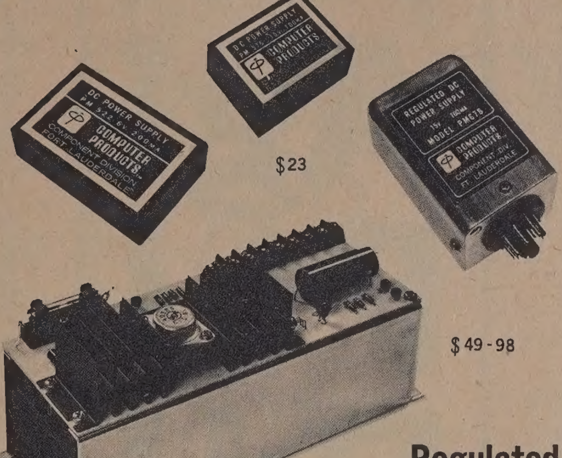

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$49-98

Regulated DC Power Supplies

FREQUENCY RANGE
COMPUTER PRODUCTS

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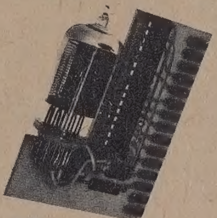
Pulse Generator

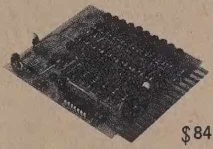


$25

Decimal Display Module

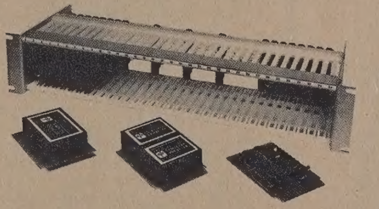
$295

A/D Converter



$84

D/A Converter

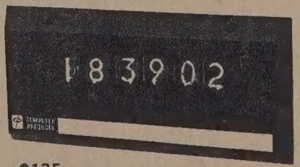


Analog Output System

$1295

$236

Digital Panel Meter



$135

Decimal Display Package

PM700 SERIES DC POWER SUPPLIES

The PM700 Series of regulated, dual and single output DC power supplies has output voltage and current ranges from 4.8 VDC @ 0-3 Amps to 180 VDC @ 40 mA. Popular models are 5, 6, 12, 15 and 180 VDC. These rugged, open-construction units are compact and designed to meet requirements for higher power output than is offered in the PM400, PM500 and PM600 Series. The PM728 is one of the leading digital logic power supplies currently available. Its output is adjustable from 4.8 to 6.3 VDC @ 0-3 Amps.

PULSE GENERATORS

The PG610 Pulse Generator is an inexpensive, self-contained, versatile, compact instrument. WIDE FREQUENCY RANGE — 10 Hz to 4 MHz in 6 overlapping ranges. Compatible with TTL, DTL and RTL. High output duty cycle capability. Short circuit protected. Integral regulated power supply. Rise/fall time typically 15 ns. Case size — 2.0" x 3.75" x 6.25". Reparable.

A-TO-D CONVERTERS

The AD800 Series Analog-to-Digital Converters provide an extremely economical approach to a wide variety of encoding applications. Using the proven successive approximation method of encoding, in addition to the use of integrated circuit ladder switches, the AD800 Series is further modernized by extensive use of both linear and digital integrated circuits. Complex arrays dramatically reduce the component count for highest reliability.

Models are offered with binary or BCD output, word lengths from 6 to 16 bits and conversion word rates to 100 KHz, dependent upon accuracy requirements and accessory configurations.

D-TO-A CONVERTERS

The DA025 and DA035 Series offers an inexpensive approach to superior D/A performance. The DA025 Series provides 8, 10 or 12-bit binary resolution on a P.C. card. Inputs are TTL and DTL compatible. Six analog output ranges up to ±10.24 volts at 10 mA are available. Conversion rates up to 200 KHz are possible for incremental input data. The DA035 Series is similar to the DA025 and includes input data storage. Full scale settling time is less than 50 μ secs. for both the DA025 and DA035.

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Kepco Inc Flushing .... N Y
Lambda Electronics Corp Melville .... N Y
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General Cable Corp New York ....
Guide Industries Inc Sun Valley ....
International Controls Corp Fairfield, ...
Kahn & Co Inc Wethersfield ....
Kidde & Co Inc, Walter Belleville ....
Lear Siegler Inc Santa Monica ....
Lear Siegler Inc, Romec Div Elyria ....
Pall Corp, Environmental Control Systems Div Long Island City ....
Pentronics Corp Dorchester ....
Phelps Dodge Communications Co North Haven ....
REF Dynamics Div UOP Mineola ....
Superior Continental Corp Hickory ....
TRW Systems Group Redondo Beach ....

PRINTED-CIRCUIT ASSEMBLY MACHINES

See **Machines—Assembly**

PRINTED-CIRCUIT ASSEMBLY TESTER

See **Testers—Printed-Circuit Assembly**

PRINTED-CIRCUIT BOARD FRAMES

See **Frames—Mounting**

Au!
Ag!
Pt!
Pd!

...And other precious metal alloys for microelectronic design!

PARTIAL LIST OF AVAILABLE ALLOYS & SOLDER PREFORMS

88% Gold 12% Germanium (Eutectic Alloy)
Strip and solder preforms in all sizes

80% Gold 20% Tin (Eutectic Alloy)
Strip, wire and solder preforms in all sizes

Gold with .1 to 1.2% Antimony
Wire, strip and solder preforms all sizes

Gold—.05% Min. Phosphorous
Wire, strip and solder preforms all sizes

95% Gold 5% Nickel
Wire, strip and solder preforms all sizes

Gold and up to .5% Arsenic
Strip and solder preforms all sizes

Silver with .1 to 1.2% Antimony
Wire, strip and solder preforms all sizes

Silver—.1% Min. Phosphorous
Wire, strip and solder preforms all sizes

95% Silver 5% Nickel
Wire, strip and solder preforms all sizes

Silver and up to .5% Arsenic
Strip and solder preforms all sizes

Special alloys produced on request at minimum charge.

Precious Metals in 99.9% Pure, 99.99% Pure, and 99.999% Pure.

The most modern production techniques, the latest refining methods and the best equipped research laboratories make Williams your one best source for all precious metals and their alloys.

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WILLIAMS PRECIOUS METALS
2980 MAIN ST. BUFFALO, NEW YORK 14214
Division of Williams Gold Refining Co., Inc.

Why does the best-selling digital printer sell for $335?

Because Victor sells so many of them.

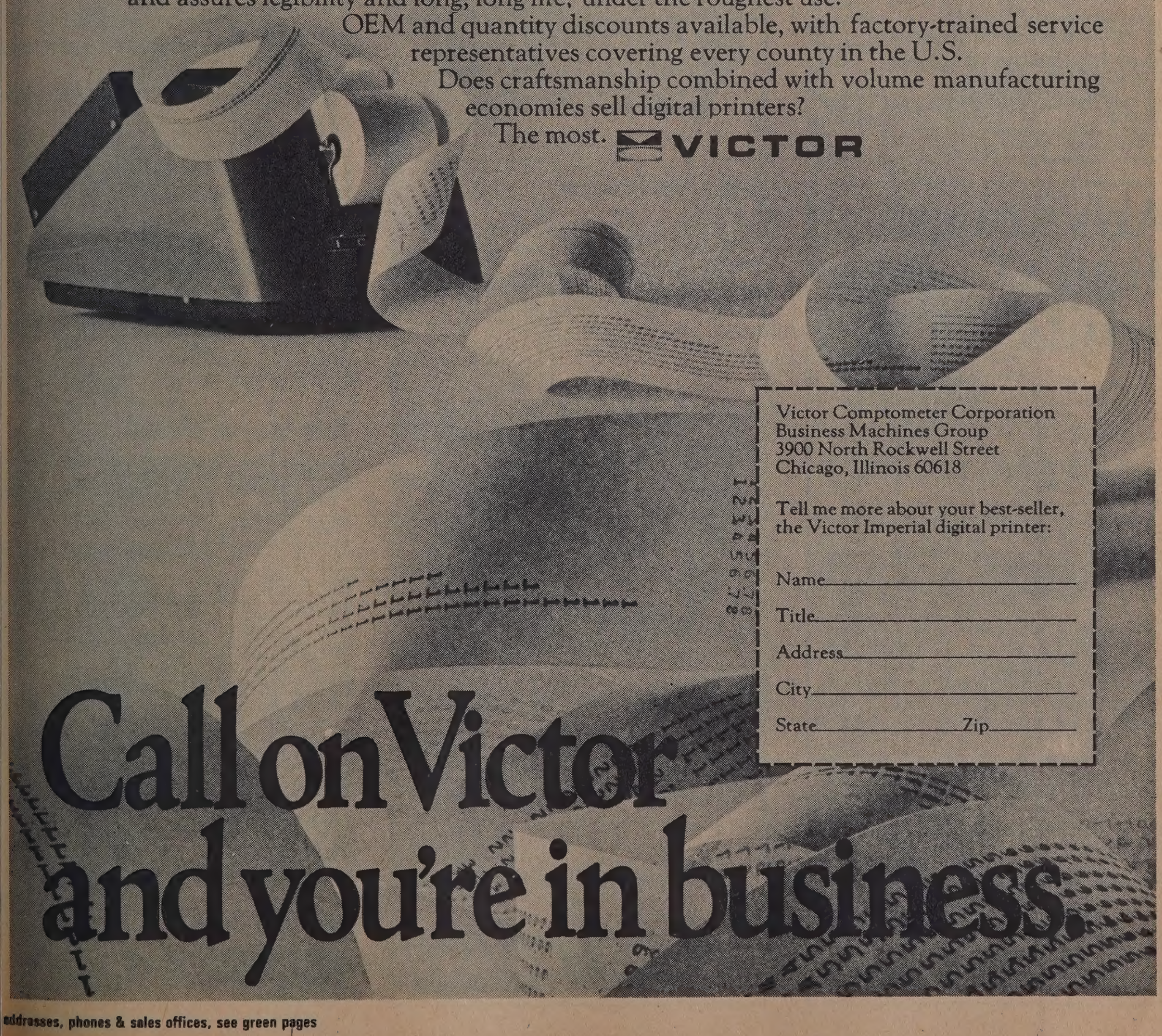
The Victor Imperial digital printer does superbly what any top-quality serial entry printer does. For less money. Because we sell so many.

It prints 8 column figures from remote sources on either 24 or 48 volt solenoids. Addition and subtraction for just $50 more. Ten column capacity? Add $20. Victor's exclusive printing press action reduces wear (and extra parts), and assures legibility and long, long life, under the roughest use.

OEM and quantity discounts available, with factory-trained service representatives covering every county in the U.S.

Does craftsmanship combined with volume manufacturing economies sell digital printers?

The most. **VICTOR**



Victor Comptometer Corporation
Business Machines Group
3900 North Rockwell Street
Chicago, Illinois 60618

Tell me more about your best-seller, the Victor Imperial digital printer:

Name____________________

Title____________________

Address____________________

City____________________

State__________ Zip__________

Call on Victor and you're in business.

PRINTED-CIRCUIT BOARDS

***See* Laminates—Copper-Clad**

PRINTED-CIRCUIT CHEMICALS

***See* Chemicals—Printed-Circuit**

PRINTED-CIRCUIT CLEANERS

***See* Chemicals—Printed-Circuit**

PRINTED-CIRCUIT COMPONENTS

***See* Modules; *See* Also Listings For Desired Components**

PRINTED-CIRCUIT CONNECTORS

***See* Connectors**

PRINTED-CIRCUIT PAINTS

***See* Paints—Printed-Circuit**

PRINTED-CIRCUIT SCREENS

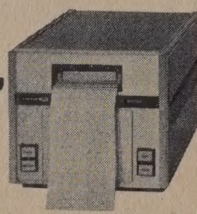
***See* Screens**

PRINTED WIRING

***See* Circuits—Printed Wiring; Cables—Flat, Printed**

PRINTERS—DIGITAL

HEWLETT-PACKARD PALO ALTO CAL . . . . ADV PG 490
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND OHIO . . . . ADV PG 707
MECHANICS FOR ELECTRONICS INC CAMBRIDGE . . . MASS
SIEMENS AMERICA INC NEW YORK . . . . N Y
SYSTRON-DONNER CORP CONCORD CAL . . . . . ADV PG 490
VICTOR COMPTOMETER CORP, BUSINESS MACH GROUP CHICAGO ILL . . . . ADV PG 489
A D Data Systems Inc Rochester . . . . N Y
Anadex Instruments, Inc Van Nuys . . . . Cal
Analogic Corp Wakefield . . . . Mass



Advanced digital printer

This newly-designed printer provides sophisticated performance at an unusually low price.

Model 5103 accepts 4-line BCD codes and prints up to 21 columns as fast as three lines per second. Options include built-in clock for time print-out, and selectable input code: 8-4-2-1 or 4-2-2-1 or 2-4-2-1.

The printer will accept data from two sources, printing each on the same or separate lines. Reliability is enhanced by permanently lubricated ball bearings and a continuously rotating print drum that eliminates the wear caused by start-stop mechanisms.

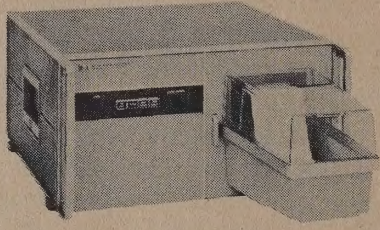
Print-out may be on pressure-sensitive paper or in ink with remote selection of black or red characters.

Price is $995 for basic 5-digit printer, and the design facilitates later expansion in the field.

SYSTRON DONNER

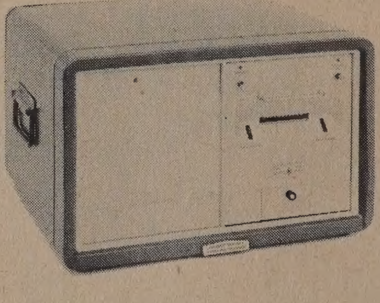
Data Products Division
Systron-Donner Corporation,
888 Galindo Street,
Concord, California 94520.
Phone (415) 682-6161.

DIGITAL PRINTERS



NEW MODEL 5050B

Prints up to 20 lines/sec and 18 columns. Reliable and quiet. BCD codes and formats changed by simple mechanical means. $1900 +$50/column. Optional built-in digital clock, $950.



MODEL 562A PRINTER

Up to 5 lines/sec and 11 columns. BCD and decimal codes. Analog outputs optional. Price varies with capacity; typically $1755 for 6 columns, $2223 for 11 columns.

HEWLETT hp PACKARD

02917

Automatic Data Processing of Mass Inc Boston . . . . . . M
Automatic Timing & Controls, Inc King of Prussia . . . . . .
Baird-Atomic, Inc Cambridge . . . .
Bean Inc, William T Detroit . . . .
Beckman Instruments Inc Fullerton, ...
Beckman Instruments Intl SA 1207 Geneva . . . . . Switzer
California Electro-Scientific Corp Santa Ana . . . .
Canberra Industries Meriden . . . .
Century Electronics & Instruments Inc Tulsa . . . .
CMC/Rutherford San Fernando . . . .
Codamite Corp Stanton . . . .
Connecticut Technical Corp Hartford . . . .
Control Data Corp, Rochester Div Rochester . . . .
Datadyne Corp King of Prussia . . . .
Data Mark Inc Westbury . . . .
Data Products Corp Woodland Hills . . . .
Datatotal Inc Arlington . . . .
Di/An Controls Inc Boston . . . .
Digitronics Corp Albertson . . . .
Disc Instruments Inc Santa Ana . . . .
Dynamco Ltd Chertsey Surrey . . . .
Dynapar Corp Sub Louis Allis Co Gurnee . . . .
Dytro Corp Hicksville . . . .
E N M Co Chicago . . . .
Faul-Coradi Inc Skaneateles . . . .
Ferranti, Ltd Lancashire . . . . Eng
General Electric Co, Information Devices Dept. Oklahoma City . . . .
General Electric Co Info Sys Equip Div Phoenix . . . .
General Radio Co West Concord . . . .
Hecon Corp New Shrewsbury . . . .
Heuer Electronics Corp Norwalk . . . .
Hewlett-Packard Palo Alto . . . .
Hickok Electrical Instrument Co Cleveland . . . .
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Iwatsu Electric Co Ltd Suginami-ku Tokyo . . . . J
Keltron Corp Waltham . . . .
Kuwano Electrical Instruments Co Ltd Kawasaki . . . . Kanagawa
Landis & Gyr AG Zug . . . . Switzer
Lehigh Valley Electronics Inc Fogelsville . . . .
Litton Datalog Div, Litton Ind Inc San Francisco . . . .
Louis Allis Co Div Litton Industries Milwaukee . . . .
LTV Electrosystems Inc, Garland Div Dallas . . . .
Martin-Decker Corp Santa Ana . . . .
Massey Dickinson Co Inc Saxonville . . . .
Mechanics for Electronics Inc Cambridge . . . .
Mite Corp New Haven . . . .
Monsanto Electronic Instruments West Caldwell . . . .
Notifier Co Sub Emhart Corp Lincoln . . . .
Nuclear Enterprises Ltd Edinburgh . . . . Sco
Oki Electric Industry Co Ltd Tokyo . . . . J
Pacific Photometric Instruments Berkeley . . . .
Potter Instrument Co, Inc Plainview . . . .
P P M Inc Cleveland . . . .
Presin Co Inc Shelton . . . .
Recording Designs Ltd Camberley Surrey . . . . En
Schneider Radio-Television Div Ivry . . . . F
Scientific Data Systems Inc El Segundo . . . .
Sequential Electronic Systems Inc Elmsford . . . .
Shepard Div Vogue Instrument Corp Summit . . . .
Siemens America Inc New York . . . .
Simpson Electric Co Chicago . . . .
Sonex Inc Philadelphia . . . .
Soroban, Inc. Melbourne . . . .
Sossner Steel Stamps Inc Long Island City . . . .
Stromberg Datagraphix Inc San Diego . . . .
Systron-Donner Corp Concord . . . .
Takeda Riken Industry Co Ltd Tokyo . . . .
Telecontrol Div Vogue Instrument Corp Plainview . . . . .
Teletype Corp Skokie . . . .
Typagraph Corp San Diego . . . .
United Systems Corp Dayton . . . .
Veeder-Root Hartford . . . .
Victor Comptometer Corp, Business Mach Group Chicago

PRINTERS—KEYBOARD

IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK
SIEMENS AMERICA INC NEW YORK . . . .
VICTOR COMPTOMETER CORP, BUSINESS MACH GR CHICAGO ILL . . . . ADV P
Automated Business Systems Div Litton Indus Carlstadt
Codamite Corp Stanton . . . .
Connecticut Technical Corp Hartford . . . .
Data Trends Inc Mountain Lakes . . . .
Di/An Controls Inc Boston . . . .
Dimensions Inc Hempstead . . . .
Dynamco Ltd Chertsey Surrey . . . .
E N M Co Chicago . . . .
Fujitsu Ltd Tokyo . . . .
IBM, Industrial Products Marketing New York . . . .
IBM Data Processing Div White Plains . . . .
Kleinschmidt, Div SCM Corp Deerfield . . . .
Litton Datalog Div, Litton Ind Inc San Francisco . . . . . .
LTV Electrosystems Inc, Garland Div Dallas . . . .
Mite Corp New Haven . . . .
Motorola, Govt Electronics Div Scottsdale . . . .
Nuclear Enterprises Ltd Edinburgh . . . . Sc
Oki Electric Industry Co Ltd Tokyo . . . .
Potter Instrument Co, Inc Plainview . . . .
Recording Designs Ltd Camberley Surrey . . . . E
Scientific Data Systems Inc El Segundo . . . .
Siemens America Inc New York . . . .
Soroban, Inc. Melbourne . . . .
Stromberg Datagraphix Inc San Diego . . . .
Teletype Corp Skokie . . . .
Typagraph Corp San Diego . . . .
Victor Comptometer Corp, Business Mach Group Chicag

PRINTERS—LINE

SIEMENS AMERICA INC NEW YORK . . . .
SYSTRON-DONNER CORP CONCORD . . . .
VICTOR COMPTOMETER CORP, BUSINESS MACH GR CHICAGO ILL . . . . ADV

l Electronics Inc Philadelphia	Pa
Mark Corp Bloomfield	N J
ol Div, American Chain & Cable Co Waterbury	Conn
oughs Corp Component Sales Dept Los Angeles	Cal
oughs Corp, Defense, Space & Spec Sys Group Paoli	Pa
ornia Electro-Scientific Corp Santa Ana	Cal
ury Electronics & Instruments Inc Tulsa	Okla
it Technology Inc San Carlos	Cal
Corp San Gabriel	Cal
mite Corp Stanton	Cal
ecticut Technical Corp Hartford	Conn
rol Data Corp, Rochester Div Rochester	Mich
dyne Corp King of Prussia	Pa
Mark Inc Westbury	N Y
Products Corp Woodland Hills	Cal
total Inc Arlington	Tex
n Controls Inc Boston	Mass
neered Technical Products Plainfield	N J
M Co Chicago	Ill
su Ltd Tokyo	Japan
ral Electric Co, Information Devices Dept. lahoma City	Okla
ral Electric Co Info Sys Equip Div Phoenix	Ariz
ral Instrument Corp Electronics Sys Div. Hicksville	N Y
ywell EDP Div Wellesley Hills	Mass
Data Processing Div White Plains	N Y
schmidt, Div SCM Corp Deerfield	Ill
oy Research Systems Corp West Nyack	N Y
n Datalog Div, Litton Ind Inc San Francisco	Cal
Electrosystems Inc, Garland Div Dallas	Tex
thews & Co Jas H Pittsburgh	Pa
orola, Govt Electronics Div Scottsdale	Ariz
onal Cash Register Co Dayton	Ohio
ear Enterprises Ltd Edinburgh	Scotland
lectric Industry Co Ltd Tokyo	Japan
er Instrument Co, Inc Plainview	N Y
ision Crafts La Cresenta	Cal
ntific Data Systems Inc El Segundo	Cal
uential Electronic Systems Inc Elmsford	N Y
oard Div Vogue Instrument Corp Summit	NJ
nens America Inc New York	N Y
mberg Datagraphix Inc San Diego	Cal
ron-Donner Corp Concord	Cal
control Div Vogue Instrument Corp Plainview	NY
ner Electronics Ltd New Malden, Surrey	Eng
or Comptometer Corp, Business Mach Group Chicago	Ill

INTERS—PRINTED-CIRCUIT

ee Machines—Printed-Circuit Production

ISMS—PENTA

sch & Lomb Inc Rochester	N Y
omer Research Corp Plainview	N Y
Optical Co Pittsburgh	Pa
lund Scientific Co Barrington	N J
s Equipment Co Morton Grove	Ill
child Space & Defense Sys Div Fairchild Cam & Inst Corp Segundo	Cal
tner Scientific Corp Chicago	Ill
eral Electrodynamics Corp Garland	Tex
eral Optics Inc Bloomfield	N J
strial Optics Div Yardney Razdow Labs Newark	N J
rnational Laser Systems Inc Orlando	Fla
es Optical Works Inc A D Burlington	Mass
er Optics Inc Danbury	Conn
z Canada Ltd, Ernst Midland	Ont
rty Mirror Div Libbey-Owens Ford Co Brackenridge	Pa
cal Products A Teledyne Co Monrovia	Cal
S Research Inc Riverton	N J
fic Optical Div Chicago Aerial Ind Los Angeles	Cal
kin-Elmer Corp Norwalk	Conn
kin-Elmer Corp Laser Dept Wilton	Conn
kin-Elmer Corp, Optical Group Norwalk	Conn
som Labs, John H Los Angeles	Cal
dow Labs Inc Newark	N J
ublic Lens Co Inc Bronx	N Y
ctrum Systems, Inc Waltham	Mass
& T Corp Roslyn Heights	NY
th Optical Laboratory Dobbs Ferry	N Y

OBES—HIGH VOLTAGE

TH CO BENTON HARBOR	**MICH**
VLETT-PACKARD PALO ALTO	**CAL**
TRONIX INC BEAVERTON	**ORE**
omatic Metal Products Corp Brooklyn	N Y
kman Instruments Inc Fullerton,	Cal
kman Instruments Intl SA 1207 Geneva	Switzerland
fornia Instruments Corp San Diego	Cal
npagnie Generale de Metrologie Haute Savoie	France
nponents Specialties Inc Freeport	N Y
O Electronic Instrument Co Inc Brooklyn	NY
Electronics Div, Hydrometals Inc Rockford	Ill
th Co Benton Harbor	Mich
vlett-Packard Palo Alto	Cal
otronics Inc Brewster	N Y
Jennings Div, Intl Tel & Tel Corp San Jose	Cal
hley Instruments Inc Cleveland	Ohio
usui Electronics Corp anagawa City	Kanagawa Pref Japan
ermaster, Inc Los Angeles	Cal
tune Electronics Co New York	N Y
nona Electronics Co Inc Pomona	Cal
lio Corp of America, Electronic Components Harrison	N J
s Engineering Corp Saratoga	Cal
ence Accessories Corp Southport	Conn
core Inc Addison	Ill
pson Electric Co Chicago	Ill
ger Co Instrumentation Div Bridgeport	Conn
ighter Co Ardmore	Okla
shine Scientific Instruments Inc Philadelphia	Pa
tronix Inc Beaverton	Ore
-Connector Corp Peabody	Mass

PROBES—MICROWAVE

HEWLETT-PACKARD PALO ALTO	**CAL**
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE	**ILL**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Aircom Inc Union	N H
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Automatic Metal Products Corp Brooklyn	N Y
Coax Devices Chelsea	Mass
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Engelmann Microwave Co Montville	NJ
Epsco Inc Westwood	Mass
General Microwave Corp Farmingdale	N Y
Guide Industries Inc Sun Valley	Cal
Hewlett-Packard Palo Alto	Cal
LDV Electro Science Industries Syracuse	N Y
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Microlab/F X R Livingston	N J
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Development Labs Inc Needham Heights	Mass
Microwave Labs of America Brooklyn	N Y
Narda Microwave Corp Plainview	N Y
Nichols Products Co, Inc Moorestown	N J
Nippon Electric Co Ltd Tokyo	Japan
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Portchester Instrument Corp Port Chester	N Y
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
R F Systems Inc Cohasset	Mass
RLC Electronics Inc Port Chester	N Y
Solitron/Microwave Long Island City	N Y
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Tru-Connector Corp Peabody	Mass
Vector Industries A Teledyne Co Palo Alto	Cal
Victor Microwave Inc Wakefield	Mass

PROBES—OSCILLOSCOPE

HEATH CO BENTON HARBOR	**MICH**
HEWLETT-PACKARD PALO ALTO	**CAL**
TEKTRONIX INC BEAVERTON	**ORE**
Allen Aircraft Radio Inc Elk Grove Village	Ill
Aul Instruments Inc Flushing	NY
Beutronics Labs Inc Kenilworth	N J
Bioelectric Instruments Inc Hastings-on-Hudson	N Y
Bradley Ltd G & E London NW 10	England
Carol Electronics Div Weeco Inc Martinsburg	W Va
Compagnie Generale de Metrologie Haute Savoie	France
Data Instrument Div Pennsauken	N J
DuMont Oscilloscope Labs Inc West Caldwell	N J
EICO Electronic Instrument Co Inc Brooklyn	NY
Fairlane Electronics, Inc Long Valley	N J
Greenpar Engineering Ltd, Electronics Div Essex	England
Heath Co Benton Harbor	Mich
Hewlett-Packard Palo Alto	Cal
I T I Electronics Inc Clifton	N J
Iwatsu Electric Co Ltd Suginami-ku Tokyo	Japan
Kikusui Electronics Corp Kanagawa City	Kanagawa Pref Japan
Matsushita Communication Industrial Co Ltd Yokohama	Japan
Measurement Control Devices Inc Philadelphia	Pa
Pomona Electronics Co Inc Pomona	Cal
Racal Electronics Ltd Bracknell Berks	England
Radio Corp of America, Electronic Components Harrison	N J
Robertson Instrument Co Azusa	Cal
Simpson Electric Co Chicago	Ill
Smith Inc, Herman H Brooklyn	N Y
Sunshine Scientific Instruments Inc Philadelphia	Pa
Tektronix Inc Beaverton	Ore
Walden Electronics Corp Waltham	Mass

PROBES—R-F FOR VTVM

ANRITSU ELECTRIC CO LTD TOKYO	**JAPAN**
HEATH CO BENTON HARBOR	**MICH**
HEWLETT-PACKARD PALO ALTO	**CAL**
Allen Aircraft Radio Inc Elk Grove Village	Ill
Anritsu Electric Co Ltd Tokyo	Japan
Aul Instruments Inc Flushing	NY
Beutronics Labs Inc Kenilworth	N J
Boonton Electronics Corp Parsippany	N J
Carol Electronics Div Weeco Inc Martinsburg	W Va
Compagnie Generale de Metrologie Haute Savoie	France
EICO Electronic Instrument Co Inc Brooklyn	NY
General Radio Co West Concord	Mass
Genisco Technology Corp Compton	Cal
Heath Co Benton Harbor	Mich
Hewlett-Packard Palo Alto	Cal
I T I Electronics Inc Clifton	N J
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Kikusui Electronics Corp Kanagawa City	Kanagawa Pref Japan
Metermaster, Inc Los Angeles	Cal
Millivac Instruments Inc Schenectady	N Y
Motorola Communications & Electronics Inc Chicago	Ill
Pomona Electronics Co Inc Pomona	Cal
Radio Corp of America, Electronic Components Harrison	N J
Robertson Instrument Co Azusa	Cal
Simpson Electric Co Chicago	Ill
Solitron/Microwave Long Island City	N Y
Sunshine Scientific Instruments Inc Philadelphia	Pa
Winslow Tele-Tronics Inc Eatontown	N J

PROBES—TEMPERATURE

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE	**MD**
HEWLETT-PACKARD PALO ALTO	**CAL**
VICTORY ENGINEERING CORP SPRINGFIELD N J	**ADV PG Facing Pg 1**
Advanced Products Co North Haven	Conn
Aero Research Instrument Dept American Standard Franklin Park	Ill
Aircraft Components Inc Benton Harbor	Mich
Alcor Aviation, Inc San Antonio	Texas
Amlab Inc Rahway	NJ
Andonian Associates, Inc Waltham	Mass
Applied Research Austin Inc Austin	Tex
Atkins Technical, Inc Gainesville	Fla
Barnes Engineering Co Def & Space Div Stamford	Conn
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bendix Corp Environmental Science Div Baltimore	Md
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica	Cal
Cole-Parmer Instrument Co Chicago	Ill
Components Specialties Inc Freeport	N Y
Conax Corp Buffalo	N Y
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Device Seals Inc Sun Valley	Cal
Edison, Thomas A Industries, Instr Div West Orange	N J
Electronic Control Systems Inc Fairmont	W Va
Electronic Development Labs Inc Plainview	N Y
Electro Scientific Industries Inc Portland	Ore
Fenwal Inc Ashland	Mass
General Laboratory Assoc Inc Norwich	N Y
Genisco Technology Instrument Div Compton	Cal
Gentran Inc Santa Clara	Cal
Glesco Electronics Inc Rockford	Ill
Hafstrom Technical Products Inc San Diego	Cal
Hewlett-Packard Palo Alto	Cal
High Temperature Instruments Corp Philadelphia	Pa
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Honeywell Industrial Div Fort Washington	Pa
Honeywell Resdntl & Coml Sls Divs Minneapolis	Minn
Hy-Cal Engineering Santa Fe Springs	Cal
Hydro Products Div Dillingham Corp San Diego	Cal
Inca Engineering Corp San Gabriel	Cal
Industrial Electronetics Corp Satellite Beach	Fla
Jersey Technical Consultants Morristown	NJ
Kahl Scientific Instrument Corp El Cajon	Cal
Lewis Engineering Co Naugatuck	Conn
Marin Controls Co Div FRL Inc Belmont	Cal
Marlin Mfg Corp Cleveland	Ohio
Marshall Instruments Inc Van Nuys	Cal
McCullough Aero Corp Hawthorne	Cal
Metermaster, Inc Los Angeles	Cal
Microdot, Inc South Pasadena	Cal
Minco Products Inc Minneapolis	Minn
Montedoro Corp San Luis Obispo	Cal
Mura Corp Great Neck	N Y
Omega Engineering Inc Stamford	Conn
Pacific Transducer Corp Los Angeles	Cal
Pall Trinity Micro Corp Cortland	N Y
Pioneer Instrument Inc Hanover	Mass
Plessey Airborne Corp Hillside	NJ
Ramsay Engineering Co Anaheim	Cal
RdF Corp Hudson	N H
Relco Products Inc Denver	Colo
RFL Industries Inc, Thermocontrol Div Boonton	N J
Rosemount Engineering Co Minneapolis	Minn
Rosemount Plug-In Inc Nashville	Tenn
Rustrak Instrument Div Gulton Ind Inc Manchester	NH
Scientific Engrg Mfg Co Div Gen Devices Inc North Hollywood	Cal
Simpson Electric Co Chicago	Ill
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sunshine Scientific Instruments Inc Philadelphia	Pa
Symbolic Displays Inc Orange	Cal
Thermal Systems Inc Los Angeles	Cal
Thermo-Couple Products Co Inc Winfield	Ill
Thermotronic Devices Conshohocken	Pa
United Sensor & Control Corp Watertown	Mass
United Systems Corp Dayton	Ohio
Versitherm, Inc Farmingdale	N Y
Victory Engineering Corp Springfield	N J
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Waynco Inc Winona	Minn
West Coast Research Corp Los Angeles	Cal
Yellow Springs Instrument Co Inc Yellow Springs	Ohio

PROBES—TEST LEAD

CGS UNITS INC ROCHESTER	**N Y**
CIRCON COMPONENT CORP GOLETA CAL	**ADV PG 292**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
ELECTRONIC HARDWARE CORP JAMAICA	**NY**
HEWLETT-PACKARD PALO ALTO	**CAL**
INTRONICS INC NEWTON	**MASS**
Aerolite Electronics Corp Union City	N J
Allegri-Tech Inc Nutley	N J
Amatom Electronic Hardware New Rochelle	N Y
American Electronic Labs Inc Lansdale	Pa
Aul Instruments Inc Flushing	NY
Beutronics Labs Inc Kenilworth	N J
Birnbach Co Inc Freeport	N Y
Canadian Research Institute Don Mills	Ont
Carol Electronics Div Weeco Inc Martinsburg	W Va
CGS Units Inc Rochester	N Y
Circon Component Corp Goleta	Cal
Cleverly Electrical Works Inc Philadelphia	Pa
Components Specialties Inc Freeport	N Y
Daburn Electronics & Cable Corp Bronx	N Y
EICO Electronic Instrument Co Inc Brooklyn	NY
Electronic Hardware Corp Jamaica	NY
Fairhill Products Corp Philadelphia	Pa
G C Electronics Div, Hydrometals Inc Rockford	Ill
Hewlett-Packard Palo Alto	Cal
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Hydro Molding Co Inc Plattsburgh	N Y
Intronics Inc Newton	Mass
Jones Electronics, Hiram Burbank	Cal
Keithley Instruments Inc Cleveland	Ohio
Kikusui Electronics Corp Kanagawa City	Kanagawa Pref Japan
Kulicke & Soffa Industries Inc Fort Washington	Pa

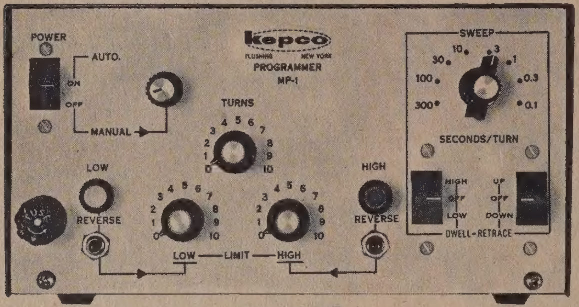
KEPCO PROGRAMMERS

Kepco is especially aware of the need for programmable mechanisms to provide the maximum benefit from the programming versatility built into modern d-c regulators.

A variety of types are manufactured

- Digital decades provide six-digit voltage selection, three-digit current selection.
- Motorized sweepers generate ultraslow, reversible sweeps with adjustable rates and end limits.
- Function generator: Model FG-100 provides triangular waveforms with symmetric and asymmetric waveshapes.

MOTORIZED PROGRAMMER


POWER
AUTO.
ON
OFF
MANUAL
kepco
PROGRAMMER
MP-1
TURNS
LOW
HIGH
REVERSE
REVERSE
LOW —LIMIT— HIGH
SWEEP
SECONDS/TURN
HIGH
LOW
UP
DOWN
DWELL-RETRACE

Model MP 1

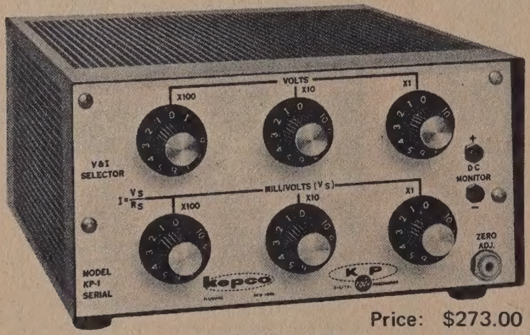
MODELS	SECONDS PER REVOLUTION (MAXIMUM: 10 REVOLUTIONS, 3600)								PRICE
MP—1	0.1	0.3	1.0	3.0	10.0	30.0	100.0	300.0	$595.00
MP—10	1.0	3.0	10.0	30.0	100.0	300.0	1000.0	3000.0	595.00

TIMING ACCURACY:

±5% referenced to 60 Hz line frequency.

LIMITS, (Mechanically Adjustable):

Low Limit: Range from 0-9⅔ turns.
High Limit: Range from ⅓ to 10-turns.
Minimum Sweep Range: ⅓ turn (120°)


VOLTS
X100
X10
X1
V&I SELECTOR
MILLIVOLTS (Vs)
DC MONITOR
ZERO ADJ.
MODEL KP-1 SERIAL
kepco
KP

Price: $273.00

MODEL KP-1

DECADES: 6-digit voltage programming. 3-digit current programming.

RANGE: 0-1,011,110 ohms in 1 ohm steps (0 to 1,011.110V in 1 millivolt steps at 1000Ω/V).

ACCURACY: Decades contain 0.1% resistor except units decade (millivolts) which contain 1% resistors.

PROGRAMMER, FUNCTION GENERATOR

MODEL FG-100

kepco
FG
LOW LIMIT
HIGH LIMIT
INCREASE
DOWN
UP
CAL/10
CAL
SYMMETRICAL SLOPE CONTROL
PROGRAM
FALL
RISE
ZERO
STOP
ASYMMETRICAL SLOPE CONTROL
OFF
EXT LO
EXT HI
CALIBRATED SLOPE V/SEC
FG100

Price: $575.00

OUTPUTS:

#1 — 0-20V d-c, 0-20 ma.

#2 — 0-10 ma to program 100 ohm/volt power supply.

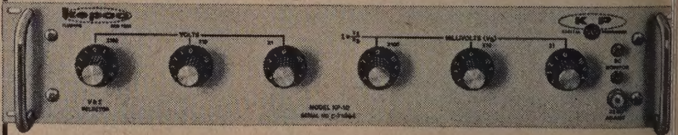
#3 — 0-1 ma to program 1000 ohm/volt power supply.

All outputs available simultaneously,

INPUT: 105-125V or 210-250V a-c, 50-440 Hz.

TIMING: 4 ranges: 0.1V/sec., 1.0V/sec., 10V/sec., 100V/sec. Rising and falling slopes continuously adjustable between ranges either separately or symmetrically. For outputs #2 and #3, divide the above timing by 2000 and 20,000 respectively to obtain milliamperes per second.

LIMITS: Separately adjustable high limit and low limit permits operation between any two pre-set voltages or currents.


kepco
VOLTS
MILLIVOLTS
KP
MODEL KP-10

Price: $310.0

MODEL KP-10

DECADES: 6-digit voltage programming. 3-digit current programming.

RANGE: 0-101,111.0 ohms in 0.1 ohm steps (0-1,011.110V in 1 millivolt steps at 100Ω/V).

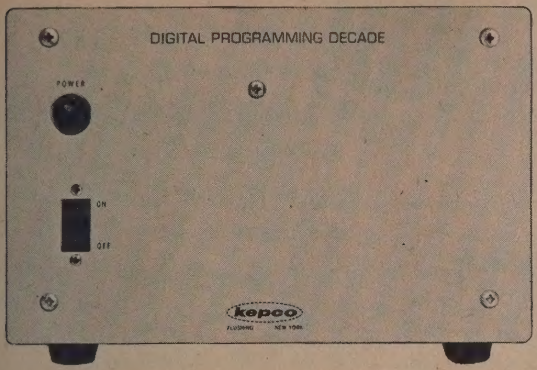
ACCURACY: All decades contain 0.1% resistors.

For complete specifications and applications notes, write Dept. AX—09

KEPCO, INC. • 131-38 SANFORD AVENUE • FLUSHING, N.Y. 11352 • (212) 461-7000 • TWX #710-582-2631 • Telex: 12-6055 • Cable: KEPCOPOWER NEWYOR

KEPCO DIGITAL PROGRAMMING SYSTEM

DIGITAL PROGRAMMING DECADE



MODEL	DESCRIPTION		COMPANION REGISTER	CABLE TO DPR	PRICE
DPD–1	4 digit	0–1000.0V	DPR–4	Cable A	$790.00
DPD–2	4 digit	0–100.00V	DPR–4	Cable B	735.00
DPD–3	5 digit	0–1000.00V	DPR–5	Cable A	840.00
DPD–4	3 digit	0–1000V	DPR–3	Cable A	710.00
DPD–5	3 digit	0–100.0V	DPR–3	Cable B	660.00
DPD–6	3 digit	0–10.00V	DPR–3	Cable B	660.00
DPD–7	3 digit	Current	DPR–3	Cable B	630.00

FUNCTION:
To control the output level (voltage or current) of a d-c Power Supply by means of digitally encoded commands.
OUTPUT RANGE: Each DPD will program 10% overrange and when using the voltage control board has three selectable decimal levels. The largest is shown in the chart; e.g., Model DPD–1, a 4 digit overranging instrument will program: 0–10.999 volts, 0–109.99 volts and 0–1099.9 volts. The DPD–7, a three-digit instrument for the control of current has two selectable decimal levels. A current code board, compatible with the *current rating* of the power supply being controlled, is needed with the DPD–7. Specify the *current code board* when ordering by appending a suffix number to the model equal to the *ampere* rating of the supply being controlled. Specify Model DPD–7–22A for an instrument to control a 22 ampere power supply. The *current code board* in Model DPD–7 causes the programmed current to correspond to the numerical display of the companion DPR–3 Register.
DESCRIPTION: The DPD's use transistor-driven reed relays to actuate resistors in a 1–2–4–8 BCD code. The input is parallel (RTL) logic levels or switch closures; the output a four-wire resistance and control current command capable of programming any Kepco Operationally Programmable Power Supplies. The DPD's may be driven by the suitable companion DPR which provides serial-parallel conversion, data storage and display.
TIMING: Commands to the DPD are sequenced: hold—execute—program, requiring a 10 millisecond sequence time. This sequencing is provided by the DPR when used together.
INPUT: logic "0" is 0 to 0.3V d-c
logic "1" is 1 to 3V d-c
input impedance: 3K ohms
POWER REQUIREMENTS:
115V ±10V a-c or 230V ±20V a-c, 50-440 Hz single phase
DIMENSIONS: Half-rack: 5¼" H x 8-11/32" W x 13⅜" D
Rack adapter (Model RA-24) is available)

CABLES: Connect DPK–1 to any DPR via a cable "A"

TYPE	10' length	3' length	CONNECTS DPR–3–4–5 TO
A	A–10	A–3	DPK–1, DPD–1–3–4
B	B–10	B–3	DPD–2–5–6–7

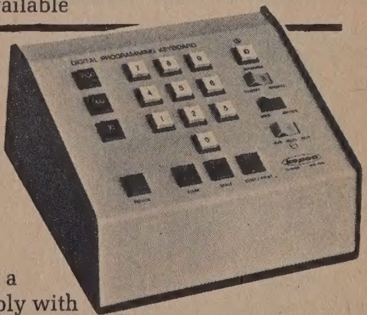
DIGITAL PROGRAMMING REGISTER

DIGITAL PROGRAMMING REGISTER
KEPCO
INDEX
POWER ON
DISPLAY CLEAR
PROGRAM OPERATE
ADVANCE
INDEX AUTO
START/PRINT
CONTROLS REMOTE
OFF
STANDBY
HOLD
MANUAL
LOCAL

MODEL	NUMBER OF DISPLAY REGISTERS	PRICE
DPR–3	3 + Overrange	$ 980.00
DPR–4	4 + Overrange	1,090.00
DPR–5	5 + Overrange	1,200.00

FUNCTION:
The DPR accepts serial BCD or decimal coded programming signals, stores them and provides a parallel output signal to the DPD decade.
DESCRIPTION:
DPR processes incoming serial data into storage/display registers including a segmented numeric readout. The data is presented in parallel, continuous form to a DPD Programmer. The DPR also processes index and decimal point commands from a keyboard or machine input.
INPUT: Decimal — 10 lines
BCD — 5 lines including data pulse
Range selection (decimal point) — 3 lines;
Function command — 5 lines
Logic levels: "0" is 0 to 0.3V d-c; "1" is 1 to 3V d-c.
OUTPUTS: To DPD: parallel data.
To Printer (optional): parallel logic levels.
Print signal: 150 ohms output impedance.
Print complete signal: 1000 ohms input impedance.
POWER REQUIREMENTS:
115V ±10V ac or 230 ±20V ac, 50-440 Hz single phase.
DIMENSIONS: Half-rack 5¼" H x 8-11/32" W x 17⅜" D
Rack Adapter (RA-24) available

Model DPK-1 DIGITAL PROGRAMMING KEYBOARD



PRICE: $230.00

FUNCTION:
To control the output of a regulated d-c Power Supply with an adding machine keyboard, through a DPR logic and DPD analog converter. DPK-1 is a manual input — in serial form — for the DPR registers.
DESCRIPTION:
The DPK-1 uses SPDT keys to generate decimal code and register control signals, which are shaped and processed for delivery to the DPR storage register. Model DPK-1 will program registers DPR-3, DPR-4 and DPR-5
COMMANDS:
10 digit decimal signals, 3 ranges, Space, Clear, Start/Print, Index, Hold/Advance, Standby/Operate, Preview, Polarity.
POWER: Supplied from DPR.
Rack adapter (Model RA 19-1) available.

Metermaster, Inc Los Angeles . . . Cal
Miller Mfg Co, M A Libertyville . . . Ill
Moser Jewel Co Perth Amboy . . . N J
Mutron Corp Brockton . . . Mass
National Tel-Tronics Corp Yonkers . . . N Y
Neptune Electronics Co New York . . . N Y
Paraplegics Mfg Co Inc Bensenville . . . Ill
Philmore Mfg Co Inc Richmond Hill . . . N Y
Pomona Electronics Co Inc Pomona . . . Cal
Radio Corp of America, Electronic Components Harrison . . N J
Robertson Instrument Co Azusa . . . Cal
Rye Industries, Inc Mamaroneck . . . N Y
Semimetals Inc, Western Div Mountain View . . . Cal
Simpson Electric Co Chicago . . . Ill
Sittler Corp Chicago . . . Ill
Slaughter Co Ardmore . . . Okla
Smith Inc, Herman H Brooklyn . . . N Y
Sunshine Scientific Instruments Inc Philadelphia . . . Pa
Taffet Electronics Inc Woodside . . . N Y
Techni-Tool Inc Philadelphia . . . Pa
Test Equipment Corp Dallas . . . Tex
Transistor Automation A Teledyne Co Woburn . . . Mass
United-Carr Inc Boston . . . Mass
Vector Electronic Co Inc Sylmar . . . Cal

PROCESS CONTROL COMPUTERS

***See* Computers—Special**

PROCESS CONTROL SIMULATORS

***See* Simulators**

PRODUCTION MACHINES

***See* Machines; Tools**

PROFILING MACHINES

***See* Machines—Engraving & Profiling**

PROFILING SERVICES

***See* Engraving & Profiling Services**

PROGRAMMERS—POWER SUPPLY

KEPCO INC FLUSHING N Y . . . ADV PGS 492,493, 4th Cover
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN . . . N Y
TEKTRONIX INC BEAVERTON . . . ORE
Artisan Electronics Corp Parsippany . . . N J
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook . . . Conn
Clare-Electroseal Corp Des Plaines . . . Ill
DuKane Corp St Charles . . . Ill
Elgar Corp San Diego . . . Cal
Hafstrom Technical Products Inc San Diego . . . Cal
Kepco Inc Flushing . . . N Y
Moore Products Co Spring House . . . Pa
NH Research Inc Santa Ana . . . Cal
Program Electronics Co New Hyde Park . . . N Y
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn . . . N Y
Tektronix Inc Beaverton . . . Ore
Todd Products Corp Hicksville . . . NY

PROGRAMMERS—TEST INSTRUMENT

CGS UNITS INC ROCHESTER . . . N Y
DRANETZ ENGINEERING LABS INC PLAINFIELD . . . N J
HEWLETT-PACKARD PALO ALTO . . . CAL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN . . . N Y
TEKTRONIX INC BEAVERTON . . . ORE
TEMPO INSTRUMENT INC IND DIV PLAINVIEW . . . N Y
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y . . . ADV PG 642
Agastat Div, Amerace Esna Corp. Elizabeth . . . N J
Analog Technology Corp Pasadena . . . Cal
Applied Electronics Burlingame . . . Cal
Artisan Electronics Corp Parsippany . . . N J
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook . . . Conn
CGS Units Inc Rochester . . . N Y
Chronologics Inc Webster . . . N Y
Cimron Div Lear Siegler, Inc San Diego . . . Cal
Clare-Electroseal Corp Des Plaines . . . Ill
Design Automation Inc Lexington . . . Mass
Dranetz Engineering Labs Inc Plainfield . . . N J
Electronic Control Systems Inc Fairmont . . . W Va
E & L Instruments Inc Derby . . . Conn
Hafstrom Technical Products Inc San Diego . . . Cal
Hathaway Instrument Div Denver . . . Colo
Hewlett-Packard Palo Alto . . . Cal
Industrial Electronetics Corp Satellite Beach . . . Fla
Labtron Corp of Amer Div KDI Corp Dayton . . . Ohio
Lorch Electronics Corp Englewood . . . N J
Luft Instruments Inc Lincoln . . . Mass
Mac Panel Co Programming Prods Dept High Point . . . N C
Measurement Technology Corp Canoga Park . . . Cal
Molecular Research Inc Palm Beach Gardens . . . Fla
NH Research Inc Santa Ana . . . Cal
P P M Inc Cleveland . . . Ohio
Program Electronics Co New Hyde Park . . . N Y
Spectral Dynamics Corp of San Diego San Diego . . . Cal
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn . . . N Y
Tektronix Inc Beaverton . . . Ore
Tempo Instrument Inc Ind Div Plainview . . . N Y
Tempo Instrument Inc, Military Div Plainview . . . N Y

Towner Systems Co Alameda . . . Cal
Weston Lexington Weston Instruments Div Lexington . . . Mass

PROJECTION LAMPS

***See* Lamps**

PROPORTIONAL COUNTERS

***See* Counters—Nuclear-Particle**

PROPORTIONING CONTROLS

***See* Controls—Proportioning**

PROTECTORS—VOLTAGE & CURRENT SURGE

AMERICANA X-RAY CO ENGLEWOOD . . . N J
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON . . . CAL
DALE ELECTRONICS INC COLUMBUS . . . NEB
DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK . . . ADV PG 138
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO . . IND
DRESSEN-BARNES ELECTRONICS CORP PASADENA . . . CAL
EDAL INDUSTRIES INC EAST HAVEN . . . CONN
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . ADV PG 7
KEPCO INC FLUSHING N Y . . . ADV PGS 494A, 4th Cover
SIEMENS AMERICA INC NEW YORK . . . N Y
Aerospace Avionics Inc Bohemia . . . NY
Americana X-Ray Co Englewood . . . N J
A & M Instruments Inc Great Neck . . . N Y
ATR Electronics, Inc St Paul . . . Minn
Aviation Electric Ltd St Laurent, Montreal . . . Que
Beckman Instruments Inc, Helipot Div Fullerton . . . Cal
Beckwith Electric Co Inc Mt Prospect . . . Ill
Bellaire Electronics, Inc Red Bank . . . N J
Bomac Div Varian Associates Beverly . . . Mass
Bradley Semiconductor Corp New Haven . . . Conn
Carborundum Co Electrical & Elctns Br Niagara Falls . . . NY
Cardion Communications Woodbury . . . N Y
Controlotron Corp Farmingdale . . . N Y
Dale Electronics Inc Columbus . . . Neb
Dale Electronics Inc, Sioux Div Yankton . . . S Dak
Delco Radio Div General Motors Corp Kokomo . . . Ind
Dressen-Barnes Electronics Corp Pasadena . . . Cal
Dynamic Controls Corp South Windsor . . . Conn
Eastern Delta Corp Fair Lawn . . . N J
Edal Industries Inc East Haven . . . Conn
E G & G Inc, Electronic Prods Div Boston . . . Mass
Elasco-Eastern Inc Bloomfield . . . Conn
Electronic Research Associates Inc Cedar Grove . . . N J
Electrons Co Newark . . . N J
Electrospace Corp Westbury . . . NY
Ericsson Centrum Inc New York . . . N Y
General Electric Co, ECSO Schenectady . . . N Y
General Electric Co Magnetic Matls Bus Sect Edmore . . . Mich
General Semiconductor Industries Inc Tempe . . . Ariz
Giannini-Voltex-Radex-Irvine Whittier . . . Cal
Green Rectifier Corp Fair Lawn . . . N J
Guardian Electric Mfg Co of Cal Inc Culver City . . . Cal
Hartman Electrical Mfg Co Mansfield . . . Ohio
Hoagland Instrument Co Red Bank . . . N J
International Rectifier Semiconductor Div El Segundo . . . Cal
ITT Semiconductors West Palm Beach . . . Fla
Joslyn Electronic Systems Div Goleta . . . Cal
Kepco Inc Flushing . . . N Y
Kikusui Electronics Corp Kanagawa City . . . Kanagawa Pref Japan
Lark Electronics Inc New York . . . N Y
Litton Industries, Electron Tube Div San Carlos . . . Cal
MCG Electronics Inc Deer Park . . . N Y
Morganite Resistors Ltd Jarrow . . . England
Motorola Semiconductor Products Inc Phoenix . . . Ariz
Plessey Airborne Corp Hillside . . . NJ
Quality Components Inc St Marys . . . Pa
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . Mass
Reliable Electric Co Franklin Park . . . Ill
Research Associates Inc Linden . . . N J
RO Associates Inc Menlo Park . . . Cal
Ross Engineering Corp Saratoga . . . Cal
Semikron International Inc Scarsdale . . . N Y
Shindengen Electric Mfg Co Ltd Tokyo . . . Japan
Siemens America Inc New York . . . N Y
Sola Electric Div Sola Basic Industries Elk Grove Village . . . Ill
Space Age Microcircuits Chatham . . . N J
Staffall, Inc Providence . . . R I
Sunshine Scientific Instruments Inc Philadelphia . . . Pa
Superex Electronics Corp Yonkers . . . N Y
Sylvania Elec Prods Inc Special Prod Div Danvers . . . Mass
Thorn Automation Ltd Rugeley, Staffs . . . England
Trio Laboratories Inc Plainview . . . N Y
Wuerth Products Corp Hollywood . . . Fla
Yaskawa Electric Mfg Co Ltd Tokyo . . . Japan

PROXIMITY FUZES

***See* Fuzes—Electronic**

PUBLIC ADDRESS SYSTEMS

***See* Sound Systems**

PULSE AMPLIFIERS

***See* Amplifiers—R-F**

PULSE GENERATORS

***See* Generators—Signal**

PULSE HEIGHT ANALYZERS

***See* Analyzers—Pulse Height**

PULSE INTERVAL TIMERS

***See* Timers—Electronic**

PULSE-LIMITING AMPLIFIERS

***See* Amplifiers—R-F**

PULSE MODULATORS

***See* Modulators**

PULSE-TIME-MODULATION TRANSMITTERS

***See* Transmitters—Radio Communication**

PULSE-TO-ANALOG CONVERTERS

***See* Converters—Computer**

PULSE TRANSFORMERS

***See* Transformers—Special**

PUMPS—DIFFUSION

Adel Div De Laval Turbine Calif Inc Burbank . . .
Alcatel Paris 8eme . . . F
Andonian Associates, Inc Waltham . . .
Bendix Scientific Instr & Equip Div Rochester . . .
Buchler Instruments Inc Fort Lee . . .
Cathey Enterprises Mountain View . . .
Central Scientific Co Chicago . . .
CHA Industries, Div Carl Herrmann Assoc Menlo Park . . .
Cooke Vacuum Products Inc South Norwalk . . .
Denton Vacuum Inc Cherry Hill . . .
Edwards High Vacuum Inc Grand Island . . .
Edwards High Vacuum (Canada) Ltd Oakville . . .
Energy Beams Inc Haskell . . .
High Vacuum Equipment Corp Hingham . . .
High Voltage Engineering Corp Burlington . . .
Kinney Vacuum Co Boston . . .
Leybold-Heraeus, Inc. Monroeville . . .
Mullard Ltd London, WC 1 . . .
Nelson Vacuum Pump Co Berkeley . . .
Norton Co Vacuum Equip Div Newton . . .
T-M Vacuum Products Riverton . . .
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . En
Ulvac Corp Tokyo . . .
Vactronic Lab Equipment Inc East Northport . . .
Vacuum Industries Inc Sub GCA Corp Somerville . . .
Vacuum Instrument Corp Huntington Station . . .
Veeco Andar Sub Veeco Palo Alto . . .
Veeco Instruments Inc Plainview . . .

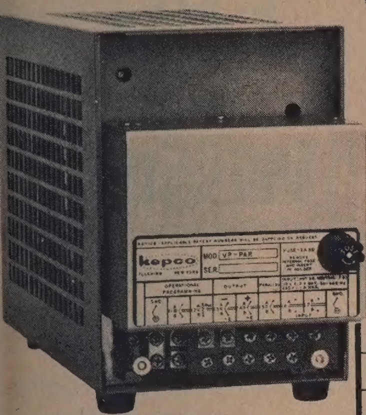
PUMPS—VACUUM

GRANVILLE-PHILIPS CO BOULDER COLO . . . ADV P
Adel Div De Laval Turbine Calif Inc Burbank . . .
Air Control Inc Norristown . . .
Aircraft Components Inc Benton Harbor . . .
Air-Vac Engineering Co Milford . . .
Alcatel Paris 8eme . . . F
Allis-Chalmers Mfg Co Milwaukee . . .
Andonian Associates, Inc Waltham . . .
Aviation Electric Ltd St Laurent, Montreal . . .
Bacharach Instrument Co Pittsburgh . . .
Beach-Russ Co New York . . .
Bendix Scientific Instr & Equip Div Rochester . . .
Central Scientific Co Chicago . . .
CHA Industries, Div Carl Herrmann Assoc Menlo Park . . .
Cole-Parmer Instrument Co Chicago . . .
Cooke Vacuum Products Inc South Norwalk . . .
Denton Vacuum Inc Cherry Hill . . .
Edwards High Vacuum Inc Grand Island . . .
Edwards High Vacuum (Canada) Ltd Oakville . . .
Energy Beams Inc Haskell . . .
Ferranti, Ltd Lancashire . . . En
500 Inc Waltham . . .
Gardner-Denver Co Quincy . . .
Gardner Lab Inc Bethesda . . .
Gelman Instrument Co Ann Arbor . . .
Globe Industries Div TRW Inc Dayton . . .
Granville-Philips Co Boulder . . .
Guide Industries Inc Sun Valley . . .
High Vacuum Equipment Corp Hingham . . .
High Voltage Engineering Corp Burlington . . .
Hoffman Air & Filtration Div Clarkson Ind Inc New York . . .
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside . . .
Hull Corp Hatboro . . .
Kahl Scientific Instrument Corp El Cajon . . .
Kinney Vacuum Co Boston . . .
Kontes Glass Co Vineland . . .
Kulicke & Soffa Industries Inc Fort Washington . . .
Lear Siegler Inc Santa Monica . . .
Lear Siegler Inc, Romec Div Elyria . . .

KEPCO OVERVOLTAGE CROWBARS

PRIMARY LISTING:
VP
VIP
CROSS REFERENCE
CPS See Page 457
JOE See Page 456

MODEL	VOLTS	AMPS	FOR USE WITH	DIMENSIONS H	W	D	PRICE	SHIP WGT. (LBS.)
VP–PAR	**3–80V**	**12A**	All PAR Models	4 13/16″	4½″	2¼″	**$75.00**	3
VP–PWR	**3–80V**	**15A**	All PWR Models	4 13/16″	4½″	2¼″ + Fuse	**75.00**	3
VP–PX	**3–110V**	**3A**	All PAX and PCX Models	2 19/32″	5 7/32″	3 1/16″	**80.00**	3
VP–KCA	**3–160V**	**25A**	All ABC Transistorized , CK and KS Models (except those listed below)	2⅜″	8⅛″	3 9/16″ + Terminals	**110.00**	3
VP–KS–1	**3–160V**	**30A**	KS 36-30M, 60-20M & 120-10M	4″	10¾″	3⅛″ + Terminals	**125.00**	6
VP–KS–2	**3–30V**	**100A**	KS 8-50M, 8-100M & 18-50M	4″	10¾″	3⅛″ + Terminals	**155.00**	6



Model VP-PAR with cased PAR Module

OPERATING LEVEL:
The trigger point may be set to within 5% or 0.25V (whichever is greater) of power supply setting.

TEMPERATURE COEFFICIENT:
0.1% or 0.1V (whichever is greater) per °C.

REMOTE ERROR SENSING:
Compensates up to 1 volt per output lead.

TRIGGERING TIME, (adjustable delay):
5 to 10 microseconds with an adjustable delay to minimize the false alarm rate.

Power Supplies may be ordered with the overvoltage protector factory-installed.
Installation charges 1-11: $25.00 ea.
12-23: $10.00 ea.
24 or more $3.00 ea.

KEPCO
OVER-VOLTAGE / OVER-CURRENT PROTECTORS

MODEL	DESCRIPTION	PRICE	SHIP. WGT. (LBS.)
VIP–1	Overvoltage/Overcurrent	**$132.00**	21
VIP–3	Over and Undervoltage/ Over and Undercurrent	**237.00**	21
VIP–4	200 ampere Overvoltage crowbar (5–50V)	**310.00**	21

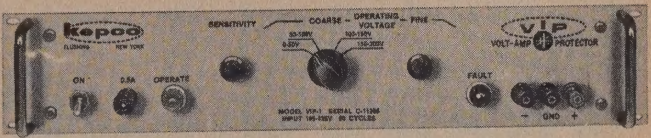
The VIP consists of a sensing circuit capable of detecting a voltage 1% or 0.1 volts different than any preset voltage limit in the range 5—200*volts. Should such an over or under-voltage occur, a fast-acting silicon controlled rectifier (SCR) "crowbar" short circuits the power supply's output within 50 microseconds. Simultaneously a power interlock relay is tripped which removes the primary a-c power within approximately 50 milliseconds. The SCR discharges the power supply's output filter capacitor and the voltage is reduced to zero.

Operation in the internal reference mode allows the operator to pre-set any voltage as a limit above or below which crowbar/turn-off action is precipitated. In its tracking mode, the VIP is interconnected with the voltage control circuit of the power supply with which it is used and will sense a voltage differential between the output of the supply and the programmed voltage.

Terminals are provided for the addition of a sensing resistor to convert VIP into an over-current or undercurrent protector depending on model. The current sensing resistor is chosen to drop 1 volt at the operating current. The sensitivity control then adjusts the firing threshold from 0 to the operating current, maximum 30 amperes.

*Model VIP-4 voltage range is 5-50V.

All terms used in the specifications are defined in the Kepco Glossary.



SPECIFICATIONS:

VOLTAGE
SENSITIVITY: Minimum threshold 1% of operating voltage or 0.1 volts whichever is greater (adjustable).
RANGE: 0–50V*, 50–100V, 100–150V, 150–200V.
*Minimum voltage required for proper operation is 5V.

CURRENT
SENSITIVITY: 5% of operating current producing a 1 volt drop across external sensing resistor.

RANGE: 0-30 amperes. Model VIP 4 has a 0-200 ampere crowbar range.

POWER INTERLOCK RELAY
CONTACT RATING: 10 amperes at 115V a-c.
Operation of the VIP is in two stages. The output crowbar is immediately followed by an a-c power interruption to the crowbarred power supply. High power supplies (such as might require a VIP 4) may require either an auxiliary contactor to turn them off, or, in the case of the large KS and KO models, a connection may be made to the trip coil of the power supply's circuit breaker to accomplish the turn-off action.

DIMENSIONS
3½″ high x 19″ wide x 8″ deep.
Standard EIA rack dimensions.

FINISH: Light gray, color 26440, per Fed. Std. 595

NOTE: When a VIP is to be used in its "Tracking Mode" be sure to specify (when ordering) whether it is to be used with a *plus* common or *minus* common power supply.

Data subject to change without notice
PATENT NOTICE: Applicable Patent Nos. will be supplied on request.

KEPCO, INC. • 131-38 SANFORD AVENUE • FLUSHING, N.Y. 11352
(212) 461-7000 • TWX #710-582-2631
Telex: 12-6055 • Cable: KEPCOPOWER NEWYORK

Our little black book has over 100,000 phone numbers.

You never had a black book like it. Over 1,500 pages. And those phone numbers! More than 100,000 telling you who to call/where to go, for the over 4,000 different product categories listed and advertised in the yellow pages of the Electronics Buyers' Guide. It's the industry's one-stop shopping center that lets you find the products and services you need quickly. You can depend on EBG.

Electronics Buyers' Guide

EBG What's in it for you?

1. Listing of more than 4,000 products.
2. 6,500 manufacturers with local outlets, addresses and phone numbers.
3. Complete and up-to-date Trade Name Directory
4. The most complete industry source of supply and product specs.

Electronics Buyers' Guide

an Bros Inc East Rutherford . . . . N J
old-Heraeus, Inc. Monroeville . . . . Pa
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on Co Vacuum Equip Div Newton . . . . Mass
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Point Corp Burbank . . . . Cal
on, Inc. Woodstock . . . . N Y
S Getters SpA Milano . . . . Italy
ni-Tool Inc Philadelphia . . . . Pa
nson-CSF 78 Versailles . . . . France
Div Perkin-Elmer Palo Alto . . . . Cal
c Corp Tokyo . . . . Japan
ronic Lab Equipment Inc East Northport . . . . N Y
U-Pic Rahway . . . . N J
ium Barrier Corp Woburn . . . . Mass
ium Industries Inc Sub GCA Corp Somerville . . . . Mass
ium Instrument Corp Huntington Station . . . . N Y
an Palo Alto . . . . Cal
o Andar Sub Veeco Palo Alto . . . . Cal
o Instruments Inc Plainview . . . . N Y
tinghouse Electric Corp, Tube Div Elmira . . . . NY

NCHED-CARD OR PUNCHED-TAPE ONTROLS

ee **Controls—Machine Tool**

NCHED-CARD-TO-TAPE CONVERTERS

ee **Converters—Computer**

NCHED CARD & TAPE READERS

ee **Readers**

NCHES—PAPER TAPE

ee **Perforators**

NCHING EQUIPMENT

ee **Machines—Printed-Circuit Production**

ROMETER—CALIBRATOR

ee **Calibrators**

ROMETERS

INSTRUMENTS CO CHESTERLAND . . . . OHIO
IERAL ELECTRIC CO, ECSO SCHENECTADY
Y . . . . ADV PG 7
-T INSTRUMENTS INC NEW HAVEN . . . . CONN
PON ELECTRIC CO LTD TOKYO . . . . JAPAN
or Aviation, Inc San Antonio . . . . Texas
or Instrument Co Div Ill Testing Labs Chicago Ill
M Instruments Inc Great Neck . . . . N Y
probe Instrument Div SOS Consolidated Inc. Lynbrook . N Y
stro Corp Fairfield . . . . N J
Instruments Co Chesterland . . . . Ohio
ins Technical, Inc Gainesville . . . . Fla
ation Electric Ltd St Laurent, Montreal . . . . Que
ley Meter Co Wickliffe . . . . Ohio
nes Engineering Co Def & Space Div Stamford . . . . . . Conn
ede Electrical Instrument Co, Inc Penacook . . . . N H
stol Div, American Chain & Cable Co Waterbury . . . . . Conn
ling Instrument Co Chatham . . . . N J
adian Research Institute Don Mills . . . . Ont
e-Parmer Instrument Co Chicago Ill
solidated Controls Corp El Segundo . . . . Cal
rmann Instruments Co Mountain View . . . . Cal
uglas Instrument Lab Boston . . . . Mass
son, Thomas A Industries, Instr Div West Orange . . . . . N J
stronics Labs Tarzana . . . . Cal
ctronic Control Systems Inc Fairmont . . . . W Va
ctronic Development Labs Inc Plainview . . . . N Y
-Cer Inc South Holland Ill
c Inc New York . . . . N Y
dner Lab Inc Bethesda . . . . Md
eral Electric Co, ECSO Schenectady . . . . N Y
don Co Claud S Richmond Ill
enberg Electric Co Inc Garden City . . . . N Y
ton Industries Inc Metuchen . . . . N J
fstrom Technical Products Inc San Diego . . . . Cal
stings Plastics Inc Santa Monica . . . . Cal
mann GMBH 62 Wiesbaden-Dotzheim . . . . Germany
m Instrument Co Inc Toledo . . . . Ohio
h Temperature Instruments Corp Philadelphia . . . . Pa
Inc E Vernon San Francisco . . . . Cal
neywell Industrial Div Fort Washington . . . . Pa
well Instruments Co Fort Worth . . . . Tex
ppert Co, K H South Holland Ill
rared Industries Inc Santa Barbara . . . . Cal
trument Development Labs Div Kollmorgen Corp
Attleboro . . . . Mass
on Inc Niles Ill
ronics Inc Stamford . . . . Conn
B-T Instruments Inc New Haven . . . . Conn
ye & Co Inc, Joseph Cambridge . . . . Mass
eds & Northrup Co North Wales . . . . Pa
wis Engineering Co Naugatuck . . . . Conn
astercraft Instrument Co Dubuque . . . . Iowa
lletron, Inc Pittsburgh . . . . Pa
nco Products Inc Minneapolis . . . . Minn
ppon Electric Co Ltd Tokyo . . . . Japan
rbatrol Electronics Corp Murrysville . . . . Pa
itron Corp Industrial Syst Div Cheshire . . . . Conn
cific Transducer Corp Los Angeles . . . . Cal
oenix Materials Corp Forbes Road . . . . Pa

Plessey Airborne Corp Hillside . . . . NJ
Pyrometer Instrument Co Inc Northvale . . . . N J
Pyro-Serv Instruments, Inc North Arlington . . . . N J
Pyrotel Corp C/O Milletron Inc Pittsburgh . . . . PA
Raytek Inc Mountain View . . . . Cal
Sigma Instruments Inc Braintree . . . . Mass
Simpson Electric Co Chicago Ill
Sticht Co Inc, Herman H New York . . . . N Y
Sunshine Scientific Instruments Inc Philadelphia . . . . Pa
Thermo Electric Co Inc Saddle Brook . . . . N J
Van-Air Inc Erie . . . . Pa
Velotron Inc Brooklyn . . . . N Y
West Instrument Div Gulton Ind Inc Schiller Park Ill
Williamson Development Co Inc West Concord . . . . Mass

Q METERS

See **Meters—Q**

QUARTZ CRYSTAL HOLDERS

See **Holders**

QUARTZ CRYSTALS

See **Crystal Units; Crystal Blanks; Crystals—Piezoelectric**

QUARTZ, FUSED—FINISHED PARTS

Andersen Laboratories, Inc Bloomfield . . . . Conn
Applied Magnetics Corp Drum & Disc Head Div Goleta . . . . Cal
Basic Ceramics Inc Sub Basic Inc Hawthorne . . . . NJ
Bausch & Lomb Inc Rochester . . . . N Y
Blackburn Inc, P W Dobbs Ferry . . . . N Y
Black Light Corp of America San Gabriel . . . . Cal
Bram Metallurgical Chemical Co Philadelphia . . . . Pa
Buhl Optical Co Pittsburgh . . . . Pa
Carler Products Corp E Syracuse . . . . N Y
Corning Glass Works Corning . . . . N Y
Crystalab Products Corp Rochelle Park . . . . N J
Davidson Optronics Inc West Covina . . . . Cal
Dynasil Corp of America Berlin . . . . N J
Eimac Div, Varian Associates San Carlos . . . . Cal
Electro Technic Products Chicago Ill
Gaertner Scientific Corp Chicago Ill
Garner Glass Co Claremont . . . . Cal
General Electric Co, Lamp Glass Dept Willoughby . . . . Ohio
General Electrodynamics Corp Garland . . . . Tex
General Optics Inc Bloomfield . . . . N J
Industrial Optics Div Yardney Razdow Labs Newark . . . . . . N J
Insaco Inc Quakertown . . . . Pa
International Laser Systems Inc Orlando . . . . Fla
Isomet Corp Palisades Park . . . . N J
Jones Optical Works Inc A D Burlington . . . . Mass
Kontes Glass Co Vineland . . . . N J
Laser Optics Inc Danbury . . . . Conn
Leitz Canada Ltd, Ernst Midland . . . . Ont
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge . . . Pa
Mackay Inc, A D New York . . . . N Y
Meller Co, Adolf Providence . . . . R I
Mindrum Precision Products Cucamonga . . . . Cal
Nye Optical Co Spring Valley . . . . Cal
Optical Products A Teledyne Co Monrovia . . . . Cal
Optics Electronics Corp Dallas . . . . Tex
O & S Research Inc Riverton . . . . N J
Pan American Trade Development Corp New York . . . . N Y
Perkin-Elmer Corp Laser Dept Wilton . . . . Conn
Quartzite Processing, Inc Malden . . . . Mass
Quartz & Silice Paris 8 eme . . . . France
Ransom Labs, John H Los Angeles . . . . Cal
Razdow Labs Inc Newark . . . . N J
Republic Lens Co Inc Bronx . . . . N Y
Schoeffel Instrument Corp Westwood . . . . NJ
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Semi-Elements Inc Saxonburg . . . . Pa
Spectrum Systems, Inc Waltham . . . . Mass
Syncor Products Co, Inc Malden . . . . Mass
Thermal American Fused Quartz Co Montville . . . . N J
Ultra-Violet Products Inc San Gabriel . . . . Cal
Wilmad Glass Co Inc Buena . . . . N J

QUARTZ, FUSED—RAW MATERIAL

Bram Metallurgical Chemical Co Philadelphia . . . . Pa
Corning Glass Works Corning . . . . N Y
Dynasil Corp of America Berlin . . . . N J
General Electric Co, Lamp Glass Dept Willoughby . . . . Ohio
Mackay Inc, A D New York . . . . N Y
Pan American Trade Development Corp New York . . . . N Y
Quartz & Silice Paris 8 eme . . . . France
Semi-Elements Inc Saxonburg . . . . Pa
Syncor Products Co, Inc Malden . . . . Mass
Thermal American Fused Quartz Co Montville . . . . N J

QUARTZ, NATURAL—FINISHED PARTS (EXCEPT CRYSTAL UNITS)

HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE . . . PA
Basic Ceramics Inc Sub Basic Inc Hawthorne . . . . NJ
Bausch & Lomb Inc Rochester . . . . N Y
Betron-IRE-SpA Livorno . . . . Italy
General Electric Co, Lamp Glass Dept Willoughby . . . . Ohio
General Electrodynamics Corp Garland . . . . Tex
General Optics Inc Bloomfield . . . . N J
Hoffman Co PR Div Aiken Industries Carlisle . . . . Pa
Industrial Optics Div Yardney Razdow Labs Newark . . . . . . N J
International Laser Systems Inc Orlando . . . . Fla
Isomet Corp Palisades Park . . . . N J

Jones Optical Works Inc A D Burlington . . . . Mass
Laser Optics Inc Danbury . . . . Conn
Meller Co, Adolf Providence . . . . R I
Optical Products A Teledyne Co Monrovia . . . . Cal
Pan American Trade Development Corp New York . . . . N Y
Razdow Labs Inc Newark . . . . N J
Semiconductor Specialties Corp Fair Lawn . . . . NJ
Semi-Elements Inc Saxonburg . . . . Pa
Spectrum Systems, Inc Waltham . . . . Mass
Thermal American Fused Quartz Co Montville . . . . N J
Toyo Communication Equipment Co Ltd
  Minato-ku Tokyo . . . . Japan
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . N J

QUARTZ—RAW

HOFFMAN CO PR DIV AIKEN INDUSTRIES CARLISLE
PA . . . . ADV PG 495
Betron-IRE-SpA Livorno . . . . Italy
Dynasil Corp of America Berlin . . . . N J
Hoffman Co PR Div Aiken Industries Carlisle . . . . Pa
Mackay Inc, A D New York . . . . N Y
Pan American Trade Development Corp New York . . . . N Y
Sawyer Research Products Inc Eastlake . . . . Ohio
Semi-Elements Inc Saxonburg . . . . Pa
Syncor Products Co, Inc Malden . . . . Mass
Thermal American Fused Quartz Co Montville . . . . N J
Toyo Communication Equipment Co Ltd
  Minato-ku Tokyo . . . . Japan

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See **Couplings—Quick Disconnect**

RACK PANELS

See **Panels**

RACKS—AGING, VACUUM TUBE & TRANSISTOR

BARNES CORP LANSDOWNE . . . . PA
CGS UNITS INC ROCHESTER . . . . N Y
OPAD ELECTRIC CO, INC NEW YORK . . . . N Y
Amco Engineering Co Chicago Ill
Anchor Specialty Mfg Co Inc Teterboro . . . . N J
Barnes Corp Lansdowne . . . . Pa
Calcor Space Facility Inc Whittier . . . . Cal
Canadian Research Institute Don Mills . . . . Ont
CBC Industries Inc Philadelphia . . . . Pa
CGS Units Inc Rochester . . . . N Y
Eugene Engineering Co Inc Rockland . . . . Mass
Kahle Engineering Co Union City . . . . N J

Micro Instrument Co Hawthorne ....Cal
Opad Electric Co, Inc New York ....N Y
Radiatronics Div Tasker Industries Newport Beach ....Cal
RIL Electronics Inc Southampton ....Pa
System Enclosures Inc, Div Anetsberger Bros Inc Northbrook Ill
Trott Electronics Inc Rochester ....N Y

RACKS—MOUNTING & RELAY

BORG-WARNER CORP, INGERSOLL PRODUCTS DIV (EMCOR) CHICAGO ILL
FORMICA METAL PRODUCTS CO INC MEDFORD ....MASS
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK ..NY
SCIENTIFIC-ATLANTA INC ATLANTA GA ....ADV PG 69
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ....N Y
VENT-RAK INC INDIANAPOLIS IND ....ADV PG 68
Abalon Precision Mfg Corp Bronx ....N Y
Abtronics, Inc Livermore ....Cal
Acro Products Corp Chicago Ill
Amco Engineering Co Chicago Ill
Anchor Specialty Mfg Co Inc Teterboro ....N J
A V Electronics, Inc Fresno ....Cal
Baltic Metal Products Co Brooklyn ....N Y
Barnes Engineering Co Santa Ana ....Cal
Barry Controls Div Barry Wright Corp Watertown ....Mass
Binary Electronics of Cal Div Avionic Structures Inc Anaheim ....Cal
Borg-Warner Corp, Ingersoll Products Div (EMCOR) Chicago Ill
Boston Precision Parts Co Inc Hyde Park ....Mass
Calcor Space Facility Inc Whittier ....Cal
California Chassis Co Lynwood ....Cal
California Systems Components, Inc Chatsworth ....Cal
Canoga Industries Los Angeles ....Cal
C & N Electrical Ltd Gosport ....Hampshire Eng
Computer Metal Reg'd Montreal 376 ....Que
Conforming Matrix Corp Toledo ....Ohio
Control Products Corp Chicago Ill
Craig Systems Corp Lawrence ....Mass
Dahlstrom Mfg Corp Jamestown ....N Y
Dynalectron Corp Aerospace Prods Div San Leandro ....Cal
Electronic Enclosures Div Wyle Labs Pennsauken ....N J
Electrorack Products Co Anaheim ....Cal
Elzee Metal Products Co Inc Brooklyn ....N Y
Enclosure Corp Pennsauken ....N J
Equipment & Service Co Dallas ....Tex
Equipto Enclosure Systems Div Equipto Elctns Corp Aurora . Ill
Eugene Engineering Co Inc Rockland ....Mass
Falstrom Co Passaic ....N J
Formica Metal Products Co Inc Medford ....Mass
Golding Mfg Co North Arlington ....N J
Hammond Mfg Co Ltd Guelph ....Ont
Holbrook Merrill Co Sunnyvale ....Cal
Honeywell Inc Apparatus Controls Div Minneapolis ....Minn
IBM, Industrial Products Marketing New York ....NY
ITT Europe Inc Components Gp Brussels 1 ....Belgium
Kikusui Electronics Corp Kanagawa City ....Kanagawa Pref Japan
Kirk & Blum Mfg Co Cincinnati ....Ohio
K L A Labs Inc Detroit ....Mich
Machinery Electrification Inc Northboro ....Mass
Marquardt Industrial Products Co Chicago Ill
Metal Works Inc Hermann ....Mo
Mid-West Metal Products Inc Kansas City ....Kans
Mobil Electronics Inc Anderson ....Ind
North Electric Co Galion ....Ohio
Par-Metal Products Div EON Corp Long Island City ....N Y
Pneumafil Corp Charlotte ....N C
Premier Metal Products Co Bronx ....N Y
Private Tele Communications Inc Chicago Ill
Radiatronics Div Tasker Industries Newport Beach ....Cal
Radio Corp of America, Comml Elctn Prods Div Camden ..N J
REF Dynamics Div UOP Mineola ....N Y
Riester & Thesmacher Co Cleveland ....Ohio
Rosemount Plug-In Inc Nashville ....Tenn
Rotary Co, Inc Buffalo ....N Y
Rundel Electric Co Sub Magnetics Inc Millbrae ....Cal
Schrack Electrical Sales Corp New York ....N Y
Scientific-Atlanta Inc Atlanta ....Ga
Siltronics Inc Oakmont ....Pa
Stafford Mfg Co Inc Brooklyn ....N Y
Stantron Div Wyco Metal Products North Hollywood ....Cal
System Enclosures Inc, Div Anetsberger Bros Inc Northbrook Ill
Taffet Electronics Inc Woodside ....N Y
Tele-Signal Corp Sub Singer Co Woodbury ....N Y
Trott Electronics Inc Rochester ....N Y
Utility Communication Systems Inc West Chester ....Pa
Vent-Rak Inc Indianapolis ....Ind
Vero Electronics, Inc Farmingdale ....N Y
Virginia Panel Corp Waynesboro ....Va
Wyco Metal Products North Hollywood ....Cal
York Metal Products Inc Long Island City ....N Y
Zero Mfg Co Burbank ....Cal

RACKS—PRINTED CIRCUIT BOARDS

CALABRO PLASTICS INC UPPER DARBY PA ...ADV PG 496
ELCO CORP WILLOW GROVE ....PA
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK ..NY
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ....U K
Atlee Corp Winchester ....Mass
A V Electronics, Inc Fresno ....Cal
Birtcher Corp, Industrial Div Monterey Park ....Cal
Calabro Plastics Inc Upper Darby ....Pa
Canoga Industries Los Angeles ....Cal
Computer Metal Reg'd Montreal 376 ....Que
Douglas Electronics Inc San Leandro ....Cal
Elco Corp Willow Grove ....Pa
IBM, Industrial Products Marketing New York ....NY
Incor Inc Plainview ....N Y
Industrial Circuits Co Fairfield ....N J
Information Control Corp El Segundo ....Cal
ITT Europe Inc Components Gp Brussels 1 ....Belgium
Lake Engineering Co Ltd Scarborough ....Ont

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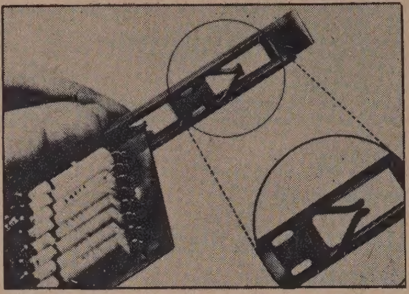

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Mid-West Metal Products Inc Kansas City ....Kans
Monitor Systems Inc an Aydin Co Fort Washington ....Pa
Premier Metal Products Co Bronx ....N Y
Radiatronics Div Tasker Industries Newport Beach ....Cal
Ramyr Mfg Co Buena Park ....Cal
Rosemount Plug-In Inc Nashville ....Tenn
Scanbe Mfg Corp El Monte ....Cal
Scientific Data Systems Inc El Segundo ....Cal
Vero Electronics Ltd Southampton ....England
Warmus Associates Anaheim ....Cal

RADAR—AIRBORNE FIRE CONTROL

Admiral Systems Corp Chicago Ill
Applied Devices Corp College Point ....n y
Autonetics Div North American Rockwell Corp Anaheim ...Cal
Bendix Corp Electrodynamics Div North Hollywood ....Cal
Cardion Electronics Div Gen Signal Corp Woodbury ....N Y
Data-Design Labs Cucamonga ....Cal
Dero Research & Devel Corp Huntington ....N Y
Ferranti, Ltd Lancashire ....England
General Instrument Corp Electronics Sys Div. Hicksville ...N Y
Goodyear Aerospace Corp Akron ....Ohio
Ikor, Inc Burlington ....Mass
Kearfott Div Singer-General Precision Inc Little Falls ....NJ
Labtron Corp of Amer Div KDI Corp Dayton ....Ohio
Lockheed Electronics Co Plainfield ....N J
Micronetics Div Teledyne Systems Co San Diego ....Cal
Norden Div, United Aircraft Corp Norwalk ....Conn
Radiation Systems Inc McLean ....Va
Radiatronics Div Tasker Industries Newport Beach ....Cal
Raytheon Co, Government Marketing Lexington ....Mass
RCA, Defense Electronic Products Moorestown ....N J
Reeves Instrument Div, DCA Garden City ....N Y
Sedco Systems Inc Farmingdale ....N Y
Selenia - Industrie Elettroniche Assoc Rome ....Italy
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....N Y
Sylvania Electronic Systems Waltham ....Mass
Texas Instruments Incorporated Dallas ....Tex
Thomson-CSF 78 Versailles ....France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ....N Y
Westinghouse Electric Corp, Aerospace Div Baltimore ....Md

RADAR—AIRBORNE SEARCH

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON ....MASS
NIPPON ELECTRIC CO LTD TOKYO ....JAPAN
Applied Devices Corp College Point ....n y
Autonetics Div North American Rockwell Corp Anaheim ...Cal
Bendix Corp Electrodynamics Div North Hollywood ....Cal
Canoga Industries Los Angeles ....Cal
Cardion Electronics Div Gen Signal Corp Woodbury ....N Y
Control Data Corp. Boston Sp & Def Sys Div East Boston ....
Data-Design Labs Cucamonga ....
Dero Research & Devel Corp Huntington ....
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown
Ferranti, Ltd Lancashire ....Eng
Geo Space Systems Inc St Petersburg ....
Goodyear Aerospace Corp Akron ....
Ikor, Inc Burlington ....
Labtron Corp of Amer Div KDI Corp Dayton ....
Loral Electronic Systems, Div Loral Corp New York ....
Micronetics Div Teledyne Systems Co San Diego ....
Nippon Electric Co Ltd Tokyo ....J
Norden Div, United Aircraft Corp Norwalk ....
Philco-Ford Corp Washington ....
Radiation Systems Inc McLean ....
Radiatronics Div Tasker Industries Newport Beach ....
Raytheon Co, Government Marketing Lexington ....
RCA, Defense Electronic Products Moorestown ....
Reeves Instrument Div, DCA Garden City ....
Sanders Assoc Inc Bedford Div Bedford ....
Sanders Assoc Inc, Electro Sciences Div Buffalo ....
Sanders Assoc Inc, Intl Ground Sys Div Reston ....
Sedco Systems Inc Farmingdale ....
Sierra Research Corp Buffalo ....
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....
Standard Telephones & Cables Ltd London WC 2 ....En
Sylvania Electronic Systems Waltham ....
Texas Instruments Incorporated Dallas ....
Thomson-CSF 78 Versailles ....Fr
TRW Systems Group Redondo Beach ....
Westinghouse Electric Corp, Aerospace Div Baltimore ...

RADAR—AIRBORNE WEATHER

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON ....
NIPPON ELECTRIC CO LTD TOKYO ....JA
Allen Aircraft Radio Inc Elk Grove Village ....
Applied Devices Corp College Point ....
Autonetics Div North American Rockwell Corp Anaheim ..
Bendix Corp Avionics Div Fort Lauderdale ....
Canoga Industries Los Angeles ....
Cardion Electronics Div Gen Signal Corp Woodbury ....
Control Data Corp. Boston Sp & Def Sys Div East Boston ....
Dero Research & Devel Corp Huntington ....
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown
Ferranti, Ltd Lancashire ....En
General Instrument Corp Electronics Sys Div. Hicksville ..
Geo Space Systems Inc St Petersburg ....
Labtron Corp of Amer Div KDI Corp Dayton ....
Micronetics Div Teledyne Systems Co San Diego ....
Nippon Electric Co Ltd Tokyo ....J
Norden Div, United Aircraft Corp Norwalk ....
Radiation Systems Inc McLean ....
Radiatronics Div Tasker Industries Newport Beach ....
Raytheon Co, Government Marketing Lexington ....
Sedco Systems Inc Farmingdale ....
Sierra Research Corp Buffalo ....
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....
Thomson-CSF 78 Versailles ....F
TRW Systems Group Redondo Beach ....

RADAR—BEACONS (AIR, GROUND O SHIP)

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON ....
VEGA PRECISION LABS VIENNA ....
Admiral Systems Corp Chicago ....
Bell Aerosystems Co Buffalo ....
Bendix Corp Electrodynamics Div North Hollywood ....
Canoga Industries Los Angeles ....
Cardion Electronics Div Gen Signal Corp Woodbury ....
Control Data Corp. Boston Sp & Def Sys Div East Boston ....
Control Data Corp Melville Space & Def Sys Div Melville .
Control Science Corp Alexandria ....
Cosmos Industries Inc Brooklyn ....
Decitron Electronics Corp Brooklyn ....
EMI Electronics Canada Ltd Dartmouth ....N
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown
General Instrument Corp Electronics Sys Div. Hicksville ..
Geo Space Systems Inc St Petersburg ....
Ikor, Inc Burlington ....
Labtron Corp of Amer Div KDI Corp Dayton ....
Loral Electronic Systems, Div Loral Corp New York ....
Micronetics Div Teledyne Systems Co San Diego ....
Moran Instrument Corp Pasadena ....
Motorola, Govt Electronics Div Scottsdale ....
Philco-Ford Corp Washington ....
Pioneer Instrument Inc Hanover ....
Radiation Systems Inc McLean ....
Radiatronics Div Tasker Industries Newport Beach ....
Raytheon Co, Government Marketing Lexington ....
RCA, Defense Electronic Products Moorestown ....
Reeves Instrument Div, DCA Garden City ....
Regency Electronics Inc Indianapolis ....
Resdel Engineering Corp Pasadena ....
Rodale Electronics Inc Garden City ....
Scope Inc Reston ....
Sedco Systems Inc Farmingdale ....
Sierra Research Corp Buffalo ....
Space Craft Inc Huntsville ....
Sperry Gyroscope Div Sperry Rand Corp Great Neck ...
Standard Telephones & Cables Ltd London WC 2 ....E
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck ....
Sylvania Electronic Systems Waltham ....
Tasker Industries Los Angeles ....
Tasker Industries, Radar Div Van Nuys ....
Texas Instruments Incorporated Dallas ....
Thomson-CSF 78 Versailles ....
TRW Systems Group Redondo Beach ....

ed Telecontrol Electronics Inc Asbury Park	N J
a Precision Labs Vienna	Va
ox Electric Co Kansas City	Mo

DAR—GCA (PRECISION AIRCRAFT PPROACH CONTROL)

PON ELECTRIC CO LTD TOKYO	**JAPAN**
Aerosystems Co Buffalo	N Y
dion Electronics Div Gen Signal Corp Woodbury	N Y
mos Industries Inc Brooklyn	N Y
a-Design Labs Cucamonga	Cal
eral Instrument Corp Electronics Sys Div. Hicksville	N Y
, Inc Burlington	Mass
Gilfillan Inc Van Nuys	Cal
rfott Div Singer-General Precision Inc Little Falls	NJ
Electronics Waltham	Mass
ronetics Div Teledyne Systems Co San Diego	Cal
pon Electric Co Ltd Tokyo	Japan
sey Co Ltd Ilford Essex	England
iation Systems Inc McLean	Va
iatronics Div Tasker Industries Newport Beach	Cal
, Defense Electronic Products Moorestown	N J
ves Instrument Div, DCA Garden City	N Y
co Systems Inc Farmingdale	N Y
ra Research Corp Buffalo	N Y
rry Gyroscope Div Sperry Rand Corp Great Neck	N Y
ndard Telephones & Cables Ltd London WC 2	England
ker Industries, Radar Div Van Nuys	Cal
funken Sales Corp Garden City	N Y
as Instruments Incorporated Dallas	Tex
mson-CSF 78 Versailles	France

DAR—GROUND ARTILLERY CONTROL

iral Systems Corp Chicago	Ill
lied Devices Corp College Point	n y
ysler Corp, Missile Div Detroit	Mich
a-Design Labs Cucamonga	Cal
, Inc Burlington	Mass
Gilfillan Inc Van Nuys	Cal
coni Co Ltd Chelmsford	England
ronetics Div Teledyne Systems Co San Diego	Cal
iation Systems Inc McLean	Va
iatronics Div Tasker Industries Newport Beach	Cal
, Defense Electronic Products Moorestown	N J
co Systems Inc Farmingdale	N Y
nia - Industrie Elettroniche Assoc Rome	Italy
rry Gyroscope Div Sperry Rand Corp Great Neck	N Y
ania Electronic Systems Waltham	Mass
ker Industries, Radar Div Van Nuys	Cal
mson-CSF 78 Versailles	France
V Systems Group Redondo Beach	Cal

DAR—GROUND HEIGHT FINDER

lied Devices Corp College Point	n y
o Electronics Div Cincinnati	Ohio
dion Electronics Div Gen Signal Corp Woodbury	N Y
itron Electronics Corp Brooklyn	N Y
Space Systems Inc St Petersburg	Fla
dyear Aerospace Corp Akron	Ohio
, Inc Burlington	Mass
Decca Marine Inc New York	NY
Gilfillan Inc Van Nuys	Cal
rconi Co Ltd Chelmsford	England
rconi Div, English Electric Corp New York	N Y
ronetics Div Teledyne Systems Co San Diego	Cal
ssey Co Ltd Ilford Essex	England
liation Systems Inc McLean	Va
iatronics Div Tasker Industries Newport Beach	Cal
A, Defense Electronic Products Moorestown	N J
lco Systems Inc Farmingdale	N Y
enia - Industrie Elettroniche Assoc Rome	Italy
ar Aerospace Products Ltd Toronto	Ont
rry Gyroscope Div Sperry Rand Corp Great Neck	N Y
vania Electronic Systems Waltham	Mass
ker Industries, Radar Div Van Nuys	Cal
mson-CSF 78 Versailles	France
V Systems Group Redondo Beach	Cal

DAR—GROUND MISSILE CONTROL

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o Electronics Div Cincinnati	Ohio
noga Industries Los Angeles	Cal
ysler Corp, Missile Div Detroit	Mich
ntinental Electronics Mfg Co Sub LTV Electrosystems Inc allas	Tex
a-Design Labs Cucamonga	Cal
ergy Systems Inc Palo Alto	Cal
sco Inc Westwood	Mass
ranti, Ltd Lancashire	England
odyear Aerospace Corp Akron	Ohio
Gilfillan Inc Van Nuys	Cal
diation Systems Inc McLean	Va
diatronics Div Tasker Industries Newport Beach	Cal
ytheon Co, Government Marketing Lexington	Mass
A, Defense Electronic Products Moorestown	N J
eves Instrument Div, DCA Garden City	N Y
del Engineering Corp Pasadena	Cal
nders Assoc Inc Bedford Div Bedford	Mass
dco Systems Inc Farmingdale	N Y
enia - Industrie Elettroniche Assoc Rome	Italy
erry Gyroscope Div Sperry Rand Corp Great Neck	N Y
vania Electronic Systems Waltham	Mass
ker Industries, Radar Div Van Nuys	Cal
omson-CSF 78 Versailles	France
W Systems Group Redondo Beach	Cal
stinghouse Electric Corp, Aerospace Div Baltimore	Md

RADAR—GROUND MORTAR CONTROL

Chrysler Corp, Missile Div Detroit	Mich
Cosmos Industries Inc Brooklyn	N Y
Data-Design Labs Cucamonga	Cal
ITT Gilfillan Inc Van Nuys	Cal
Micronetics Div Teledyne Systems Co San Diego	Cal
Radiation Systems Inc McLean	Va
Radiatronics Div Tasker Industries Newport Beach	Cal
RCA, Defense Electronic Products Moorestown	N J
Sanders Assoc Inc Bedford Div Bedford	Mass
Sedco Systems Inc Farmingdale	N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
Sylvania Electronic Systems Waltham	Mass
Tasker Industries, Radar Div Van Nuys	Cal
TRW Systems Group Redondo Beach	Cal

RADAR—GROUND SEARCH

Admiral Systems Corp Chicago	Ill
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
Allied Research Assoc Inc Eng Sys Div Concord	Mass
Atmospherics Inc Fresno	Cal
Avco Electronics Div Cincinnati	Ohio
Bendix Corp, Communications Div Towson	Md
Canadian Marconi Co Montreal 16	Quebec
Canoga Industries Los Angeles	Cal
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
Continental Electronics Mfg Co Sub LTV Electrosystems Inc Dallas	Tex
Cosmos Industries Inc Brooklyn	N Y
Data-Design Labs Cucamonga	Cal
Decitron Electronics Corp Brooklyn	N Y
Energy Systems Inc Palo Alto	Cal
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp Paramus	N J
General Instrument Corp Electronics Sys Div. Hicksville	N Y
Geo Space Systems Inc St Petersburg	Fla
Goodyear Aerospace Corp Akron	Ohio
ITT Gilfillan Inc Van Nuys	Cal
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Micronetics Div Teledyne Systems Co San Diego	Cal
Oki Electronics of America, Inc Fort Lauderdale	Fla
Radiatronics Div Tasker Industries Newport Beach	Cal
Raytheon Co, Government Marketing Lexington	Mass
RCA, Defense Electronic Products Moorestown	N J
Reeves Instrument Div, DCA Garden City	N Y
Sanders Assoc Inc Bedford Div Bedford	Mass
Sedco Systems Inc Farmingdale	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
Sylvania Electronic Systems Waltham	Mass
Tasker Industries, Radar Div Van Nuys	Cal
Telefunken Sales Corp Garden City	N Y
Texas Instruments Incorporated Dallas	Tex
Thomson-CSF 78 Versailles	France
TRW Systems Group Redondo Beach	Cal

RADAR—GROUND WEATHER

Allen Aircraft Radio Inc Elk Grove Village	Ill
Atmospherics Inc Fresno	Cal
Bendix Corp, Communications Div Towson	Md
Canoga Industries Los Angeles	Cal
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
Control Data Corp Melville Space & Def Sys Div Melville	N Y
Energy Systems Inc Palo Alto	Cal
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Geo Space Systems Inc St Petersburg	Fla
Lear Siegler Inc Santa Monica	Cal
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Mitsubishi Electric Corp Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Plessey Co Ltd Ilford Essex	England
Radiatronics Div Tasker Industries Newport Beach	Cal
Raytheon Co, Government Marketing Lexington	Mass
RCA, Defense Electronic Products Moorestown	N J
Sedco Systems Inc Farmingdale	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Sierra Research Corp Buffalo	N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
Tasker Industries Los Angeles	Cal
TRW Systems Group Redondo Beach	Cal

RADAR—SHIP FIRE CONTROL

Applied Devices Corp College Point	n y
Data-Design Labs Cucamonga	Cal
Dero Research & Devel Corp Huntington	N Y
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Geo Space Systems Inc St Petersburg	Fla
Goodyear Aerospace Corp Akron	Ohio
ITT Gilfillan Inc Van Nuys	Cal
Lockheed Electronics Co Plainfield	N J
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Plessey Co Ltd Ilford Essex	England
Radiation Systems Inc McLean	Va
Radiatronics Div Tasker Industries Newport Beach	Cal
Raytheon Co, Government Marketing Lexington	Mass
RCA, Defense Electronic Products Moorestown	N J
Reeves Instrument Div, DCA Garden City	N Y
Sedco Systems Inc Farmingdale	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
Sylvania Electronic Systems Waltham	Mass
Tasker Industries, Radar Div Van Nuys	Cal
Thomson-CSF 78 Versailles	France

RADAR—SHIP NAVIGATION & SEARCH

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Applied Devices Corp College Point	n y
Canadian Marconi Co Montreal 16	Quebec
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
CEC-Benmar Santa Ana	Cal
Cosmos Industries Inc Brooklyn	N Y
Decitron Electronics Corp Brooklyn	N Y
Dero Research & Devel Corp Huntington	N Y
Energy Systems Inc Palo Alto	Cal
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp Paramus	N J
Fujitsu Ltd Tokyo	Japan
Geo Space Systems Inc St Petersburg	Fla
Goodyear Aerospace Corp Akron	Ohio
ITT Decca Marine Inc New York	NY
ITT Gilfillan Inc Van Nuys	Cal
Kaar Electronics Corp Rahway	N J
Konigsberg Electronics Inc So San Francisco	Cal
Lockheed Electronics Co Plainfield	N J
Loral Electronic Systems, Div Loral Corp New York	NY
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Micronetics Div Teledyne Systems Co San Diego	Cal
Moran Instrument Corp Pasadena	Cal
Nippon Electric Co Ltd Tokyo	Japan
Oki Electric Industry Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Plessey Co Ltd Ilford Essex	England
Radiation Systems Inc McLean	Va
Radiatronics Div Tasker Industries Newport Beach	Cal
Radiomarine Corp Red Bank	N J
Raytheon Co, Government Marketing Lexington	Mass
RCA, Defense Electronic Products Moorestown	N J
Reeves Instrument Div, DCA Garden City	N Y
Sanders Assoc Inc Bedford Div Bedford	Mass
Sedco Systems Inc Farmingdale	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Sierra Research Corp Buffalo	N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
States Electronics Corp, Bludworth Marine Div Linden	N J
Sylvania Electronic Systems Waltham	Mass
Thomson-CSF 78 Versailles	France
Zenith Radio Co Govt & Special Prod Div Chicago	Ill

RADAR—SPEED & DRIFT COMPUTING (DOPPLER NAVIGATION)

Allen Aircraft Radio Inc Elk Grove Village	Ill
Applied Devices Corp College Point	n y
Autonetics Div North American Rockwell Corp Anaheim	Cal
Canadian Marconi Co Montreal 16	Quebec
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
Decatur Electronics Inc Decatur	Ill
Goodyear Aerospace Corp Akron	Ohio
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
LFE Electronics Waltham	Mass
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Micronetics Div Teledyne Systems Co San Diego	Cal
Mitsubishi Electric Corp Tokyo	Japan
Radiatronics Div Tasker Industries Newport Beach	Cal
RCA, Defense Electronic Products Moorestown	N J
Sedco Systems Inc Farmingdale	N Y
Sperry Gyroscope Div Sperry Rand Corp Great Neck	N Y
Thomson-CSF 78 Versailles	France
TRW Systems Group Redondo Beach	Cal

RADAR—TAXI (AIRPORT SURFACE)

Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park	N Y
Cardion Electronics Div Gen Signal Corp Woodbury	N Y
Cosmos Industries Inc Brooklyn	N Y
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	Md
Ferranti, Ltd Lancashire	England
Fujitsu Ltd Tokyo	Japan
ITT Gilfillan Inc Van Nuys	Cal
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Mitsubishi Electric Corp Tokyo	Japan
NanoFast, Inc Chicago	Ill
Oki Electronics of America, Inc Fort Lauderdale	Fla
Pioneer Instrument Inc Hanover	Mass
Plessey Co Ltd Ilford Essex	England
Radiatronics Div Tasker Industries Newport Beach	Cal
Sedco Systems Inc Farmingdale	N Y
Selenia - Industrie Elettroniche Assoc Rome	Italy
Zenith Radio Co Govt & Special Prod Div Chicago	Ill

RADAR ANTENNAS

***See* Antennas—Radar**

RADAR GUIDANCE SYSTEMS

***See* Guidance Systems**

RADAR MOVING-TARGET SIMULATORS

***See* Simulators**

RADAR-RANGE CALIBRATORS

***See* Calibrators—Radar-Range**

RADAR RECORDING CAMERAS

See **Cameras—Photographic**

RADAR TESTERS

See **Specific Equipment**

RADAR TRAFFIC CONTROLS

See **Controls—Traffic**

RADAR TRAINERS

See **Simulators—Radar**

RADIATION COUNTER TUBES

See **Tubes—Counter**

RADIATION COUNTERS

See **Counters Nuclear-Particle**

RADIATION PYROMETERS

See **Pyrometers**

RADIATION SHIELDING

See **Shielding**

RADIOACTIVE ISOTOPES

See **Sources—Radioactive**

RADIOACTIVITY MONITORS

See **Monitors—Radioactivity**

RADIO ANTENNAS

See **Antennas**

RADIO BEACONS

See **Beacons—Radio Navigation**

RADIO CARRIER SYSTEMS

See **Communication Systems**

RADIO COMMUNICATION SYSTEMS

See **Communication Systems**

RADIO COMMUNICATION TRANSMITTERS

See **Transmitters—Radio Communication**

RADIO—COMPASSES

See **Receivers—Radio Navigation Direction Finder**

RADIO CONTROLS—DOOR

See **Controls—Door**

RADIOGRAPHIC EQUIPMENT—GAMMA RAY

AMERICANA X-RAY CO ENGLEWOOD ... N J
Americana X-Ray Co Englewood ... N J
Canberra Industries Meriden ... Conn
Conam Inspection Inc Rahway ... N J
Digital Products Corp Fort Lauderdale ... Fla
Eberline Instrument Corp Santa Fe ... N M
EON Corp Brooklyn ... N Y
Gilardoni S p A Mandello Lario Como ... Italy
High Voltage Engineering Corp Burlington ... Mass
Ion Physics Corp Burlington ... Mass
Ludlum Measurements Inc Sweetwater ... Tex
Moran Instrument Corp Pasadena ... Cal
Nuclear Enterprises Ltd Edinburgh ... Scotland
Nuclear Equipment Chemical Corp Farmingdale ... N Y
Nuclear Materials & Equipment Corp Apollo ... Pa
Nuclear Technology Corp White Plains ... N Y
Picker Nuclear White Plains ... N Y
RIL Electronics Inc Southampton ... Pa
St John X-Ray Laboratory Califon ... N J
US Nuclear Corp Div Icn Irvine ... Cal
Victoreen Instrument Div Cleveland ... Ohio

RADIOGRAPHIC EQUIPMENT—X-RAY, INDUSTRIAL

AMERICANA X-RAY CO ENGLEWOOD ... N J
Americana X-Ray Co Englewood ... N J
Automation Industries Inc Matls Evaluation Grp
  Danbury ... Conn
Balteau Electric Corp Stamford ... Conn
Campbell/Taylor Inc Salem ... Mass
Canberra Industries Meriden ... Conn
Continental X-Ray Corp Chicago ... Ill
Dunlee Corp Bellwood ... Ill
Eastman Kodak Co Rochester ... N Y
Eberline Instrument Corp Santa Fe ... N M
Field Emission Corp McMinnville ... Ore
Gilardoni S p A Mandello Lario Como ... Italy
Halsey X-Ray Products Inc Brooklyn ... N Y
High Voltage Engineering Corp Burlington ... Mass
Ion Physics Corp Burlington ... Mass
Ludlum Measurements Inc Sweetwater ... Tex
Molecular Research Inc Palm Beach Gardens ... Fla
Nuclear Technology Corp White Plains ... N Y
Picker Nuclear White Plains ... N Y
St John X-Ray Laboratory Califon ... N J
Sharp Electronics Corp Carlstadt ... N J
Torr Labs Inc Los Angeles ... Cal
United States Radium Corp Morristown ... N J
Universal X-Ray Products Co Chicago ... Ill
Varian Palo Alto ... Cal
Victoreen Instrument Div Cleveland ... Ohio

RADIOGRAPHIC EQUIPMENT—X-RAY, MEDICAL

AMERICANA X-RAY CO ENGLEWOOD ... N J
Americana X-Ray Co Englewood ... N J
Blu-Ray, Inc Essex ... Conn
Campbell/Taylor Inc Salem ... Mass
Continental X-Ray Corp Chicago ... Ill
Dunlee Corp Bellwood ... Ill
Field Emission Corp McMinnville ... Ore
Fischer & Co, H G Franklin Park ... Ill
Gilardoni S p A Mandello Lario Como ... Italy
Halsey X-Ray Products Inc Brooklyn ... N Y
Hayakawa Electric Co Ltd Osaka ... Japan
High Voltage Engineering Corp Burlington ... Mass
Ion Physics Corp Burlington ... Mass
Keleket-CGR Corp Waltham ... Mass
Liebel-Flarsheim Co Cincinnati ... Ohio
3M Company St Paul ... Minn
Nuclear Technology Corp White Plains ... N Y
Picker Nuclear White Plains ... N Y
Sharp Electronics Corp Carlstadt ... N J
United States Radium Corp Morristown ... N J
Universal X-Ray Products Co Chicago ... Ill
Varian Palo Alto ... Cal
Victoreen Instrument Div Cleveland ... Ohio

RADIO GUIDANCE SYSTEMS

See **Guidance Systems**

RADIO INTERFERENCE FILTERS

See **Filters**

RADIOMETERS—COMPARISON

Aerospace Research, Inc Boston ... Mass
Barnes Engineering Co Def & Space Div Stamford ... Conn
Beckman Instruments Inc Fullerton, ... Cal
Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica ... Cal
Cary Instruments a Varian Sub Monrovia ... Cal
Cole-Parmer Instrument Co Chicago ... Ill
Control Data Corp Melville Space & Def Sys Div Melville ... N Y
Ewen-Knight Corp East Natick ... Mass
Farrand Optical Co Inc Bronx ... N Y
Hy-Cal Engineering Santa Fe Springs ... Cal
Infrared Industries Inc Santa Barbara ... Cal
Instrument Development Labs Div Kollmorgen Corp
  Attleboro ... Mass
MCS Corp Monrovia ... Cal
Montedoro Corp San Luis Obispo ... Cal
Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
Perkin-Elmer Corp, Optical Group Norwalk ... Conn
Pyrotel Corp C/O Milletron Inc Pittsburgh ... PA
Spacekom Inc Goleta ... Cal
TRW Systems Group Redondo Beach ... Cal

RADIOMETERS—DIRECT

Aerospace Research, Inc Boston ... Mass
Analog Technology Corp Pasadena ... Cal
Beckman Instruments Inc Fullerton, ... Cal
Cintra/Physics International Mountain View ... Cal
Cole-Parmer Instrument Co Chicago ... Ill
Control Data Corp Melville Space & Def Sys Div Melville ... N Y
E G & G Inc, Electronic Prods Div Boston ... Mass
Eppley Lab Inc Newport ... R I
Ewen-Knight Corp East Natick ... Mass
Hy-Cal Engineering Santa Fe Springs ... Cal
Infrared Industries Inc Santa Barbara ... Cal
Kahl Scientific Instrument Corp El Cajon ... Cal
MCS Corp Monrovia ... Cal
Montedoro Corp San Luis Obispo ... Cal
Perkin-Elmer Corp, Optical Group Norwalk ... Conn
RdF Corp Hudson ... N H
Somerset Radiation Lab Inc Arlington ... Va
TRW Systems Group Redondo Beach ... Cal

Yellow Springs Instrument Co Inc Yellow Springs ...

RADIOMETERS—MICROWAVE

Airborne Instruments Lab, Div Cutler-Hammer Inc
  Deer Park ...
Autonetics Div North American Rockwell Corp Anaheim ...
General Instrument Corp Electronics Sys Div. Hicksville ...
International Microwave Corp Cos Cob ...
Montedoro Corp San Luis Obispo ...
Sedco Systems Inc Farmingdale ...
Sperry Microwave Electronics Div Clearwater ...
Symetrics Engineering Corp Satellite Beach ...

RADIO-NAVIGATION BEACONS

See **Transmitters—Radio-Navigation**

RADIO-NAVIGATION RECEIVERS

See **Receivers—Radio-Navigation**

RADIO-NAVIGATION TRANSMITTERS

See **Transmitters—Radio-Navigation**

RADIO RECEIVERS

See **Receivers—Radio**

RADIO RELAYS

See **Relay Systems**

RADIO REMOTE CONTROLS

See **Controls—Radio Remote**

RADIOSONDES

BENDIX CORP ENVIRONMENTAL SCIENCE DIV
  BALTIMORE ...
Ball Brothers Research Corp Boulder ...
Bendix Corp Environmental Science Div Baltimore ...
Beukers Labs Inc Hauppauge ...
Beukers Labs Inc Hauppauge ...
Cosmos Industries Inc Brooklyn ...
Electronics Communications Div Atlantic Research Corp
  Alexandria ...
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown
KDI Polytechnic Inc Div KDI Corp Cincinnati ...
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis ... F
Metox Paris 20 ... F
Raven Industries Inc Sioux Falls ...
Sparton Electronics, Div Sparton Corp Jackson ...
Sylvania Electronic Systems Waltham ...
Thomson-CSF 78 Versailles ... F
VP Co Pasadena ...

RADIO TELESCOPES—ANTENNAS

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV
  EAST BOSTON ...
SCIENTIFIC-ATLANTA INC ATLANTA ...
Ainslie Corp Braintree ...
Andrew Corp Orland Park ...
Barker & Williamson Div Sunshine Mining Co Bristol ...
Chu Associates Inc Littleton ...
Control Data Corp. Boston Sp & Def Sys Div
  East Boston ...
Fairchild Hiller Corp, Space & Elctns Sys Div Germantow
Goodyear Aerospace Corp Akron ...
Harris-Intertype Corp Cleveland ...
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis ...
Marconi Co Ltd Chelmsford ... E
Mitsubishi Electric Corp Tokyo ...
Philco-Ford Corp Washington ...
Philmore Mfg Co Inc Richmond Hill ...
Radiation Systems Inc McLean ...
RCA, Defense Electronic Products Moorestown ...
R F Systems Inc Cohasset ...
Scientific-Atlanta Inc Atlanta ...
Symetrics Engineering Corp Satellite Beach ...
Taco (Technical Appliance Corp Sub Jerrold Corp)
  Sherburne ...
Tasker Industries Los Angeles ...
Tenatronics Ltd Cleveland ...

RADIO TELESCOPES—RECEIVERS

R H G ELECTRONICS LAB INC FARMINGDALE ...
Aerospace Research, Inc Boston ...
Airborne Instruments Lab, Div Cutler-Hammer Inc
  Deer Park ...
Control Data Corp Melville Space & Def Sys Div Melville
Ewen-Knight Corp East Natick ...
Goodyear Aerospace Corp Akron ...
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis ...
Marconi Co Ltd Chelmsford ... E
Mitsubishi Electric Corp Tokyo ...
Montedoro Corp San Luis Obispo ...
Philco-Ford Corp Washington ...
RCA, Defense Electronic Products Moorestown ...

Electronics Lab Inc Farmingdale . . . . N Y
on-CSF 78 Versailles . . . . France

IO TRANSMITTERS

Transmitters

OMES—AIR SUPPORTED

r Structures Inc Buffalo . . . . NY
ssociates Inc Littleton . . . . Mass
ear Aerospace Corp Akron . . . . Ohio
& Co Inc, Walter Belleville . . . . N J
bishi Electric Corp Tokyo . . . . Japan
r Mfg Co Inc Great Neck . . . . NY

OMES—FLEXIBLE

w Corp Orland Park Ill
r Structures Inc Buffalo . . . . NY
ssociates Inc Littleton . . . . Mass
s Inc, C R Daniels . . . . Md
ear Aerospace Corp Akron . . . . Ohio
rs Co Inc Pittsburgh . . . . Pa
r Mfg Co Inc Great Neck . . . . NY

OMES—RIGID

Aircraft Radio Inc Elk Grove Village Ill
can Electronic Labs Inc Lansdale . . . . Pa
w Corp Orland Park Ill
s & Merrill Inc Reinforced Plastic Div Marlboro . . . . Mass
Systems Div Wilmington . . . . Mass
a Industries Los Angeles . . . . Cal
Corp La Mesa . . . . Cal
ssociates Inc Littleton . . . . Mass
g Glass Works Corning . . . . N Y
m Materials Inc Chelmsford . . . . Mass
Corp Columbia . . . . Md
son & Cuming Inc Canton . . . . Mass
son Plastics Corp Bronx . . . . New York
ear Aerospace Corp Akron . . . . Ohio
ting Shapes Inc Bronx . . . . N Y
d Electronics Corp Philadelphia . . . . Pa
rs Co Inc Pittsburgh . . . . Pa
air, Inc Los Angeles . . . . Cal
oni Co Ltd Chelmsford . . . . England
llan Radiation Labs Inc Ipswich . . . . Mass
bishi Electric Corp Tokyo . . . . Japan
ls Products Co, Inc Moorestown . . . . N J
am Inc Compton . . . . Cal
y Co Ltd Ilford Essex . . . . England
Dynamics Div UOP Mineola . . . . N Y
rs Assoc Inc, Microwave Div Nashua . . . . N H
rs Assoc 2nc, Mithras Div Cambridge . . . . Mass
(Technical Appliance Corp Sub Jerrold Corp)
rburne . . . . NY
r Mfg Co Inc Great Neck . . . . NY

OMES—SUBMERSIBLE

s & Merrill Inc Reinforced Plastic Div Marlboro . . . . Mass
Associates Inc Littleton . . . . Mass
ng Glass Works Corning . . . . N Y
m Materials Inc Chelmsford . . . . Mass
son Plastics Corp Bronx . . . . New York
year Aerospace Corp Akron . . . . Ohio
ers Co Inc Pittsburgh . . . . Pa
nair, Inc Los Angeles . . . . Cal
er Mfg Co Inc Great Neck . . . . NY

ILROAD COMMUNICATION SYSTEMS

***e* Communication Systems**

ILROAD RADIO RECEIVERS

***e* Receivers—Radio Communication**

ILROAD TRANSMITTERS

***e* Transmitters—Radio Communication**

RE EARTHS

YBDENUM CORP OF AMERICA NEW YORK
Y . . . . ADV PG 499
o Chemical Co, Inc Flushing . . . . NY
e Alloys, Inc Elizabeth . . . . N J
rican Potash & Chemical Corp Los Angeles . . . . Cal
rican Potash & Chemical Corp Rare Earth Div
est Chicago Ill
nco Products Inc Briarcliff Manor . . . . N Y
nergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
rp Carle Place . . . . N Y
c Inc Butler . . . . Wis
son Matthey & Mallory Ltd Toronto 15 . . . . Ont
Light Labs Ltd Colnbrook, Bucks . . . . England
kay Inc, A D New York . . . . N Y
erials Research Corp Orangeburg . . . . N Y
igan Chemical Corp Chicago Ill
bdenum Corp of America New York . . . . N Y
uits Chimiques Pechiney St Gobain
Neuilly Iseine . . . . France
arch Chemical Div, Nuclear Corp of America Phoenix . Ariz
Inc, Bernard New York . . . . N Y

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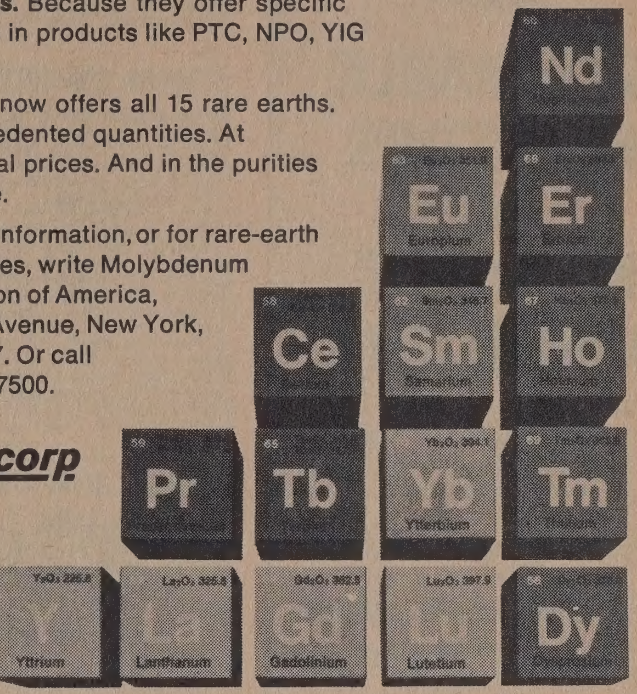

Rocky Mountain Research Inc Denver . . . . Colo
Ronson Metals Corp Newark . . . . N J
Semi-Alloys Inc Mt Vernon . . . . N Y
United Mineral & Chemical Corp New York . . . . N Y
United Refining & Smelting Co Franklin Park Ill
Var-Lac-Oid Chemical Co Elizabeth . . . . N J
Ventron Electronics Corp, Controls/Matls Div Bradford . . . Pa

RATE GYROS

***See* Gyros**

RATIOMETERS

FLUKE MFG CO INC, JOHN SEATTLE . . . . WASH
HEWLETT-PACKARD PALO ALTO . . . . CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER
COLO . . . . ADV PG 8
NON-LINEAR SYSTEMS INC DEL MAR . . . . CAL
A & M Instruments Inc Great Neck . . . . N Y
Beckman Instruments Inc Fullerton, ... Cal
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Canadian Research Institute Don Mills . . . . Ont
Cohu Electronics Inc San Diego . . . . Cal
Dana Laboratories Inc Irvine . . . . Cal
Doric Scientific Corp San Diego . . . . Cal
Electro Scientific Industries Inc Portland . . . . Ore
Epsco Inc Westwood . . . . Mass
Fluke Mfg Co Inc, John Seattle . . . . Wash
Hewlett-Packard Palo Alto . . . . Cal
Honeywell Test Instruments Div Denver . . . . Colo
Julie Research Labs, Inc New York . . . . N Y
Louis Allis Co Div Litton Industries Milwaukee . . . . Wisc
McMahon Electronic Engineering Res & Dev Lab
San Pedro . . . . Cal
Measurement Technology Corp Canoga Park . . . . Cal
Micro Metrics Inc Paterson . . . . N J
Non-Linear Systems Inc Del Mar . . . . Cal
Pacific Metrology Labs, Inc La Canada . . . . Cal
Philbrick/Nexus Research A Teledyne Co Dedham . . . . . . Mass
Racal Electronics Ltd Bracknell Berks . . . . England
Robertson Instrument Co Azusa . . . . Cal
Singer Co Instrumentation Div Bridgeport . . . . Conn
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
Wac Line Div Simmonds Precision Prods Dayton . . . . Ohio

REACTORS—FILTER

***See* Coils—Choke, Power-Frequency**

REACTORS—SATURABLE

***See Also* Amplifiers—Magnetic**

AIRPAX ELECTRONICS INC SEMINOLE DIV
FORT LAUDERDALE . . . . FLA
DALE ELECTRONICS INC, SIOUX DIV YANKTON . . . . S DAK
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y . . . . ADV PG 7
NOTHELFER WINDING LABS INC TRENTON . . . . N J
TECHNICAL APPARATUS BUILDERS DIV POWER
ALTERNATING DIRECT CORP BROOKLYN . . . . N Y
TORWICO ELECTRONICS, INC LAKEWOOD N J . ADV PG 663
UNITED TRANSFORMER CO DIV TRW INC NEW YORK
N Y . . . . ADV PG 500
Acme Electric Corp Cuba . . . . N Y
ADC Electronics, Inc Harbor City . . . . Cal
ADC Products Minneapolis . . . . Minn
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
American Rectifier Corp College Point . . . . N Y
Arnold Magnetics Corp Culver City . . . . Cal
Atlas Coil Corp Ansonia . . . . Conn
Ballastran Corp Fort Wayne . . . . Ind
Basler Electric Co Highland Ill
Bullock Magnetics Corp Pomona . . . . Cal
Caledonia Elctns & Transformer Div Connrex Corp
Caledonia . . . . N Y
Carol Electronics Div Weeco Inc Martinsburg . . . . W Va
Central Transformer Co Chicago Ill
Dale Electronics Inc, Sioux Div Yankton . . . . S Dak
Daltronics Inc Providence . . . . R I
Dietz Design Inc Belton . . . . Mo
Electrical Windings Inc Chicago Ill
Electro Networks Div Connrex Corp Caledonia . . . . N Y
Electronic Devices Inc North Ridgeville . . . . Ohio
Electronic Transformer Corp Paterson . . . . N J
Fuji Electric Co Ltd Tokyo . . . . Japan
General Electric Co, ECSO Schenectady . . . . N Y
Hadley Co Inc, Robert M Los Angeles . . . . Cal
Hammond Mfg Co Ltd Guelph . . . . Ont
Hevi-Duty Electric Div Sola Basic Industries Goldsboro . . . N C
Idalee Electronics Corp Valley Stream . . . . NY
Industrial Control Co Farmingdale . . . . N Y
Kapitol Magnetic Corp Chicago Ill
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Lear Siegler Inc Santa Monica . . . . Cal
Leeds & Northrup Co North Wales . . . . Pa
Macarr Inc Bronx . . . . N Y
Magnetic Devices Inc Lemon Grove . . . . Cal
Magnetic Engineering Corp Danbury . . . . Conn
Magnetico Inc East Northport . . . . N Y
Magnetics Inc Butler . . . . Pa
Magnetic Specialties Inc Trenton . . . . N J
Merit Coil & Transformer Corp Hollywood . . . . Fla
Microtran Co Inc Valley Stream . . . . N Y
Neshaminy Electronic Corp Furlong . . . . Pa

PIONEERS IN MINIATURIZATION

SATURABLE REACTORS

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Torelco Inc Irvington	N J
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Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia	Pa
United Transformer Co Div TRW Inc New York	N Y
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General Electric Co Info Sys Equip Div Phoenix	Ariz
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IBM, Industrial Products Marketing New York	NY
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Nippon Electric Co Ltd Tokyo	Japan
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IBM Corp White Plains	N Y
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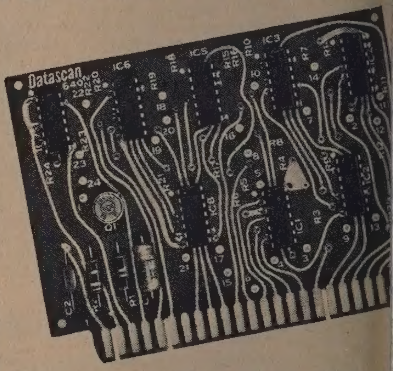

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Plectron Corp Overton .... Nebr
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Racal Electronics Ltd Bracknell Berks .... England
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Resdel Engineering Corp Pasadena .... Cal
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Schjeldahl Co, G T Northfield .... Minn
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Union Switch & Signal Div Westinghouse Air Brake Co Pittsburgh .... Pa
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Communications Co Coral Gables .... Fla
Decitron Electronics Corp Brooklyn .... N Y
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Electronic Communications Inc Div NCR St Petersburg .... Fla
EMI Electronics Canada Ltd Dartmouth .... N S Can
General Dynamics, Electronics Div Rochester .... N Y
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Gray Radio Co Inc West Palm Beach .... Fla
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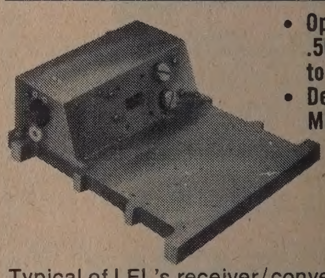

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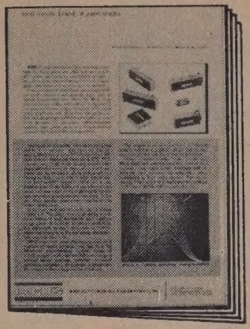

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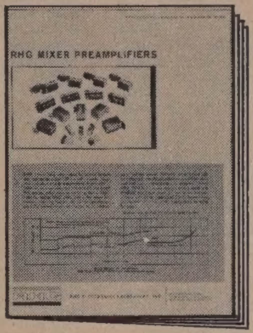
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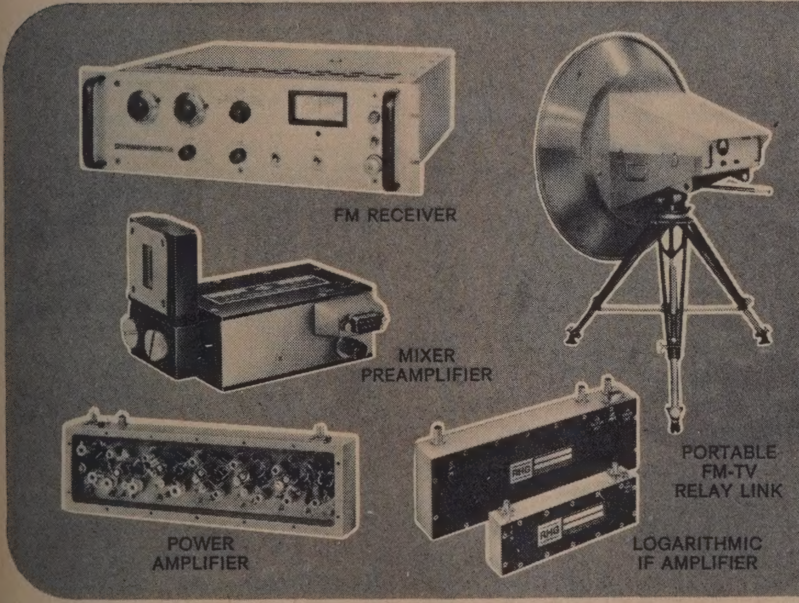
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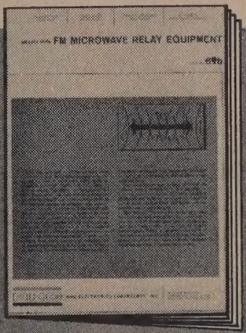
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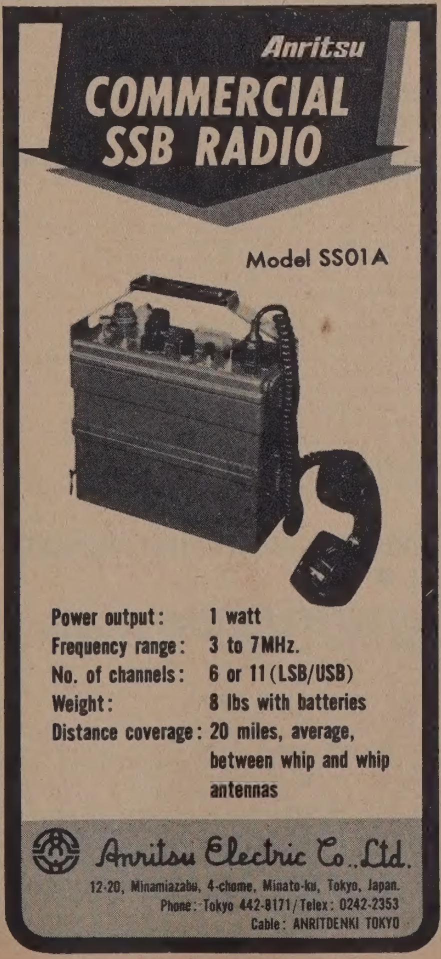
Standard Telephones & Cables Ltd London WC 2 .... England
Summit Engineering Corp Bozeman .... Mont
SunAir Electronics Inc Ft Lauderdale .... Fla
Sylvania Electronic Systems Waltham .... Mass
Technical Materiel Corp Mamaroneck .... N Y
Telefunken Sales Corp Garden City .... N Y
Telstar Electronics Corp Southold .... N Y
Thomson-CSF 78 Versailles .... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York .... N Y
Transcom Electronics Inc La Mesa .... Cal
TRW Systems Group Redondo Beach .... Cal
VP Co Pasadena .... Cal
Weitermann Electronics Milwaukee .... Wis
Wilcox Electric Co Kansas City .... Mo
Zenith Radio Co Govt & Special Prod Div Chicago Ill



Anritsu

COMMERCIAL SSB RADIO

Model SS01A

Power output: 1 watt
Frequency range: 3 to 7MHz.
No. of channels: 6 or 11 (LSB/USB)
Weight: 8 lbs with batteries
Distance coverage: 20 miles, average, between whip and whip antennas

Anritsu Electric Co., Ltd.
12-20, Minamiazabu, 4-chome, Minato-ku, Tokyo, Japan.
Phone: Tokyo 442-8171/Telex: 0242-2353
Cable: ANRITDENKI TOKYO

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Aerotherm Corp Mountain View .... Cal
AMBAC Industries Inc Garden City .... N Y
Anritsu Electric Co Ltd Tokyo .... Japan
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Avco Electronics Div Cincinnati .... Ohio
Babcock Electronic Corp Costa Mesa .... Cal
Ball Brothers Research Corp Boulder .... Colo
Beukers Labs Inc Hauppauge .... NY
B F Electronics Solana Beach .... Cal
B I F Unit General Signal Corp Providence .... R I
Canadian Motorola Electronics Ltd Willowdale 425 ...... Ont
Canoga Industries Los Angeles .... Cal
CEI Div, Watkins-Johnson Co Rockville .... Md
Cie De Signaux Et D'Entreprises Electriques Paris 17eme .... France
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Control Science Corp Alexandria .... Va
Cosmos Industries Inc Brooklyn .... N Y
Defense Electronics Div DEI Industries Rockville .... Md
Dero Research & Devel Corp Huntington .... N Y
Electrac Inc Anaheim .... Cal
Electronic Communications Inc Div NCR St Petersburg ... Fla
Epsco Inc Westwood .... Mass
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Fujitsu Ltd Tokyo .... Japan
GCA Technology Div GCA Corp Bedford .... Mass
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Genisco Technology Corp Compton .... Cal
Industrial Electronetics Corp Satellite Beach .... Fla
International Components Corp Asbury Park .... N J
International Microwave Corp Cos Cob .... Conn
International Scanatron Systems Corp Wyandanch ...... N Y
ITT Aerospace, Optical Div Fort Wayne .... Ind
Karg Labs Inc South Norwalk .... Conn
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lynch Communication Systems San Francisco .... Cal
Marti Electronics Cleburne .... Tex
Matsushita Communication Industrial Co Ltd Yokohama .... Japan
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mennen-Greatbatch Electronics Inc Clarence .... N Y
Micro Communications Co Denver .... Colo
Microwave Associates Inc Burlington .... Mass
Microwave Products Group Inc Plainview .... N Y
Motorola, Govt Electronics Div Scottsdale .... Ariz
National Radio Co Inc Melrose .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Noller Control Systems Richmond .... Cal
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Radiation Systems Inc McLean .... Va
Rantec Div Emerson Electric Co Calabasas .... Cal
Raven Electronics Inc Burbank .... Cal
RCA, Defense Electronic Products Moorestown .... N J
Regency Electronics Inc Indianapolis .... Ind
Resdel Engineering Corp Pasadena .... Cal
R H G Electronics Lab Inc Farmingdale .... N Y
Rouge Electronics Co Oklahoma City .... Okla
Scientific-Atlanta Inc Atlanta .... Ga
Selenia - Industrie Elettroniche Assoc Rome .... Italy
Siemens America Inc New York .... N Y

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Smyth Research Associates San Diego ... Cal
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Stoelting Co, C H Chicago ... Ill
Summit Engineering Corp Bozeman ... Mont
Sylvania Electronic Systems Waltham ... Mass
Thomson-CSF 78 Versailles ... France
Topping Electronics Ltd Scarborough ... Ont
TRF Inc Springfield ... Va
TRW Systems Group Redondo Beach ... Cal
Video Research Corp Rockville ... Md

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TRACOR INC AUSTIN TEX ... ADV PG 506
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Cie De Signaux Et D'Entreprises Electriques
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Collins Radio Co Dallas ... Tex
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  Amsterdam ... N Y
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Geo Space Systems Inc St Petersburg ... Fla
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Micro Tel Corp Baltimore ... Md
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Optronics Labs Div Columbia Scientific Corp Waltham ... Mass
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Racal Communications Inc Silver Spring ... Md
Radiomarine Corp Red Bank ... N J
RCA, Defense Electronic Products Moorestown ... N J
RMS Engineering Inc Atlanta ... Ga
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The model 207-1 Receiver/Comparator for frequency standardization offers world-wide VLF reception with 10 nanovolt sensitivity. Featuring 80 db dynamic range without AGC or operator adjustment, the Model 207-1 allows proper operation over wide range of signal fluctuation. Of solid state and integrated circuit design, this instrument covers 240 channels from 8 KHz to 31.9 KHz plus a channel at 60 KHz. The instrument offers a unique phase tracking servo and both chart and digital readout. Price $2995.

Options include additional comparison inputs, an internal standard, and internal standard standby batteries.

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TRACOR® VLF/LF RECEIVER

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Engineering Associates Dayton ... Ohio
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Karg Labs Inc South Norwalk ... Conn
Labtron Corp of Amer Div KDI Corp Dayton ... Ohio
Lorch Electronics Corp Englewood ... N J
Motorola Communications & Electronics Div Schaumburg ... Ill
National Radio Co Inc Melrose ... Mass
Petersen Radio Co Inc Council Bluffs ... Iowa
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Automatic Radio Sales Inc Melrose ... Mass
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Dayton Electronics Products Co Dayton ... Ohio
Delco Radio Div General Motors Corp Kokomo ... Ind
Dero Research & Devel Corp Huntington ... N Y
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Sharp Electronics Corp Carlstadt ...
Sherwood Electronic Labs Inc Chicago ...
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Sylvania Entertainment Prods Batavia ...
Telefunken Sales Corp Garden City ...
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Tenatronics Ltd Cleveland ...
Trans-Aire Electronics Inc New Hyde Park ...
Trutone Electronics Inc Van Nuys ...
Versatek Industries Inc Indianapolis ...
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Dynamics Corp New Milford	Conn
matic Radio Sales Inc Melrose	Mass
er & Williamson Div Sunshine Mining Co Bristol	Pa
n Communications Div Lear Siegler Inc Paramus	N J
st Electronics Los Angeles	Cal
on Electronics Products Co Dayton	Ohio
Research & Devel Corp Huntington	N Y
Electronic Instrument Co Inc Brooklyn	NY
ronic Creations Co Inc Mount Vernon	N Y
ronic Homes Co New York	N Y
ro-Voice Inc Sub Gulton Industries Buchanan	Mich
Electric Co Ltd Tokyo	Japan
kawa Electric Co Ltd Osaka	Japan
n Co Benton Harbor	Mich
son Electronics Inc Casselberry	Fla
Labs Inc South Norwalk	Conn
yette Radio Electronics Syosset	NY
Jet Industries Inc Detroit	Mich
Siegler Inc Santa Monica	Cal
r Electronics Corp Brooklyn	N Y
ntz Co Inc Sun Valley	Cal
ushita Electric Industrial Co Ltd Osaka	Japan
tosh Laboratory Inc Binghamton	N Y
comb Audio Products Co Sylmar	Cal
a Onkyo Co, Ltd Asahi-Ku, Osaka	Japan
o-Ford Corp Washington	D C
l Electronics Ltd Bracknell Berks	England
one Electronics Div Soundesign Corp Jersey City	NJ
es Tarzian Inc, Broadcast Equip Div Bloomington	Ind
eider Radio-Television Div Ivry	France
t Inc, H H Maynard	Mass
p Electronics Corp Carlstadt	N J
wood Electronic Labs Inc Chicago	Ill
Corp Tokyo	Japan
dard Telephones & Cables Ltd London WC 2	England
unken Sales Corp Garden City	N Y
s-Aire Electronics Inc New Hyde Park	N Y
one Electronics Inc Van Nuys	Cal
rsity Sound Div Ltv Ling Altec Inc Oklahoma City	Okla

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TH CO BENTON HARBOR	**MICH**
w Shoji Kaisha Ltd Osaka	Japan
aft Components Inc Benton Harbor	Mich
Co Ltd Tokyo	Japan
d Electronics Corp Chicago	Ill
matic Radio Sales Inc Melrose	Mass
er & Williamson Div Sunshine Mining Co Bristol	Pa
Research & Devel Corp Huntington	N Y
Electronic Instrument Co Inc Brooklyn	NY
tron Enterprises Inc Berwyn	Ill
tronic Homes Co New York	N Y
Electric Co Ltd Tokyo	Japan
akawa Electric Co Ltd Osaka	Japan
h Co Benton Harbor	Mich
Labs Inc South Norwalk	Conn
yette Radio Electronics Syosset	NY
Jet Industries Inc Detroit	Mich
Siegler Inc Santa Monica	Cal
or Electronics Corp Brooklyn	N Y
sushita Electric Industrial Co Ltd Osaka	Japan
a Onkyo Co, Ltd Asahi-Ku, Osaka	Japan
o-Ford Corp Washington	D C
tone Electronics Div Soundesign Corp Jersey City	NJ
heider Radio-Television Div Ivry	France
rp Electronics Corp Carlstadt	N J
Corp Tokyo	Japan
dard Telephones & Cables Ltd London WC 2	England
ania Entertainment Prods Batavia	N Y
funken Sales Corp Garden City	N Y
s-Aire Electronics Inc New Hyde Park	N Y

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Co Ltd Tokyo	Japan
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tsu Electric Co Ltd Tokyo	Japan
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er & Williamson Div Sunshine Mining Co Bristol	Pa
Aerosystems Co Buffalo	N Y
kers Labs Inc Hauppauge	NY
mos Industries Inc Brooklyn	N Y
Research & Devel Corp Huntington	N Y
eral Dynamics, Electronics Div Rochester	N Y
eral Instrument Corp Electronics Sys Div. Hicksville	N Y
Aerospace, Optical Div Fort Wayne	Ind
tron Corp of Amer Div KDI Corp Dayton	Ohio
al Electronic Systems, Div Loral Corp New York	NY
coni Div, English Electric Corp New York	N Y
orola, Govt Electronics Div Scottsdale	Ariz
iomarine Corp Red Bank	N J
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Bell Aerosystems Co Buffalo	N Y
Bendix Corp Avionics Div Fort Lauderdale	Fla
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Servo Corp of America Hicksville	N Y
Sharp Electronics Corp Carlstadt	N J
Sierra Research Corp Buffalo	N Y
Sparton Electronics, Div Sparton Corp Jackson	Mich
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Aircraft Components Inc Benton Harbor	Mich
Allen Aircraft Radio Inc Elk Grove Village	Ill
Amecom Div Litton Industries College Park	Md
American Electronic Labs Inc Lansdale	Pa
Applied Devices Corp College Point	n y
Autonetics Div North American Rockwell Corp Anaheim	Cal
Barker & Williamson Div Sunshine Mining Co Bristol	Pa
Bendix Corp Avionics Div Fort Lauderdale	Fla
Beukers Labs Inc Hauppauge	NY
CEC-Benmar Santa Ana	Cal
CEI Div, Watkins-Johnson Co Rockville	Md
Collins Radio Co Dallas	Tex
Columbian Hydrosonics Div Columbian Bronze Corp Freeport	N Y
Control Electronics Co Inc Farmingdale	N Y
Cosmos Industries Inc Brooklyn	N Y
Decitron Electronics Corp Brooklyn	N Y
Dero Research & Devel Corp Huntington	N Y
Dewey Corp, G C New York	N Y
EICO Electronic Instrument Co Inc Brooklyn	NY
Ewen-Knight Corp East Natick	Mass
General Coil Products Corp Brooklyn	N Y
General Dynamics, Electronics Div Rochester	N Y
General Instrument Corp Electronics Sys Div. Hicksville	N Y
Gyrotron Corp Waterbury	Conn
Heath Co Benton Harbor	Mich
Hydro Products Div Dillingham Corp San Diego	Cal
Itek Corp Lexington	Mass
ITT Aerospace, Optical Div Fort Wayne	Ind
Jetronic Industries Inc Philadelphia	Pa
Kidde & Co Inc, Walter Belleville	N J
Konigsberg Electronics Inc So San Francisco	Cal
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Livingston Electronic Div Jettron Prods Inc Hanover	N J
Loral Electronic Systems, Div Loral Corp New York	NY
Lorch Electronics Corp Englewood	N J
LTV Electrosystems Inc, Garland Div Dallas	Tex
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
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Nippon Electric Co Ltd Tokyo	Japan
Pearce-Simpson Inc Div Gladding Corp Miami	Fla
Racal Communications Inc Silver Spring	Md
Racal Electronics Ltd Bracknell Berks	England
Radiomarine Corp Red Bank	N J
Raven Electronics Inc Burbank	Cal
Raytheon Co, Marine Products Operation S San Francisco	Cal
RCA, Defense Electronic Products Moorestown	N J
Resdel Engineering Corp Pasadena	Cal
Sanders Assoc Inc, Geospace Elctns Div Plainview	N Y
Servo Corp of America Hicksville	N Y
Servo-Tek Products Co, Marine Div Hawthorne	N J
Servo-Tek Products Co Hawthorne	N J
Sierra Research Corp Buffalo	N Y
Standard Telephones & Cables Ltd London WC 2	England
States Electronics Corp, Bludworth Marine Div Linden	N J
Sylvania Electronic Systems Waltham	Mass
Telefunken Sales Corp Garden City	N Y
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Allen Aircraft Radio Inc Elk Grove Village	Ill
Amecom Div Litton Industries College Park	Md
American Electronic Labs Inc Lansdale	Pa
Autonetics Div North American Rockwell Corp Anaheim	Cal
Barker & Williamson Div Sunshine Mining Co Bristol	Pa
Bell & Howell Communications Co Waltham	Mass
Bendix Corp Avionics Div Fort Lauderdale	Fla
Beukers Labs Inc Hauppauge	NY
CEC-Benmar Santa Ana	Cal
Collins Radio Co Dallas	Tex
Columbian Hydrosonics Div Columbian Bronze Corp Freeport	N Y
Control Electronics Co Inc Farmingdale	N Y
Cosmos Industries Inc Brooklyn	N Y
Decitron Electronics Corp Brooklyn	N Y
Dero Research & Devel Corp Huntington	N Y
EMI Electronics Canada Ltd Dartmouth	N S Can
Epsco Inc Westwood	Mass
Ewen-Knight Corp East Natick	Mass
General Dynamics, Electronics Div Rochester	N Y
General Instrument Corp Electronics Sys Div. Hicksville	N Y
Gyrotron Corp Waterbury	Conn
Itek Corp Lexington	Mass
ITT Aerospace, Optical Div Fort Wayne	Ind
Jetronic Industries Inc Philadelphia	Pa
Kidde & Co Inc, Walter Belleville	N J
Konigsberg Electronics Inc So San Francisco	Cal
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Loral Electronic Systems, Div Loral Corp New York	NY
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Matsushita Electric Industrial Co Ltd Osaka	Japan
Motorola, Govt Electronics Div Scottsdale	Ariz
Narco Avionics Div Narco Scientific Indus Fort Washington	Pa
Nippon Electric Co Ltd Tokyo	Japan
Racal Electronics Ltd Bracknell Berks	England
Raytheon Co, Marine Products Operation S San Francisco	Cal
Resdel Engineering Corp Pasadena	Cal
Scope Inc Reston	Va
Servo Corp of America Hicksville	N Y
Sylvania Electronic Systems Waltham	Mass
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Aerospace Research, Inc Boston	Mass
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Autonetics Div North American Rockwell Corp Anaheim	Cal
Beukers Labs Inc Hauppauge	NY
CEC-Benmar Santa Ana	Cal
Collins Radio Co Dallas	Tex
Decitron Electronics Corp Brooklyn	N Y
Dero Research & Devel Corp Huntington	N Y
General Dynamics, Electronics Div Rochester	N Y
ITT Aerospace, Optical Div Fort Wayne	Ind
ITT Decca Marine Inc New York	NY
Jetronic Industries Inc Philadelphia	Pa
Konigsberg Electronics Inc So San Francisco	Cal
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Instrument Div Grand Rapids	Mich
LFE Electronics Waltham	Mass
Loral Electronic Systems, Div Loral Corp New York	NY
Micronetics Div Teledyne Systems Co San Diego	Cal
Nippon Electric Co Ltd Tokyo	Japan
Norden Div, United Aircraft Corp Norwalk	Conn
Oki Electric Industry Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Radiomarine Corp Red Bank	N J
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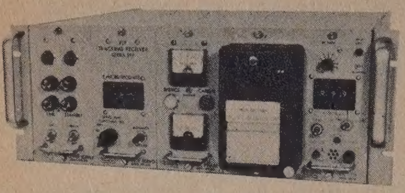

Continuous tuning 3.00 to 99.95 kHz in 50 Hz increments, image and noise rejection without filters.

Model 599-J receives all carrier-stabilized VLF/LF transmissions (including OMEGA). Optional chart recorder; linear print-out with 10 or 100 micro-seconds full scale for any received frequency. Used in frequency calibration (precision oscillator rating), timekeeping, propagation studies, solar flare detection, and navigation.

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Geo Space Systems Inc St Petersburg . . . . Fla
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Micronetics Div Teledyne Systems Co San Diego . . . . Cal
Northrop Corp, Electronics Div Palos Verdes Peninsula . . . . Cal
Philco-Ford Corp Washington . . . . D C
Resdel Engineering Corp Pasadena . . . . Cal
Tracor Inc Austin . . . . Tex

RECEIVERS, RADIO NAVIGATION—TACAN

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Applied Devices Corp College Point . . . . n y
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Dero Research & Devel Corp Huntington . . . . N Y
General Dynamics, Electronics Div Rochester . . . . N Y
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lear Siegler Inc Santa Monica . . . . Cal
Memcor Div LTV Electrosystems Inc Huntington . . . . Ind
Nippon Electric Co Ltd Tokyo . . . . Japan
Republic Electronic Industries Corp Melville . . . . N Y
Resdel Engineering Corp Pasadena . . . . Cal
Sierra Research Corp Buffalo . . . . N Y
Standard Telephones & Cables Ltd London WC 2 . . . . England

RECEIVERS, RADIO NAVIGATION—VHF OMNIRANGE

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SERVO CORP OF AMERICA HICKSVILLE . . . . N Y
Aircraft Components Inc Benton Harbor . . . . Mich
Aircraft Radio Corp Boonton . . . . N J
Allen Aircraft Radio Inc Elk Grove Village Ill
American Electronic Labs Inc Lansdale . . . . Pa
Ampar Div Adams-Russell Waltham . . . . Mass
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Bendix Corp Avionics Div Fort Lauderdale . . . . Fla
C C A Electronics Corp Gloucester . . . . NJ
CEI Div, Watkins-Johnson Co Rockville . . . . Md
Cosmos Industries Inc Brooklyn . . . . N Y
Dero Research & Devel Corp Huntington . . . . N Y
Dynair Electronics Inc San Diego . . . . Cal
General Aviation Electronics Inc Indianapolis . . . . Ind
General Dynamics, Electronics Div Rochester . . . . N Y
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Konigsberg Electronics Inc So San Francisco . . . . Cal
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
Narco Avionics Div Narco Scientific Indus Fort Washington . Pa
Nippon Electric Co Ltd Tokyo . . . . Japan
Realtone Electronics Div Soundesign Corp Jersey City . . . . . NJ
Regency Electronics Inc Indianapolis . . . . Ind
Resdel Engineering Corp Pasadena . . . . Cal
Robins Electronics La Mesa . . . . Cal
Servo Corp of America Hicksville . . . . N Y
Springer Aircraft-Radio Corp Shelbyville . . . . Ind
Standard Telephones & Cables Ltd London WC 2 . . . . England
Thomson Electric Co, Sub Cie Fran Thomson Houston
  New York . . . . N Y
Transcom Electronics Inc La Mesa . . . . Cal
TRW Systems Group Redondo Beach . . . . Cal
Wilcox Electric Co Kansas City . . . . Mo

RECEIVERS—SONAR

See **Sonar**

RECEIVERS, TV-BATTERY PORTABLE

HEATH CO BENTON HARBOR . . . . MICH
Automatic Radio Sales Inc Melrose . . . . Mass
Electronic Homes Co New York . . . . N Y
Hayakawa Electric Co Ltd Osaka . . . . Japan
Heath Co Benton Harbor . . . . Mich
Lear Siegler Inc Santa Monica . . . . Cal
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Microwave Associates Inc Burlington . . . . Mass
Montedoro Corp San Luis Obispo . . . . Cal
Multi Media Engineering Inc Rockville . . . . Md
Osaka Onkyo Co, Ltd Asahi-Ku, Osaka . . . . Japan
Philco-Ford Corp Washington . . . . D C
Schneider Radio-Television Div Ivry . . . . France
Sharp Electronics Corp Carlstadt . . . . N J
Shiba Electric Co Ltd Woodside . . . . N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo . . . . Japan
Sony Corp Tokyo . . . . Japan
Tele Measurements Inc Clifton . . . . N J

RECEIVERS, TV—BLACK AND WHITE

Aiwa Co Ltd Tokyo . . . . Japan
Amphicon Systems Inc Moonachie . . . . N J
Canoga Industries Los Angeles . . . . Cal
Conrac Corp New York . . . . N Y
Electronic Homes Co New York . . . . N Y
Hayakawa Electric Co Ltd Osaka . . . . Japan
K L A Labs Inc Detroit . . . . Mich
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . Cal
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Montedoro Corp San Luis Obispo . . . . Cal
Multi Media Engineering Inc Rockville . . . . Md
Osaka Onkyo Co, Ltd Asahi-Ku, Osaka . . . . Japan
Philco-Ford Corp Washington . . . . D C
Schneider Radio-Television Div Ivry . . . . France
Setchell Carlson, Inc New Brighton . . . . Minn
Sharp Electronics Corp Carlstadt . . . . N J
Shiba Electric Co Ltd Woodside . . . . N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo . . . . Japan
Sony Corp Tokyo . . . . Japan
Standard Telephones & Cables Ltd London WC 2 . . . . England
Sylvania Entertainment Prods Batavia . . . . N Y
Tele Measurements Inc Clifton . . . . N J
Television Manufacturers of America Co Wheeling Ill
Valradio Ltd Feltham, Mdsx . . . . Eng

RECEIVERS, TV—COLOR

HEATH CO BENTON HARBOR . . . . MICH
Amphicon Systems Inc Moonachie . . . . N J
Conrac Corp New York . . . . N Y
Dinion Coil Co Inc Caledonia . . . . N Y
Electronic Homes Co New York . . . . N Y
Hayakawa Electric Co Ltd Osaka . . . . Japan
Heath Co Benton Harbor . . . . Mich
Lear Siegler Inc Santa Monica . . . . Cal
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Multi Media Engineering Inc Rockville . . . . Md
Osaka Onkyo Co, Ltd Asahi-Ku, Osaka . . . . Japan
Philco-Ford Corp Washington . . . . D C
Schneider Radio-Television Div Ivry . . . . France
Setchell Carlson, Inc New Brighton . . . . Minn
Sharp Electronics Corp Carlstadt . . . . N J
Sony Corp Tokyo . . . . Japan
Sylvania Entertainment Prods Batavia . . . . N Y
Tele Measurements Inc Clifton . . . . N J
Television Manufacturers of America Co Wheeling Ill

RECEPTACLES

See **Connectors; Jacks; Plugs**

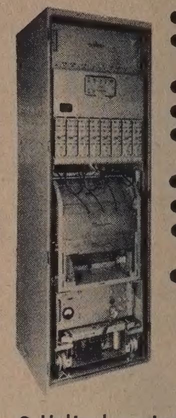
RECORD CHANGERS

See **Phonograph Changers**

RECORDERS—DRUM, MAGNETIC

KENTON ENGINEERING CORP SKOKIE ILL . . . . . ADV PG 508
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN

ANALOG MAGNETIC DRUM RECORDERS



- Data retrieval
- Signal correlation and analysis
- Event recording
- Time delay
- On-line and off-line dubbing
- Data collating
- Spectrum analysis
- Radar - Sonar applications
- Repetitive reproduction of data

Audio
Wide-band
Pre-detection
FM or direct

- Helical or circular scan
- Erasure accomplished "on-the-fly"
- Compatible with instrumentation tape recorders
- Provisions for synchronizing to other equipments
- Exceptionally low flutter
- Low maintenance — extremely long-life recording components
- Can be furnished to MIL SPECS.

KENTON ENGINEERING CORP.
8232 N. Christiana Av.- Skokie, Ill. 60076
Telephone 312 - 677 - 8280

Applied Magnetics Corp, Magnetic Tape Head Div Goleta .
Data Memory Inc Mountain View . . . .
Dresser Systems, Inc Houston . . . .
Electron-Ohio Inc Cleveland . . . .
Geo Space Corp Houston . . . .
Hathaway Instrument Div Denver . . . .
Hayakawa Electric Co Ltd Osaka . . . . J
InformationData Systems Inc Detroit . . . .
Kenton Engineering Corp Skokie . . . .
Magnasync/Moviola Corp North Hollywood . . . .
Nippon Electric Co Ltd Tokyo . . . . J
RCA, Defense Electronic Products Moorestown . . . .
Telectro Systems Corp Corona . . . .
Thermionic Products Electronics Ltd Southampton . . . En
Video Research Corp Rockville . . . .

RECORDERS—EVENT

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND
** OHIO . . . . ADV PGS 51**
GENERAL ELECTRIC CO, ECSO SCHENECTADY
** N Y . . . . ADV**
GEOTECH A TELEDYNE CO GARLAND . . . .
KENTON ENGINEERING CORP SKOKIE . . . .
Adtrol Electronics Inc Philadelphia . . . .
Alden Electronic & Impulse Recording Equip Co Inc
  Westboro . . . .
Alfax Paper & Engineering Co Westboro . . . .
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook
Artisan Electronics Corp Parsippany . . . .
Audn Corp Hamburg . . . .
Automatic Timing & Controls, Inc King of Prussia . . . . .
Beckman Instruments Inc Fullerton, ...
Bell & Howell Co, Elctn Instr Grp Pasadena . . . .
Bristol Div, American Chain & Cable Co Waterbury . . . .
Calculagraph Co Hanover . . . .
California Electro-Scientific Corp Santa Ana . . . .
Clevite Corp, Brush Instruments Div Cleveland . . . .
Conklin Instrument Corp Pleasant Valley . . . .
Control Equipment Corp Needham Heights . . . .
Control Logic Inc Natick . . . .
Data Disc Inc, Display Div Palo Alto . . . .
Dresser Controls Houston . . . .
Dresser Systems, Inc Houston . . . .
Dynamco Ltd Chertsey Surrey . . . .
E G & G Inc, Systems Group Bedford . . . .
Electric Tachometer Corp Philadelphia . . . .
Endevco Corp Pasadena . . . .
Engler Instrument Co Jersey City . . . .
Esterline Angus Div Esterline Corp Indianapolis . . . .
General Electric Co, ECSO Schenectady . . . .
Geotech A Teledyne Co Garland . . . .
Gilmore Industries Inc Cleveland . . . .
Gulton Industries Inc Metuchen . . . .
Hathaway Pacific Palo Alto . . . .
Heuer Electronics Corp Norwalk . . . .
Kahl Scientific Instrument Corp El Cajon . . . .

on Engineering Corp Skokie	Ill
on Instrument Co Inc Orangeburg	N Y
suring Instrument Controls Inc Berkeley Heights	N J
vestern Instruments Inc, Div Telex Corp Tulsa	Okla
orola Instrumentation & Control Inc Phoenix	Ariz
ear Supplies Encino	Cal
ron Instrument Co Cleveland	Ohio
eer Instrument Inc Hanover	Mass
VI Inc Cleveland	Ohio
el Engineering Corp Pasadena	Cal
ester Instrument Systems Inc Rochester	N Y
rak Instrument Div Gulton Ind Inc Manchester	NH
n Instrument Corp Skokie	Ill
oson Electric Co Chicago	Ill
ce & Systems Div General Time Corp Stamford	Conn
idard Instrument Corp Div Automatic Timing & Controls c King of Prussia	Pa
shine Scientific Instruments Inc Philadelphia	Pa
ni-Rite Electronics Inc Warwick	R I
utograph Corp Los Angeles	Cal
as Instruments Incorporated Dallas	Tex
n Automation Ltd Rugeley, Staffs	England
ner Systems Co Alameda	Cal
ty Communication Systems Inc West Chester	Pa
or Corp Chicago	Ill
der-Root Hartford	Conn

CORDERS—FACSIMILE

ee Facsimile Equipment

CORDERS, FILM (SOUND)— MBOSSED

don Enterprises Inc, Alan North Hollywood	Cal
sushita Electric Industrial Co Ltd Osaka	Japan
s Reproducer Co Inc New York	N Y
omechanisms Inc Plainview	N Y
-Cine Inc Massapequa	N Y

CORDERS, FILM (SOUND)— AGNETIC

mos Industries Inc Brooklyn	N Y
ss Electrophysics Inc Santa Monica	Cal
don Enterprises Inc, Alan North Hollywood	Cal
gory Magnetic Industries Inc Pompano Beach	Fla
on Industries, Electron Tube Div San Carlos	Cal
gnasync/Moviola Corp North Hollywood	Cal
ional Cine Equipment Inc New York	N Y
lio Corp of America, Comml Elctn Prods Div Camden	N J
ncil-Hoffman Corp Hollywood	Cal
art, Matthew & Co Inc Bronx	NY
e-Cine Inc Massapequa	N Y
strex Div Litton Industries, Inc Hollywood	Cal

CORDERS, FILM (SOUND)— HOTOGRAPHIC

ckman & Whitley Mountain View	Cal
rdon Enterprises Inc, Alan North Hollywood	Cal
ton Industries, Electron Tube Div San Carlos	Cal
tional Cine Equipment Inc New York	N Y
comechanisms Inc Plainview	N Y
dio Corp of America, Comml Elctn Prods Div Camden	N J
quential Electronic Systems Inc Elmsford	N Y
e-Cine Inc Massapequa	N Y
strex Div Litton Industries, Inc Hollywood	Cal

CORDERS—FLIGHT

***See* Avionic Equipment**

CORDERS, GRAPHIC—CIRCULAR CHART

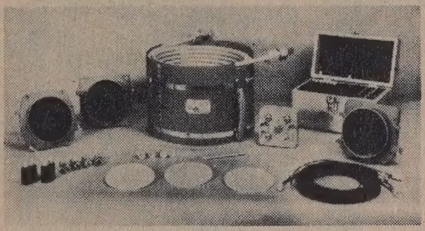
NERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
IENTIFIC-ATLANTA INC ATLANTA	**GA**
iley Meter Co Wickliffe	Ohio
ckman Instruments Inc Fullerton,	Cal
ckman Instruments Intl SA 1207 Geneva	Switzerland
H Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
istol Div, American Chain & Cable Co Waterbury	Conn
ltron Industries, Inc Charlotte	N C
lison, Thomas A Industries, Instr Div West Orange	N J
gler Instrument Co Jersey City	N J
scher & Porter Co Warminster	Pa
xboro Co Foxboro	Mass
lton Sylphon Div Robertshaw Controls Co Knoxville	Tenn
neral Electric Co, ECSO Schenectady	N Y
lmore Industries Inc Cleveland	Ohio
rsey-Sparling Meter Co El Monte	Cal
oneywell Industrial Div Fort Washington	Pa
T Barton Controls & Instr Div Monterey Park	Cal
ngmann-White Inc Placentia	Cal
eds & Northrup Co North Wales	Pa
artin-Decker Corp Santa Ana	Cal
easurement Technology Corp Canoga Park	Cal
acific Transducer Corp Los Angeles	Cal
esdel Engineering Corp Pasadena	Cal
cientific-Atlanta Inc Atlanta	Ga
trandberg Engineering Labs Inc Greensboro	N C
unshine Scientific Instruments Inc Philadelphia	Pa
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Thorn Automation Ltd Rugeley, Staffs	England
United Electric Controls Co Watertown	Mass
U S Gauge Div Ametek Inc Sellersville	Pa
Westinghouse Electric Corp, Relay & Instr Div Newark	N J

RECORDERS, GRAPHIC—IMPEDANCE

HEWLETT-PACKARD PALO ALTO	**CAL**
MECHANICS FOR ELECTRONICS INC CAMBRIDGE	**MASS**
TEXSCAN CORP INDIANAPOLIS IND	**ADV PG 509**
Alford Mfg Co Winchester	Mass
Bristol Div, American Chain & Cable Co Waterbury	Conn
Conklin Instrument Corp Pleasant Valley	N Y
Dohrmann Instruments Co Mountain View	Cal
Hewlett-Packard Palo Alto	Cal
Houston Instrument Div Bausch & Lomb Bellaire	Tex
Larson Instrument Co Inc Orangeburg	N Y
Mechanics for Electronics Inc Cambridge	Mass
Techni-Rite Electronics Inc Warwick	R I
Westronics Inc Fort Worth	Tex

Impedance Plotters

- COAXIAL
- WAVEGUIDE
- 3 MHz—12.4 GHz



Texscan
Technical Products Division
7707 Records Street
Indianapolis, Indiana 46226
Phone (317) 545-2101
Telex: 27-2110 TWX: 810-341-3184

RECORDERS, GRAPHIC—MINIATURE

API INSTRUMENTS CO CHESTERLAND	**OHIO**
CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND OHIO	**ADV PGS 510,511**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
GEOTECH A TELEDYNE CO GARLAND	**TEX**
HEWLETT-PACKARD PALO ALTO	**CAL**
MECHANICS FOR ELECTRONICS INC CAMBRIDGE	**MASS**
Adtrol Electronics Inc Philadelphia	Pa
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook	N Y
API Instruments Co Chesterland	Ohio
Argonaut Associates, Inc Beaverton	Ore
Bailey Meter Co Wickliffe	Ohio
Beckman Instruments Inc Fullerton,	Cal
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bristol Div, American Chain & Cable Co Waterbury	Conn
Century Electronics & Instruments Inc Tulsa	Okla
Clevite Corp, Brush Instruments Div Cleveland	Ohio
Computer Instruments Corp Hempstead	N Y
Conklin Instrument Corp Pleasant Valley	N Y
Dohrmann Instruments Co Mountain View	Cal
Edison, Thomas A Industries, Instr Div West Orange	N J
Esterline Angus Div Esterline Corp Indianapolis	Ind
Fischer & Porter Co Warminster	Pa
Foxboro Co Foxboro	Mass
Geotech A Teledyne Co Garland	Tex
Gulton Industries Inc Metuchen	N J
Hersey-Sparling Meter Co El Monte	Cal
Hewlett-Packard Palo Alto	Cal
Honeywell Industrial Div Fort Washington	Pa
Hydro Products Div Dillingham Corp San Diego	Cal
Instrument Corp of America Timonium	Md
Kokuyo Electric Co Ltd Tokyo	Japan
Leeds & Northrup Co North Wales	Pa
Mechanics for Electronics Inc Cambridge	Mass
Mennen-Greatbatch Electronics Inc Clarence	N Y
Midwestern Instruments Inc, Div Telex Corp Tulsa	Okla
Nuclear Enterprises Ltd Edinburgh	Scotland
Pacific Transducer Corp Los Angeles	Cal
Photron Instrument Co Cleveland	Ohio
Resdel Engineering Corp Pasadena	Cal
Robertshaw Controls Co, Aero & Instrument Div Anaheim	Cal
Rustrak Instrument Div Gulton Ind Inc Manchester	NH
Simpson Electric Co Chicago	Ill
Sunshine Scientific Instruments Inc Philadelphia	Pa
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Techni-Rite Electronics Inc Warwick	R I
Texas Instruments Incorporated Dallas	Tex
Texas Instruments Inc Indl Prods Div Houston	Tex
West Instrument Div Gulton Ind Inc Schiller Park	Ill
Westronics Inc Fort Worth	Tex
Y-Lab Costa Mesa	Cal

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RECORDERS, GRAPHIC— MULTICHANNEL

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND OHIO	**ADV PGS 510,511**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
GEOTECH A TELEDYNE CO GARLAND	**TEX**
HEWLETT-PACKARD PALO ALTO	**CAL**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG 8**
MECHANICS FOR ELECTRONICS INC CAMBRIDGE MASS	**ADV PG 512**
Adtrol Electronics Inc Philadelphia	Pa
Alden Electronic & Impulse Recording Equip Co Inc Westboro	Mass
Alfax Paper & Engineering Co Westboro	Mass
Allco S A Gentilly	France
Applied Devices Corp College Point	n y
Argonaut Associates, Inc Beaverton	Ore
Audn Corp Hamburg	N Y
Automatic Data Processing of Mass Inc Boston	Mass
Baird-Atomic, Inc Cambridge	Mass
Beckman Instruments Inc Fullerton,	Cal
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
B & F Instruments, Inc Cornwells Heights	Pa
BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham	Mass
Bristol Div, American Chain & Cable Co Waterbury	Conn
Canadian Research Institute Don Mills	Ont
Century Electronics & Instruments Inc Tulsa	Okla
Clevite Corp, Brush Instruments Div Cleveland	Ohio
Cole-Parmer Instrument Co Chicago	Ill
Conklin Instrument Corp Pleasant Valley	N Y
Dresser Systems, Inc Houston	Tex
Electric Tachometer Corp Philadelphia	Pa
Electro-Med Instruments Inc Houston	Tex
Electronic Control Systems Inc Fairmont	W Va
Electron-Ohio Inc Cleveland	Ohio
Engler Instrument Co Jersey City	N J
Esterline Angus Div Esterline Corp Indianapolis	Ind
Foxboro Co Foxboro	Mass
General Electric Co, ECSO Schenectady	N Y
Geotech A Teledyne Co Garland	Tex
Gilmore Industries Inc Cleveland	Ohio
Gulton Industries Inc Metuchen	N J
Harvard Apparatus Co Inc Millis	Mass
Hewlett-Packard Palo Alto	Cal
Honeywell Industrial Div Fort Washington	Pa
Honeywell Test Instruments Div Denver	Colo
Houston Instrument Div Bausch & Lomb Bellaire	Tex
ITT Barton Controls & Instr Div Monterey Park	Cal
Kahl Scientific Instrument Corp El Cajon	Cal
Larson Instrument Co Inc Orangeburg	N Y
Leeds & Northrup Co North Wales	Pa
Martin-Decker Corp Santa Ana	Cal
Mechanics for Electronics Inc Cambridge	Mass
Midwestern Instruments Inc, Div Telex Corp Tulsa	Okla
Motorola Instrumentation & Control Inc Phoenix	Ariz
Nichols Co Ltd, R H Downsview	Ont
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Supplies Encino	Cal
Photron Instrument Co Cleveland	Ohio
Resdel Engineering Corp Pasadena	Cal
Rustrak Instrument Div Gulton Ind Inc Manchester	NH
Simpson Electric Co Chicago	Ill
Statham Instruments Inc Oxnard	Cal
Stoelting Co, C H Chicago	Ill
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Techni-Rite Electronics Inc Warwick	R I
Telmar Inc Columbus	Ohio
Texas Instruments Incorporated Dallas	Tex
Texas Instruments Inc Indl Prods Div Houston	Tex
Thorn Automation Ltd Rugeley, Staffs	England
Varian Palo Alto	Cal
West Instrument Div Gulton Ind Inc Schiller Park	Ill
Westronics Inc Fort Worth	Tex
Yellow Springs Instrument Co Inc Yellow Springs	Ohio
Y-Lab Costa Mesa	Cal

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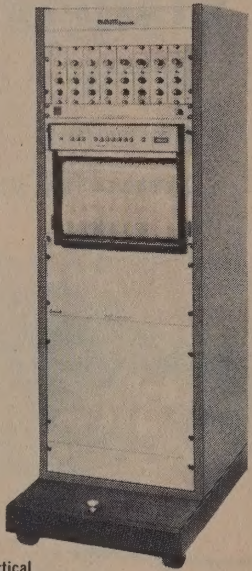
With The Great Family Of BRUSH® Recorders. ...It's A Matter Of Record.

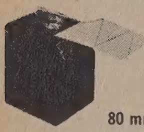
No matter what your direct writing recording requirements, look to Brush for the optimum answer. There's the famous Mark 200® series of modular systems plus a complete line of high-performance portable and general purpose recorders. All built by Brush to give you the best written records in the world.

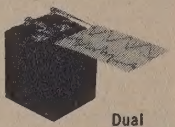
Recorder Mark 200
Series 1707
All Solid State
Position-Feedback Controlled

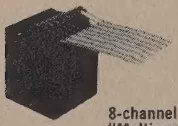
The Series 1707 line is a new generation of Brush Mark 200 Recorder Systems combining the advantages of all solid state electronics with modular construction and a flexibility in application never before achieved. The result is a totally new concept in instrument design which allows any system to be tailored to specific requirements by selection from a broad range of "building block" subsystems.


Vertical

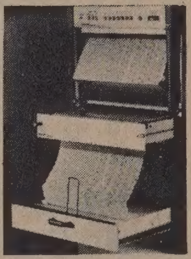
Choice of Penmotors
(Mark 200 accommodates any 4,


80 mm

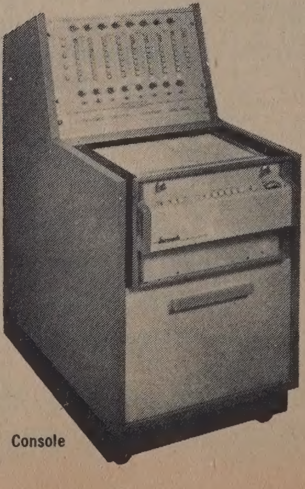

Dual
40 mm


8-channel
"Multimarker"

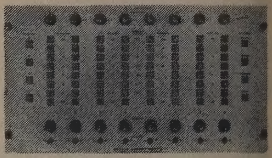
Z-Fold
Post-folding Z-Folder for installation in vertical configuration Mark 200 recording system. Operates at all chart speeds.



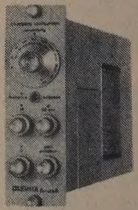
Choice of Configurations
Series 1707 Recorder systems are available in a variety of configurations. Console cabinet with horizontal oscillograph (right); console cabinet for 4200 series plug-in amplifiers; vertical (above); special consoles for extended chart viewing.


Console

Choice of Input Preamplifiers
MULTICHANNEL


Pushbutton Attenuator

Rotary Attenuator


Plug-in Modules (Series 4200)

PLUG-IN MODULES
4200 SERIES
Coupling preamps (50mV, 50K)
Medium gain (1mV, 1meg)
High gain (100 microvolts, 1 meg)
- without zero suppression
- with zero suppression

Very high gain 100K
(1 microvolt, 1 meg)
- without zero suppression
- with zero suppression

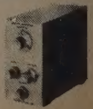
Strain-gage (carrier)
Phase-sens. demodulator
Hi-voltage (1000VDC off-ground)
Log-linear

4300 SERIES—Biomedical
Universal AC-DC
ECG
EEG
Biotach
Carrier
Integrator
Transducer

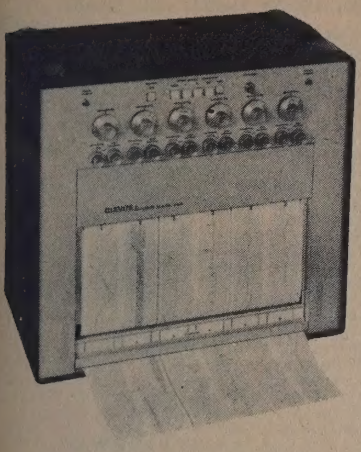
5200 SERIES—Converters
Frequency deviation converters
• 50 Hz • 60 Hz • 400 Hz
AC watts converter
AC volts to DC volts
AC amps to DC volts

Portable Amplifiers
Lightweight, compact portables. Thermocouple amplifier provides cold-junction compensation, zero suppression and high sensitivity. DC bridge amplifier for strain gages and strain-gage based transducers.

Thermocouple Amplifier

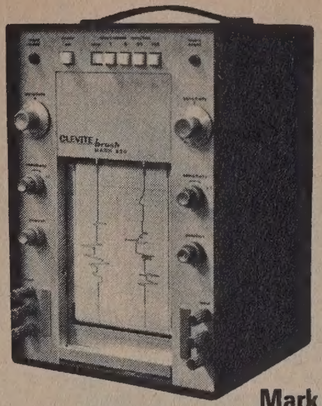

D-C Bridge Amplifier

BRUSH® Portable Recording Systems



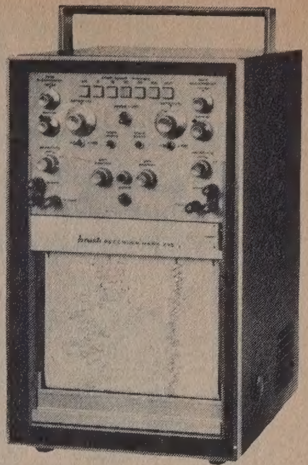
Mark 260 6-channel Portable. Low Cost-per-channel

Big-system capability at half the big-system price. Pressure fluid rectilinear writing. Four event markers standard. Built-in preamps, 1mV sensitivity. Only 65 lbs.



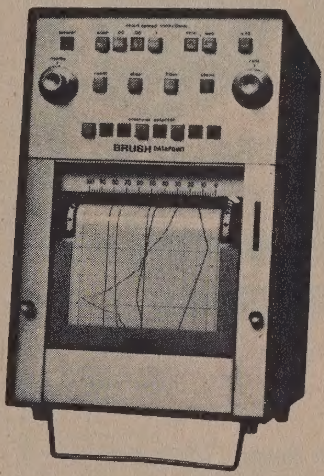
Mark 220— New High Performance Portable

Weighs just 25 pounds; uses same pressure fluid rectilinear writing system as Mark 200 Series. Built-in preamps, 1mV sensitivity.



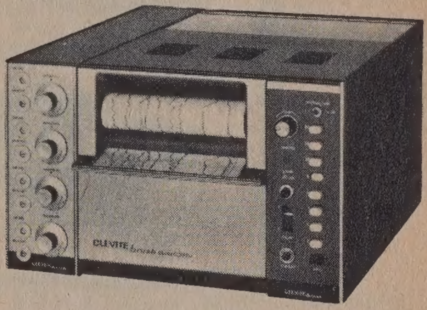
Mark 280 Dual 80mm Position Feedback Penmotor Recorder

Portable dual channel system with rectilinear forced-fluid writing. "Double-width" 80mm channels.



Datapoint 8-channel multipoint recording system

Provides 3 modes of operation. High resolution recording at 20 times higher sampling rates. Intensified mode allows concentration of data. Continuous mode provides wide chart, single-channel monitoring. Portable and rack-mounting models.



Mark 2300 Lightbeam Oscillograph

Application possibilities of this versatile portable recorder are almost unlimited. Simple incandescent light-source is fail-safe. 1 to 16 channels, d-c to 5kHz. Matched companion amplifiers.

SPECIFICATIONS

	Mark 200	Mark 260	Mark 220	Mark 280	Datapoint	Mark 2300
No. Channels Analog Event	Choice of 2 to 8-40mm ch. 1 to 4-80mm ch. 8 to 32-event ch. (ALL ALIKE, OR IN COMBINATION)	6 4 standard	2 2 standard	2 2 standard	8 1 (accessory)	1 to 16
Channel width	(see above)	40mm	40mm	80mm	4½"*	6"*
Penmotor type	Position feedback	Position feedback	Position feedback	Position feedback	Position feedback	Lightbeam galvos
Writing method	Pressurized ink	Pressurized ink	Pressurized ink	Pressurized ink	Fiber-tip capillary	Tungsten lightbeam
Trace presentation	Rectilinear	Rectilinear	Rectilinear	Rectilinear	Rectilinear	Rectilinear
Chart speeds	0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200mm/sec.	1, 5, 25, 125mm/sec. and mm/min.	1, 5, 25, 125mm/sec.	0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200mm/sec.	0.02, 0.05, 0.1 ips or ipm plus "X10" multiplier	0.2, 0.4, 1, 2, 5, 10, 25 and 50 ips, plus above speeds ÷ 100
Frequency response	40mm-55Hz full scale 80mm-30Hz full scale	40Hz full scale	40Hz full scale	35Hz full scale	20 points-per-sec. To 5Hz full scale	Depends on galvo selected—to 5kHz
Non-Linearity	½% full scale	½% full scale	½% full scale	½% full scale	½% full scale	2% full scale
Input characteristics	Depends on pre-amplifier used	1mV/div; differential; 10 meg	1mV/div; differential; 10 meg	0.5mV/div; 1 meg constant; floating	Compatible w/Brush preamps. Accessory thermocouple amplifier available	Varies w/galvo selected; impedance 100K floating w/ Brush galvo amplifier

*Total chart width

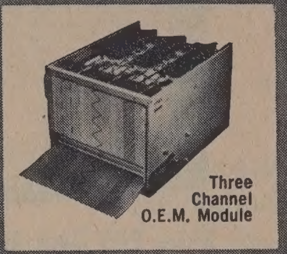
Write for Literature or, for Application Assistance, Contact Your Brush Factory Branch or Representative.

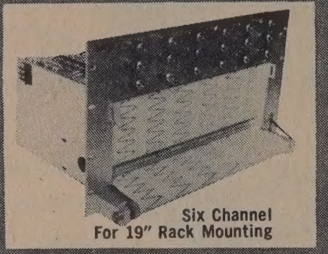
Clevite Corporation, Brush Instruments Division
37th and Perkins, Cleveland, Ohio 44114.

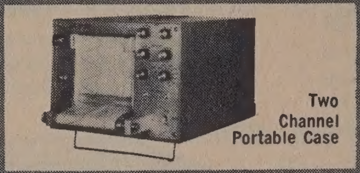
Sales, service and warehousing centers at Boston, New York, Philadelphia, Washington, Orlando, Cleveland, Detroit, Chicago, Denver, Houston, Los Angeles, San Francisco, and Seattle; in Europe: Antwerp, Belgium; engineering representatives in all key locations.

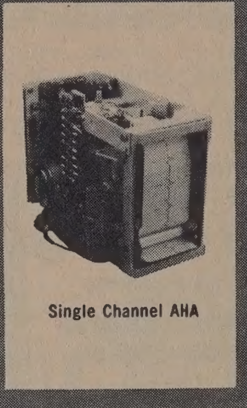
CLEVITE BRUSH

MFE
SINGLE AND
MULTI-CHANNEL O.E.M.
RECORDERS:









Military
Recorders

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FOR MONITORING
& RECORDING

MFE single, two, three, four and six channel analog/event recorder modules are busy doing a multitude of vital jobs. Life saving jobs in medicine. Pollution control. Gas analysis. Production and quality control monitoring. Geophysical exploration. Underwater sound studies. Government, space and defense applications. And more.

MFE leads the field in O.E.M. miniature analog recorders with electronics, the high reliability choice of professionals featuring a dependable inkless heated stylus writing technique. Many chart speed options and power input configurations for automotive, aerospace and undersea systems . . . including 115V or 230V/50Hz, 60Hz, 400Hz or DC operation. A wide range of MFE models conform to AHA recommendations for electrocardiography.

You'll find an MFE recorder to suit your specific needs. Compact, lightweight and all modular, MFE recorders are available as basic O.E.M. modules; with front panels for mounting in 19" RETMA racks or cabinets; and in portable cases.

Consider MFE analog recorders
for the vital answers you want.
Discover now how the unique custom
recorder capabilities of MFE can
fulfill your exact needs!

MFE MECHANICS FOR ELECTRONICS, INC.
152 SIXTH STREET, CAMBRIDGE, MASSACHUSETTS 02142 (617) 864-8130

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HEWLETT-PACKARD PALO ALTO . . . .
SCIENTIFIC-ATLANTA INC ATLANTA . . . .
Argonaut Associates, Inc Beaverton . . . .
Audn Corp Hamburg . . . .
Bailey Meter Co Wickliffe . . . .
Baird-Atomic, Inc Cambridge . . . .
Beckman Instruments Inc Fullerton, ...
Bell & Howell Co, Elctn Instr Grp Pasadena . . . .
Bristol Div, American Chain & Cable Co Waterbury . . . .
Canadian Research Institute Don Mills . . . .
Cole-Parmer Instrument Co Chicago . . . .
Conklin Instrument Corp Pleasant Valley . . . .
Dohrmann Instruments Co Mountain View . . . .
Electronic Control Systems Inc Fairmont . . . .
Esterline Angus Div Esterline Corp Indianapolis . . . .
Foxboro Co Foxboro . . . .
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General Radio Co West Concord . . . .
Gilmore Industries Inc Cleveland . . . .
Gulton Industries Inc Metuchen . . . .
Heath Co Benton Harbor . . . .
Hewlett-Packard Palo Alto . . . .
Honeywell Industrial Div Fort Washington . . . .
Houston Instrument Div Bausch & Lomb Bellaire . . . .
Infotronics Corp Houston . . . .
Instrument Corp of America Timonium . . . .
Kikusui Electronics Corp Kanagawa City . . . . Kanagawa Pref J
Leeds & Northrup Co North Wales . . . .
McKee-Pedersen Instruments Danville . . . .
Meguro Denpa Sokki K K Meguro-ku, Tokyo . . . . J
Motorola Instrumentation & Control Inc Phoenix . . . .
Nichols Co Ltd, R H Downsview . . . .
Nuclear Enterprises Ltd Edinburgh . . . . Sco
Nuclear Supplies Encino . . . .
Scientific-Atlanta Inc Atlanta . . . .
Stoelting Co, C H Chicago . . . .
Strandberg Engineering Labs Inc Greensboro . . . .
Taylor Instrument Process Con Div Sybron Corp Rochester . . . .
Telmar Inc Columbus . . . .
Texas Instruments Incorporated Dallas . . . .
Texas Instruments Inc Indl Prods Div Houston . . . .
Thorn Automation Ltd Rugeley, Staffs . . . . En
Varian Palo Alto . . . .
Varian Aerograph Walnut Creek . . . .
West Instrument Div Gulton Ind Inc Schiller Park . . . .
Westronics Inc Fort Worth . . . .
Y-Lab Costa Mesa . . . .

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Audn Corp Hamburg . . . .
Automatic Data Processing of Mass Inc Boston . . . .
Auto-Trol Corp Arvada . . . .
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Beckman Instruments Intl SA 1207 Geneva . . . . . Switz
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BLH Electronics Inc Sub Baldwin-Lima-Hamilton Waltham . . . .
Bristol Div, American Chain & Cable Co Waterbury . . . .
Canadian Research Institute Don Mills . . . .
Clevite Corp, Brush Instruments Div Cleveland . . . .
Cole-Parmer Instrument Co Chicago . . . .
Conklin Instrument Corp Pleasant Valley . . . .
Dohrmann Instruments Co Mountain View . . . .
Electric Tachometer Corp Philadelphia . . . .
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Engler Instrument Co Jersey City . . . .
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Foxboro Co Foxboro . . . .
Gelman Instrument Co Ann Arbor . . . .
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Geotech A Teledyne Co Garland . . . .
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Hallmark Standards Inc Mount Vernon . . . .
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Instrument Corp of America Timonium . . . .
Kahl Scientific Instrument Corp El Cajon . . . .
Leeds & Northrup Co North Wales . . . .
Leupold & Stevens Inc Portland . . . .

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tin-Decker Corp Santa Ana ... Cal
tsushita Communication Industrial Co Ltd
okohama ... Japan
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nnen-Greatbatch Electronics Inc Clarence ... N Y
nsanto Electronic Instruments West Caldwell ... N J
torola Instrumentation & Control Inc Phoenix ... Ariz
hols Co Ltd, R H Downsview ... Ont
clear Enterprises Ltd Edinburgh ... Scotland
clear Supplies Encino ... Cal
tron Instrument Co Cleveland ... Ohio
del Engineering Corp Pasadena ... Cal
S Engineering Inc Atlanta ... Ga
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trak Instrument Div Gulton Ind Inc Manchester ... NH
warzer Corp Framingham ... Mass
entific-Atlanta Inc Atlanta ... Ga
pson Electric Co Chicago ... Ill
tham Instruments Inc Oxnard ... Cal
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dn Corp Hamburg ... N Y
to-Trol Corp Arvada ... Colo
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ctronic Associates Inc West Long Branch ... N J
gler Instrument Co Jersey City ... N J
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more Industries Inc Cleveland ... Ohio
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k Div Singer Co Binghamton ... N Y
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Yokohama ... Japan
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ilco-Ford Corp Washington ... D C
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perior Electric Co The Bristol ... Conn
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iversal Drafting Machine Corp Bedford Heights ... Ohio
rian Palo Alto ... Cal
Lab Costa Mesa ... Cal

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rcraft Components Inc Benton Harbor ... Mich
iation Electric Ltd St Laurent, Montreal ... Que
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ambridge Systems Inc Newton ... Mass
anadian Motorola Electronics Ltd Willowdale 425 ... Ont
ardion Electronics Div Gen Signal Corp Woodbury ... N Y
onklin Instrument Corp Pleasant Valley ... N Y
sterline Angus Div Esterline Corp Indianapolis ... Ind
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oneywell Industrial Div Fort Washington ... Pa
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Westronics Inc Fort Worth ... Tex

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COLO ... ADV PG 8
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Ampex Corp Redwood City ... Cal
Audio Instrument Co Inc Union City ... N J
Auricord Div Scovill Mfg Long Island City ... N Y
Bell & Howell Co, Elctn Instr Grp Pasadena ... Cal
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Casco Music Systems Inc Hyde Park ... Mass
Crown Int'l Radio & Electronics Corp Elkhart ... Ind
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EMI Electronics Ltd Hayes ... Middlesex Eng
Fairchild Industrial Products Plainview ... N Y
Fargo Co San Francisco ... Cal
Genisco Technology Corp Compton ... Cal
Geotech A Teledyne Co Garland ... Tex
Harris-Intertype Corp Cleveland ... Ohio
Hewlett-Packard Palo Alto ... Cal
Himmelstein & Co, S Elk Grove Village ... Ill
Honeywell Test Instruments Div Denver ... Colo
Itek Corp Lexington ... Mass
Leach Corp South Pasadena ... Cal
Magnasync/Moviola Corp North Hollywood ... Cal
Marathon Instruments Div Spec Tool Co Pico Rivera ... Cal
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Metrotech Div Dictaphone Corp Mountain View ... Cal
Micronetics Div Teledyne Systems Co San Diego ... Cal
Midwestern Instruments Inc, Div Telex Corp Tulsa ... Okla
Mincom Div 3M Co Camarillo ... Cal
3M Company St Paul ... Minn
Nippon Electric Co Ltd Tokyo ... Japan
Northrop Corp, Electronics Div Palos Verdes Peninsula ... Cal
Pacific Electro Magnetics Co Inc Palo Alto ... Cal
Philco-Ford Corp Washington ... D C
Philips Electronic Instruments, Test & Measuring Inst
Mount Vernon ... NY
Potter Instrument Co, Inc Plainview ... N Y
Precision Instrument Co Palo Alto ... Cal
Racal Electronics Ltd Bracknell Berks ... England
Raymond Engineering Inc Middletown ... Conn
Recording Designs Ltd Camberley Surrey ... England
Sanders Associates, Inc Nashua ... N H
Siemens America Inc New York ... N Y
SoundScriber Corp West Haven ... Conn
Sparta Electronic Corp Sacramento ... Cal
Stancil-Hoffman Corp Hollywood ... Cal
Stuart, Matthew & Co Inc Bronx ... NY
Tally Corp Seattle ... Wash
Tape-Athon Inglewood ... Cal
Telectro Systems Corp Corona ... N Y
Telex Communications Div Minneapolis ... Minn
Thermionic Products Electronics Ltd Southampton ... England
United Control Corp Redmond ... Wash
United Control-Data Div Sunstrand Corp South El Monte ... Cal
Vanguard Data Systems Irvine ... Cal
Vetter Co, A R Rebersburg ... Pa
Video Research Corp Rockville ... Md
Wiltek, Inc Wilton ... Conn

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HEWLETT-PACKARD PALO ALTO ... CAL
KINELOGIC CORP PASADENA CAL ... ADV PGS 514,515
LEACH CORP SOUTH PASADENA CAL ... ADV PGS 532-535
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Almond Instruments Co Covina ... Cal
Ampex Corp Redwood City ... Cal
Auricord Div Scovill Mfg Long Island City ... N Y
Bell & Howell Co, Elctn Instr Grp Pasadena ... Cal
Borg-Warner Controls Div Borg-Warner Corp Santa Ana ... Cal
Bright Industries Inc San Francisco ... Cal
Burroughs Corp, Defense, Space & Spec Sys Group Paoli ... Pa
Calma Co Sunnyvale ... Cal
Coldspring Instrument Corp Huntington ... N Y
Communitype Corp New York ... N Y
Datum Inc Anaheim ... Cal
Digi-Data Corp Bladensburg ... Md
Digitronics Corp Albertson ... N Y
Dytro Corp Hicksville ... NY
Fujitsu Ltd Tokyo ... Japan
General Electric Co Info Sys Equip Div Phoenix ... Ariz
Genisco Technology Corp Compton ... Cal
Hewlett-Packard Palo Alto ... Cal
Himmelstein & Co, S Elk Grove Village ... Ill
Honeywell EDP Div Wellesley Hills ... Mass
IBM Data Processing Div White Plains ... N Y
International Computer Products Inc Dallas ... Tex
Kennedy Co Altadena ... Cal
Kinelogic Corp Pasadena ... Cal
Leach Corp South Pasadena ... Cal
Lockheed Electronics Co, Indus Technology Div Plainfield ... N J
Logic Corp Haddonfield ... N J
Marathon Instruments Div Spec Tool Co Pico Rivera ... Cal
Midwestern Instruments Inc, Div Telex Corp Tulsa ... Okla
3M Company St Paul ... Minn
National Cash Register Co Dayton ... Ohio
Nippon Electric Co Ltd Tokyo ... Japan

Oki Electric Industry Co Ltd Tokyo ... Japan
Peripheral Equipment Corp Chatsworth ... Cal
Philips Electronic Instruments, Test & Measuring Inst
Mount Vernon ... NY
Plessey Co Ltd Ilford Essex ... England
Potter Instrument Co, Inc Plainview ... N Y
Precision Instrument Co Palo Alto ... Cal
Racal Electronics Ltd Bracknell Berks ... England
RCA, Defense Electronic Products Moorestown ... N J
Recording Designs Ltd Camberley Surrey ... England
Sanders Associates, Inc Nashua ... N H
Sanders Associates Inc, Data Systems Div Nashua ... N H
Sangamo Electric Co Springfield ... Ill
Scientific Data Systems Inc El Segundo ... Cal
Scientific Resources Corp Mauchly Computer Tech Gr
Montgomeryville ... Pa
Space & Systems Div General Time Corp Stamford ... Conn
Sylvania Electronic Systems Waltham ... Mass
Tape-Athon Inglewood ... Cal
Telectro Systems Corp Corona ... N Y
Telefunken Sales Corp Garden City ... N Y
Texas Instruments Inc Indl Prods Div Houston ... Tex
Thermionic Products Electronics Ltd Southampton ... England
Univac Div, Sperry Rand Corp Philadelphia ... Pa
Vanguard Data Systems Irvine ... Cal
Video Research Corp Rockville ... Md
Wiltek, Inc Wilton ... Conn

RECORDERS, MAGNETIC TAPE— DICTATION

Aiwa Co Ltd Tokyo ... Japan
American Geloso Electronics Inc New York ... N Y
American Geloso Electronics Inc New York ... N Y
Auricord Div Scovill Mfg Long Island City ... N Y
Concord Electronics Corp Los Angeles ... Cal
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Fen-Tone Corp New York ... N Y
Gregory Magnetic Industries Inc Pompano Beach ... Fla
IBM Corp White Plains ... N Y
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Merchant Co, Robert C Carmel Valley ... Cal
Miles Reproducer Co Inc New York ... N Y
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ALLIED ELECTRONICS CORP CHICAGO ... ILL
CROWN INT'L RADIO & ELECTRONICS CORP ELKHART ... IND
LEACH CORP SOUTH PASADENA CAL ... ADV PGS 532-535
Allied Electronics Corp Chicago ... Ill
American Geloso Electronics Inc New York ... N Y
Ampex Corp Redwood City ... Cal
Audiotronics Corp North Hollywood ... Cal
Auricord Div Scovill Mfg Long Island City ... N Y
A V Electronics, Inc Fresno ... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena ... Cal
Beltronix Systems Inc Hauppauge ... N Y
Casco Music Systems Inc Hyde Park ... Mass
Concord Electronics Corp Los Angeles ... Cal
Crown Int'l Radio & Electronics Corp Elkhart ... Ind
Electronic Design Labs Inc Philadelphia ... Pa
Electronic Futures Inc Div KMS Indus Inc North Haven ... Conn
Elpa Mktg Industries Inc New Hyde Park ... N Y
EMI Electronics Ltd Hayes ... Middlesex Eng
Gregory Magnetic Industries Inc Pompano Beach ... Fla
K L A Labs Inc Detroit ... Mich
Leach Corp South Pasadena ... Cal
Merchant Co, Robert C Carmel Valley ... Cal
Midwestern Instruments Inc, Div Telex Corp Tulsa ... Okla
3M Company St Paul ... Minn
Multi Media Engineering Inc Rockville ... Md
Newcomb Audio Products Co Sylmar ... Cal
Perfectone Sound Labs Allendale ... NJ
Tape-Athon Inglewood ... Cal
Telex Communications Div Minneapolis ... Minn
Thermionic Products Electronics Ltd Southampton ... England
Vetter Co, A R Rebersburg ... Pa
Video Research Corp Rockville ... Md
V-M Corp Benton Harbor ... Mich
Webster Electric Co Racine ... Wisc

RECORDERS, MAGNETIC TAPE— ENTERTAINMENT

ALLIED ELECTRONICS CORP CHICAGO ... ILL
CROWN INT'L RADIO & ELECTRONICS CORP ELKHART ... IND
MACKARL ELECTRONIC INC TAIPAI TAIWAN ... ADV PG 516
Allied Electronics Corp Chicago ... Ill
Ampex Corp Redwood City ... Cal
Audio Instrument Co Inc Union City ... N J
Auricord Div Scovill Mfg Long Island City ... N Y
Automatic Radio Sales Inc Melrose ... Mass
Beltronix Systems Inc Hauppauge ... N Y
Casco Music Systems Inc Hyde Park ... Mass
Claricon Products Elizabeth ... N J
Concord Electronics Corp Los Angeles ... Cal
Crown Int'l Radio & Electronics Corp Elkhart ... Ind
Electronic Homes Co New York ... N Y
Elpa Mktg Industries Inc New Hyde Park ... N Y
Fairchild Industrial Products Plainview ... N Y
Gauss Electrophysics Inc Santa Monica ... Cal
Gotham Audio Corp New York ... N Y
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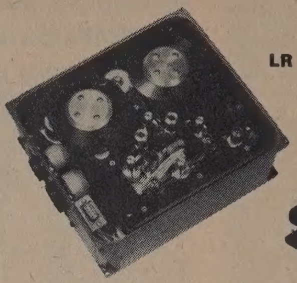
YE

SC

special purpose magnetic tape recorders

Leading manufacturer of instrumentation type recorders for field and space environments. Widest line of standard recorders — optimized to your application • Proprietary drive system reduces operating parts 30%; withstands severe environments, gives bidirectional operation, constant tape tensioning and very low flutter.


LR

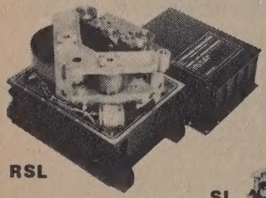
HM

RECORDERS FOR AIR/SEA/GROUND APPLICATIONS

CHARACTERISTICS		MODEL SC	MODEL LR	MODEL L	MODEL HM	MODEL YE	MODEL DP	TYPE F
TAPE CAPACITY	*WIDTH (INCHES)*	1.0	0.5 or 1.0	0.5 or 1.0	0.5 or 1.0	1.0	0.25	0.5 or 1.0
	LENGTH (FEET)	60	650	1000	2250	4600	615	220
TAPE SPEEDS	*SPEEDS (ips) IN STD. RECORDER*	15	3.75/1.875, 15/7.5, 60/30	3.75/1.875, 15/7.5, 60/30	3.75/1.875, 15/7.5, 60/30	3.75/1.875, 15/7.5, 60/30	1.875	45/22.5
	ELEC. SEL. RATIOS	—	2:1	2:1	2:1	2:1	—	2:1
SIZE IN INCHES	*WIDTH*	4	7.6	9.5	10.75	15	5	6.12
	LENGTH	4	6.6	7.5	15.375	21	8	6.12
	HEIGHT	4	3.87	4.25	4.905	5	3	3.25
WEIGHT IN POUNDS		4	7	11	30	45 (incl. elec.)	6.1	10
POWER REQUIRED	*VOLTAGE*	28 Vdc	28 Vdc	28 Vdc	28 Vdc or 115 Vac	28 Vdc	28 Vdc Control 115Vac, 400 Hz ± 1 Hz	28 Vdc
	WATTS	15	15 (at 30 ips)	22	45	30 (w/o elec.)	3 (DC) < 15 VA	22
DATA RECORDING SUITABILITY		Digital	Analog & Digital	Analog & Digital	Analog or Digital	Analog or Digital	VOICE	Digital

SPACE RECORDERS (SATELLITE, DEEP PROBES)

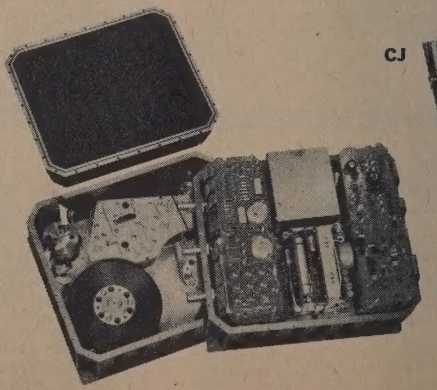
CHARACTERISTICS		MODEL SL	MODEL CJ	MODEL LS-1	MODEL LS-2	MODEL RSL	MODEL LL
TAPE CAPACITY	*WIDTH (INCHES)*	1.0	0.25	1.0	1.0	1.0	0.25
	LENGTH (FEET)	125	480	1090	1090	400	625 (cartridge)
TAPE SPEED (ips) in Std. Recorder		30	single speed 1 to 30 ips	2.4 & 4.8 Record 19.2 Playback	4.5 Record 24 Playback	4	two speed 0.468, 15
SIZE IN INCHES	*WIDTH*	4.2 Dia.	6.0	10.5	10.5	6.0	6.9
	LENGTH	4.2 Dia.	7.75	9.0	9.0	5.0	11.0
	HEIGHT	4.125	4.0	6.0	6.0	5.0	3.5
WEIGHT IN LBS*		3.8	5.9	12	12	5.5	8
REQUIRED POWER	*VOLTAGE*	28 Vdc	2ϕ, 21 Vac	28 Vdc	28 Vdc	28 Vdc	28 Vdc
	WATTS	25	2.5 at 4 ips	16 in Record 22 in Playback	16 in Record 22 in Playback	6	10
DATA RECORDING SUITABILITY		Analog or Digital	Digital	Digital	Digital	Digital	Analog, Digital and FM


RSL

SL

*All specifications nominal. Size and weight include control electronics but exclude data electronics, except for RSL, which includes two Rec. & P/B channels. Write or phone Kinelogic for additional information on these or other Kinelogic recorders.

CJ


LS-1/LS-2

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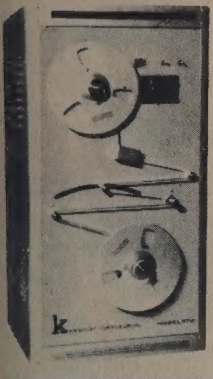
electronics and accessories



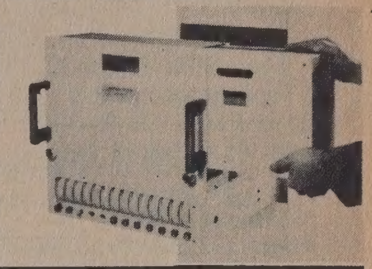
TAPE WINDER *MODEL KTW*

Transfers 0.25″, 0.5″ or 1.0″ tape at constant tension from a standard 10.5″ or 14″ reel to a customer's special-purpose hub. Constant and high tension is particularly important for tape packs used in a vibration or shock environment where layer-to-layer tape slippage can cause a recorder malfunction. Tape packs also have less than 0.5 mils layer-to-layer edge variation. This assures optimum tape guidance, minimum flutter and dynamic skew.

Winder is designed to accommodate almost any take-up hub or reel. Constant tension wind is provided by a tension arm and servo system — 16 oz. for 1.0″ tape, 8 oz. for 0.5″ tape and 4 oz. for 0.25″ tape. Winding speed is ≈50 ips. Winder incorporates tape footage counter and automatic control for stopping when pre-set length has been wound. Guides for all tape widths (0.25″, 0.5″ & 1.0″) are supplied as standard. Cabinet dimensions: 33.5″ H x 22″ W x 17″ D. Power: 115V ±10%, 60 Hz, 1 Ph at 1.5A. Weight ≈145 lbs.

GROUND PLAYBACK STATION *MODEL GSH*

In some applications it is desirable to use a Kinelogic recorder in the same manner as a tape magazine or cartridge (i.e., the recorder is removed from test vehicle and without removing cover or tape, is inserted in a Playback Station to reproduce recorded data. This technique is particularly appropriate where untrained personnel must be employed to handle the equipment. It is also advantageous in dusty or humid environments since the equipment does not have to be opened for playback.



ELECTRONICS FOR AIR/SEA/GROUND APPLICATIONS

Power requirement: 28 ±4 Vdc. Will withstand transients up to 45V for 250 ms. Packaging: Full encapsulation. Test points: Provided on the front panel. Connector: Cannon DA 15P. Environmental capability (limits on specified performance) — Temperature: −20°C to +85°C. Humidity: Designed to meet MIL-E-5272. Linear accelerations: 100g. Vibration: 25g to 2000 Hz. Shock: 150g, 5 ms, R/11 ms D.

Amplifier Type	Size in inches			Weight in Oz.
	H	W	D	
Record	2.00	0.75	2.187	3
Playback	2.00	0.75	4.25	6

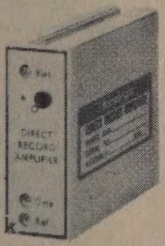
RECORD

BIAS OSCILLATOR *MODEL EAB*

Output: 750 KHz ± 3% — Amplitude: 2 volt rms sinewave — Amplitude Stability: ±0.5 db for specified environment — Even Order Harmonic Distortion: Less than 0.5% rms — Load Capability: adequate to drive 1 to 14 Kinelogic Direct Record Amplifiers Model EAR — Power Consumption ≈ 1.2 watts

PRECISION REFERENCE OSCILLATOR *MODEL EAF*

Output Freq: 200, 100, 50, 25, 17, 12.5, 6.25, 3.125 KHz and 60 Hz are available. Two outputs are provided — one for supplying a reference multiplex type signal to Direct Record Amplifiers — the second for driving a record head and providing saturation recording on a separate tape track. Freq. Accuracy: ±0.01% Multiplex Output — Harmonic Distortion: Less than 0.3% total rms, Ampl. Stability: ±0.5 db for specified environment, Output Amplitude: 2 volts rms, Load Capability: 14 Direct Record Amplifiers — Power Consumption ≈ 1.5 watts



DIGITAL RECORD AMPLIFIER *MODEL EDR*

NRZ (mark) or NRZ (level) type inputs selectable by switch provide full tape saturation. Standard input logic level: Logical "0" is 0 volts, Logical "1" is +6 volts — Input Clock Mark: change in voltage level (+6 to 0 or 0 to +6 volts) — Other logic levels available. Input Z (data or clock): "1" input — Input signal must supply max. 10 ma. "0" input — Input signal must sink min. of 1.27 ma. Max. data rate: 30 Kbps. Power consumption ≈2.25 watts.

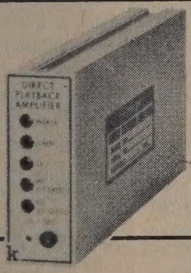
FM RECORD AMPLIFIER *MODEL EFR*

Input sensitivity: 0.5 to 4 Volts peak for ±40% dev. — Input Z: 100K ohms, unbalanced. Center freq: Most IRIG Freq. available — DC linearity: ±0.25% from best straight line — Worst case combination of Temperature Power Input Variation, and 8 Hour Drift results in a freq. dev. less than 3% of the full bandwidth — Power Consumption: ≈2W

DIRECT RECORD AMPLIFIER *MODEL EAR*

Data Input Sensitivity: 0.1 to 1.5 volts rms — Input Z: 100 k ohms, unbalanced — Freq. Response ±1 db (constant current): 100 Hz to 128 KHz — Total Harmonic Distortion: Less than 0.3% — Output Amplitude Stability: ±0.5 db — Precision Reference Signal and Bias Inputs are also provided. Amplifier designed to use 750 KHz bias. Power Consumption: ≈ 1.2 watts

PLAYBACK



DIGITAL PLAYBACK AMPLIFIER *MODEL EDP*

Amplifier employs peak detection which reduces pulse jitter during play to a minimum. Triggering in the reconstruct amplifier section is essentially independent of input signal amplitude. Output is NRZ (mark). Logical "0" is no change in voltage level: or vice versa. Max. bit rate: 30 Kbps. Output Z < 100 ohms. Amplifiers will handle 6 tape speeds with front panel switch (manual). Power consumption ≈1 watt.

FM PLAYBACK AMPLIFIER *MODEL EFP*

Available for any std. IRIG Center Frequency — Amplifiers having a Frequency Response which complies with either Low Band or Intermediate Band IRIG Specifications are available — Linearity: ±0.25 of best straight line for full bandwidth output — Total rms Harmonic Distortion: Less than 0.5% — Output Z < 100 ohms — Output Level: 0 to ±1.4 volts peak. Power Consumption ≈ 1 watt

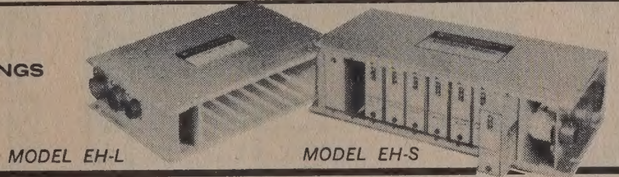
DIRECT PLAYBACK AMPLIFIER *MODEL EAP*

Amplifiers having Output Characteristics complying with either the Low Band or Intermediate Band IRIG Specification are available. Normal Output Level: 1 volt rms — Output Z: less than 100 ohms — Total RMS Harmonic Distortion: less than 0.5% — Both Amplitude and Phase Equalization for 1 or 2 tape speeds are available. Power Consumption ≈ 1 watt

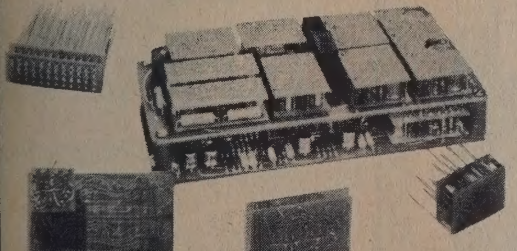
ELECTRONICS HOUSINGS

EH-S 9.312″ x 2.437″ x 4.125″

EH-L 9.312″ x 2.437″ x 6.125″



Housing wired to accept any combination of 9 Kinelogic Amplifiers — Model EH-S for record modules, Model EH-L for playback amplifiers. Available with thermostatically controlled heaters to extend operation of Kinelogic Electronics from −20°C to −54°C.



SPACE ELECTRONICS

Kinelogic data and control electronics for space use are tailored for each individual application. The electronics are adaptions of a special group of circuits, designed and developed by Kinelogic to minimize size, weight, and power consumption, and also to meet the highest reliability standards. Cordwood and other condensed packaging techniques are employed for fabrication of hybrid modules (combination of IC and discrete components) which in turn are mounted on multi-layer "mother" boards. This approach minimizes interconnecting wiring. Fabrication is to NASA standards with assembly and soldering accomplished by NASA certified personnel in a "clean" environment.

Available circuits include digital, (NRZ and Bi-phase) direct, and FM record and playback amplifiers plus head track switching logic, inverters, control logic, power supplies, etc. Typical characteristics of a single channel of data electronics are shown in the Table.

	Digital		Direct		FM	
Characteristics	Rec.	P/B	Rec.	P/B	Rec.	P/B
Size (cubic inches)*	0.7	1.5	1.3	1.3	1.0	2.0
Weight (oz)*	0.3	0.8	0.8	1.3	0.5	2.0
Power Consumption (Milliwatts)	100	180	100	50	100	160

*The size and weight of the interconnecting "mother" board must be added to the above numbers in order to estimate system values.

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3M Company St Paul . . . . Minn
Multi Media Engineering Inc Rockville . . . . Md
Newcomb Audio Products Co Sylmar . . . . Cal
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Perfectone Sound Labs Allendale . . . . NJ
Philco-Ford Corp Washington . . . . D C
Realtone Electronics Div Soundesign Corp Jersey City . . . . . NJ
Sankyo Seiki Mfg Co, Ltd Tokyo . . . . Japan
Sharp Electronics Corp Carlstadt . . . . N J
Sony Corp Tokyo . . . . Japan
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Superscope Inc Sun Valley . . . . Cal
Sylvania Entertainment Prods Batavia . . . . N Y
Tape-Athon Inglewood . . . . Cal
Telefunken Sales Corp Garden City . . . . N Y
Telex Communications Div Minneapolis . . . . Minn
United Control Corp Redmond . . . . Wash
V-M Corp Benton Harbor . . . . Mich

RECORDERS, MAGNETIC TAPE—INSTRUMENT

CROWN INT'L RADIO & ELECTRONICS CORP ELKHART IND . . . . ADV PG 516
GEOTECH A TELEDYNE CO GARLAND TEX . . . . . ADV PG 516
HEWLETT-PACKARD PALO ALTO . . . . CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO . . . . ADV PG 8
KINELOGIC CORP PASADENA CAL . . . . . ADV PGS 514,515
LEACH CORP SOUTH PASADENA CAL . . . . ADV PGS 532-535
Aiwa Co Ltd Tokyo . . . . Japan
Almond Instruments Co Covina . . . . Cal
Ampex Corp Redwood City . . . . Cal
Astro-Science Corp Sub Tracor Inc El Monte . . . . Cal
Audio Instrument Co Inc Union City . . . . N J
Auricord Div Scovill Mfg Long Island City . . . . N Y
Beckman Instruments Inc Fullerton, ... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . Cal
Bionic Instruments Inc Bala Cynwyd . . . . Pa
Borg-Warner Controls Div Borg-Warner Corp Santa Ana . . Cal
Bright Industries Inc San Francisco . . . . Cal
Broadcast Electronics Inc Silver Spring . . . . Md
Cardion Electronics Div Gen Signal Corp Woodbury . . . . . . N Y
Casco Music Systems Inc Hyde Park . . . . Mass
Crown Int'l Radio & Electronics Corp Elkhart . . . . Ind
Digi-Data Corp Bladensburg . . . . Md
Dowa Trading Co Ltd Kobe . . . . Japan
Dresser Systems, Inc Houston . . . . Tex
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EMI Electronics Canada Ltd Dartmouth . . . . N S Can
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Fen-Tone Corp New York . . . . N Y

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of those who
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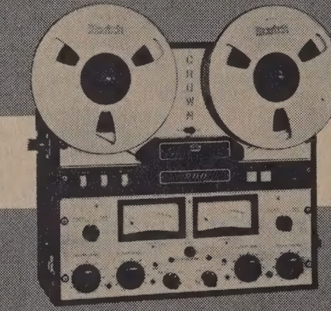
Leadership IN ANALOG DATA RECORDERS

OVER 40 MODELS
NAB OR DIRECT RECORD
1-4 CHANNELS ON ¼" TAPE



TWO TRANSPORT STYLES:

700 TRANSPORT - Rugged, simple, high-quality deck with only 10 moving parts.

800 TRANSPORT - Instant-response IC logic control never breaks tape. Compatible for systems integration.

TYPICAL PERFORMANCE(NAB)

IPS	RESPONSE	WOW	S/N
15	50-30,000	0.06	60
7½	30-30,000	0.09	60
3¾	30-18,000	0.18	55

CUSTOM MODIFICATIONS
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PRICES - $545 to $4500

WRITE DEPT. EB-70

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NEW
one-inch
14 channel
LT/FM*
recorder

Model 19429 LT/FM Recorder/Reproducer

*Model 19429 is the latest in Geotech's series of LT/FM (Long-Term/Frequency Modulation) single speed tape recorders. You can record 14 channels on one-inch tape, play back in real time any one channel. Three-way power choice and four recording-speed options put this portable recorder in a class by itself! Operation from a 12 v dc, 24 v dc or 115 v ac 60 Hz power source is easily accomplished by plugging in the appropriate power cord.

- slowest speed recorder available
- direct or FM record/reproduce
- truly portable: 50 lbs, suitcase size 17" x 22" x 11"
- ac/dc operation
- real time, flux responsive reproduction
- IRIG standard, 1" tape
- four standard recording speeds: 0.03, 0.06, 15/160 or 15/16 ips
- 40 db dynamic range without compensation

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eywell Test Instruments Div Denver ... Colo
tronics Corp Houston ... Tex
rnational Electro-Magnetics Inc Palatine ... Ill
onic Industries Inc Philadelphia ... Pa
Scientific Instrument Corp El Cajon ... Cal
nedy Co Altadena ... Cal
logic Corp Pasadena ... Cal
ch Corp South Pasadena ... Cal
Siegler Inc Santa Monica ... Cal
kheed Electronics Co Plainfield ... N J
kheed Electronics Co, Indus Technology Div Plainfield ... N J
athon Instruments Div Spec Tool Co Pico Rivera ... Cal
sushita Electric Industrial Co Ltd Osaka ... Japan
chant Co, Robert C Carmel Valley ... Cal
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com Div 3M Co Camarillo ... Cal
Company St Paul ... Minn
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fectone Sound Labs Allendale ... NJ
ips Electronic Instruments, Test & Measuring Inst
lount Vernon ... NY
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cision Instrument Co Palo Alto ... Cal
al Electronics Ltd Bracknell Berks ... England
mond Engineering Inc Middletown ... Conn
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rmionic Products Electronics Ltd Southampton ... England
ted Control-Data Div Sunstrand Corp South El Monte ... Cal
ter Co, A R Rebersburg ... Pa
eo Research Corp Rockville ... Md
tek, Inc Wilton ... Conn

CORDERS, MAGNETIC TAPE—UMERICAL CONTROL

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ston Digital Corp Ashland ... Mass
ght Industries Inc San Francisco ... Cal
dspring Instrument Corp Huntington ... N Y
i-Data Corp Bladensburg ... Md
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ly Corp Seattle ... Wash
ermionic Products Electronics Ltd Southampton ... England
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eo Research Corp Rockville ... Md

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WLETT-PACKARD PALO ALTO ... CAL
NEYWELL TEST INSTRUMENTS DIV DENVER
COLO ... ADV PG 8
NELOGIC CORP PASADENA CAL ... ADV PGS 514,515
ACH CORP SOUTH PASADENA CAL ... ADV PGS 532-535
PPON ELECTRIC CO LTD TOKYO ... JAPAN
nond Instruments Co Covina ... Cal
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ricord Div Scovill Mfg Long Island City ... N Y
ll & Howell Co, Elctn Instr Grp Pasadena ... Cal
rg-Warner Controls Div Borg-Warner Corp Santa Ana ... Cal
ight Industries Inc San Francisco ... Cal
oadcast Electronics Inc Silver Spring ... Md
sco Music Systems Inc Hyde Park ... Mass
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ta-Control Systems Inc Danbury ... Conn
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Tape-Athon Inglewood ... Cal
Telectro Systems Corp Corona ... N Y
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Gordon Enterprises Inc, Alan North Hollywood ... Cal
Hydro Products Div Dillingham Corp San Diego ... Cal
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
International Video Corp Sunnyvale ... Cal
Itek Corp Lexington ... Mass
Lake Systems Corp Newton ... Mass
Lear Siegler Inc Santa Monica ... Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim ... Cal
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Merchant Co, Robert C Carmel Valley ... Cal
Multi Media Engineering Inc Rockville ... Md
Nippon Electric Co Ltd Tokyo ... Japan
Perfectone Sound Labs Allendale ... NJ
Philco-Ford Corp Washington ... D C
Picker Nuclear White Plains ... N Y
Precision Instrument Co Palo Alto ... Cal
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
RCA, Defense Electronic Products Moorestown ... N J
Sharp Electronics Corp Carlstadt ... N J
Shiba Electric Co Ltd Woodside ... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Solartron Electronic Group Ltd Farnbrough ... England
Sony Corp Tokyo ... Japan
Stromberg Datagraphix Inc San Diego ... Cal
Tele-Cine Inc Massapequa ... N Y
Tele Measurements Inc Clifton ... N J
Video Research Corp Rockville ... Md
Westel Co Redwood City ... Cal

RECORDERS—MECHANICAL

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Bacharach Instrument Co Pittsburgh ... Pa
Bailey Meter Co Wickliffe ... Ohio
Bell & Howell Co, Elctn Instr Grp Pasadena ... Cal
Bendix Corp Environmental Science Div Baltimore ... Md
Borg-Warner Controls Div Borg-Warner Corp Santa Ana ... Cal
Bristol Div, American Chain & Cable Co Waterbury ... Conn
Electric Tachometer Corp Philadelphia ... Pa
Electronic Control Systems Inc Fairmont ... W Va
Esterline Angus Div Esterline Corp Indianapolis ... Ind
Fischer & Porter Co Warminster ... Pa
Harvard Apparatus Co Inc Millis ... Mass
Honeywell Industrial Div Fort Washington ... Pa
Intermec Inc Mountlake Terrace ... Wash
Kahl Scientific Instrument Corp El Cajon ... Cal
MDS Ohr-Tronics Montvale ... N J
Miles Reproducer Co Inc New York ... N Y
Pacific Transducer Corp Los Angeles ... Cal
Realtone Electronics Div Soundesign Corp Jersey City ... NJ
Rustrak Instrument Div Gulton Ind Inc Manchester ... NH
Simplex Time Recorder Co Gardner ... Mass
Taylor Instrument Process Con Div Sybron Corp Rochester ... N Y
Telmar Inc Columbus ... Ohio
Texas Instruments Incorporated Dallas ... Tex
United Control-Data Div Sunstrand Corp South El Monte ... Cal
Video Research Corp Rockville ... Md

RECORDERS—MINIATURE

***See* Recorders—Magnetic Tape**

RECORDERS—PH

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HEWLETT-PACKARD PALO ALTO ... CAL
Analytical Measurements, Inc Chatham ... NJ
Bailey Meter Co Wickliffe ... Ohio
Beckman Instruments Inc Fullerton, ... Cal
Bristol Div, American Chain & Cable Co Waterbury ... Conn
Conklin Instrument Corp Pleasant Valley ... N Y
Esterline Angus Div Esterline Corp Indianapolis ... Ind
Fischer & Porter Co Warminster ... Pa
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Hewlett-Packard Palo Alto ... Cal
Honeywell Industrial Div Fort Washington ... Pa
Horiba Instruments Inc Kyoto ... Japan
Instrumentation Lab Inc Lexington ... Mass
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Simpson Electric Co Chicago ... Ill
Sunshine Scientific Instruments Inc Philadelphia ... Pa
Taylor Instrument Process Con Div Sybron Corp Rochester ... N Y
Thorn Automation Ltd Rugeley, Staffs ... England
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RECORDERS—POLAR COORDINATE

***See* Recorders—Graphic**

RECORDERS—SMOKE & COMBUSTION, ELECTRONIC

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
Bailey Meter Co Wickliffe ... Ohio
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Fuji Electric Co Ltd Tokyo ... Japan
General Electric Co, ECSO Schenectady ... N Y
Hays Corp Michigan City ... Ind
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Thorn Automation Ltd Rugeley, Staffs ... England
Westronics Inc Fort Worth ... Tex

RECORDERS—SOUND

***See* Recorders—Magnetic Tape**

RECORDERS—TAPE

***See* Recorders—Magnetic Tape**

RECORDERS—TELEPHONE

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Broadcast Electronics Inc Silver Spring ... Md
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Esterline Angus Div Esterline Corp Indianapolis ... Ind
Fairlane Electronics, Inc Long Valley ... N J
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Plessey Co Ltd Ilford Essex ... England
Stuart, Matthew & Co Inc Bronx ... NY
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Telephone Dynamics Corp North Bellmore ... N Y
Thermionic Products Electronics Ltd Southampton ... England

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Audn Corp Hamburg ... N Y
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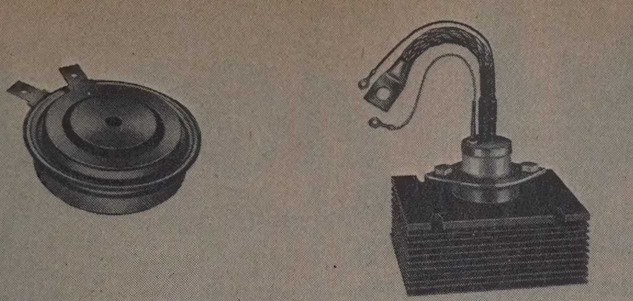

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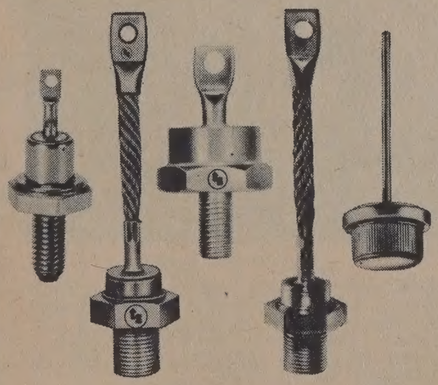

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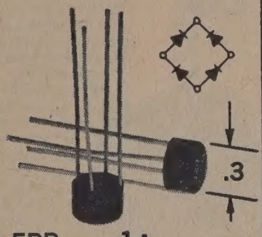
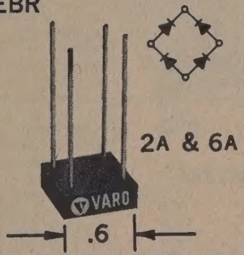
VS 647	2A
VS 648	2A
VH 647	6A
VH 648	6A
IN 4438	10A
VT 600	25A



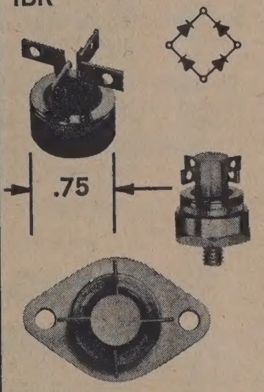
EBR 1A

EBR

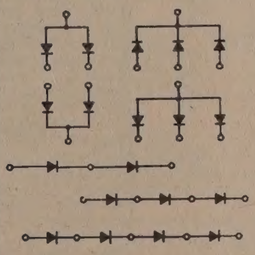


2A & 6A

IBR



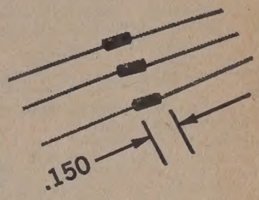
10A & 25A ALSO AVAILABLE IN THESE CIRCUITS



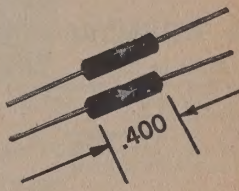
HIGH VOLTAGE RECTIFIERS*

1000V	I_o
VA 10	50mA
VB 10	100mA
1500V	
VA 15	50mA
VB 15	100mA
2000V	
VA 20	50mA
VB 20	100mA
VC 20	2A
2500V	
VA 25	50mA
VB 25	100mA
3000V	
VA 30	25mA
VB 30	50mA
VC 30	2A
3500V	
VA 35	25mA
4000V	
VB 40	50mA
VC 40	2A
5000V	
VB 50	50mA
VC 50	1.5A
VF 5-5	5mA
VF 10-5	10A
VF 25-5	25mA
6000V	
VB 60	50mA
VC 60	1.5A

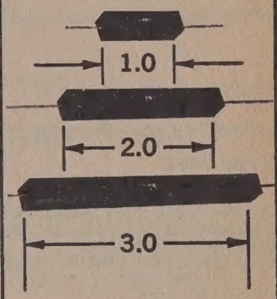
7000V	I_o
VC 70	1.5A
VF 5-7	5mA
VF 10-7	10mA
VF 25-7	25mA
8000V	
VC 80	1A
10,000V	
VF 5-10	5mA
VF 10-10	10mA
VF 25-10	25mA
12,000V	
VF 5-12	5mA
VF 10-12	10mA
VF 25-12	25mA
15,000V	
VF 5-15	5mA
VF 10-15	10mA
VF 25-15	25mA
20,000V	
VF 5-20	5mA
VF 10-20	10mA
VF 25-20	25mA
25,000V	
VF 5-25	5mA
VF 10-25	10mA
VF 25-25	25mA
30,000V	
VF 5-30	5mA
VF 10-30	10mA
VF 25-30	25mA
40,000V	
VF 5-40	5mA
VF 10-40	10mA
VF 25-40	25mA



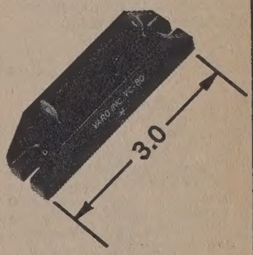
VA SERIES



VB SERIES



VF SERIES



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*Available with fast recovery characteristic

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RECTIFIER TUBE POWER SUPPLIES

***See* Power Supplies—D-C**

REELS—MAGNETIC TAPE

American Geloso Electronics Inc New York . . . N Y
Ampex Corp Redwood City . . . Cal
Audio Devices Inc Sub Capitol Indus Glenbrook . . . Conn
Bell & Howell Co, Elctn Instr Grp Pasadena . . . Cal
Bird & Sons Ltd, Sydney Poole Dorset . . . England
Boonton Molding Co Inc Boonton . . . N J
Bruce Industries Inc Gardena . . . Cal
Corning Glass Works Corning . . . N Y
Diebel Mfg Co Morton Grove . . . Ill
Duotone Co Inc Miami . . . Fla
General Electric Co Info Sys Equip Div Phoenix . . . Ariz
Greentree Electronics Corp, A Bell & Howell Co Irvine . . . Cal
Honeywell EDP Div Wellesley Hills . . . Mass
IBM Corp White Plains . . . N Y
MacPanel Co, Magnetic Prods Div High Point . . . NC
Magnasync/Moviola Corp North Hollywood . . . Cal
Matsushita Electric Industrial Co Ltd Osaka . . . Japan
Memorex Corp Santa Clara . . . Cal
3M Company St Paul . . . Minn
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon . . . NY
Reeves Soundcraft Div, Reeves Industries Inc Danbury . . . Conn
Robins Industries Corp Flushing . . . N Y
Rye Industries, Inc Mamaroneck . . . N Y
Scientific Data Systems Inc El Segundo . . . Cal
Sparta Electronic Corp Sacramento . . . Cal
Standard Record Mfg. Co. No Hollywood . . . Cal
Stanford International San Carlos . . . Cal
Superscope Inc Sun Valley . . . Cal
Telephone Dynamics Corp North Bellmore . . . N Y
U S Magnetic Tape Co Huntley . . . Ill

REELS—RETRACTILE, CABLE AND WIRE

Appleton Electric Co Chicago . . . Ill
Applied Research Austin Inc Austin . . . Tex
Hunter Spring Div Ametek Inc Hatfield . . . Pa
Hy-Kon Mfg Co Alliance . . . Ohio
Mason Mfg. Co. East Providence . . . R I
Standard Precision Inc Accuride Div Santa Fe Springs . . . Cal
Taffet Electronics Inc Woodside . . . N Y

REFINERS OF PRECIOUS METALS

***See* Precious Metals Recovery & Refining**

REFLECTOMETERS

***See Also* Couplers—Directional; Detectors—Standing Wave**

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN . . . IND
BIRD ELECTRONIC CORP CLEVELAND (SOLON) . . . OHIO
HEWLETT-PACKARD PALO ALTO . . . CAL
SYSTRON-DONNER CORP CONCORD . . . CAL
Airtron, Div of Litton Industries, Inc Morris Plains . . . N J
Alford Mfg Co Winchester . . . Mass
Alfred Electronics Palo Alto . . . Cal
Beckman Instruments Inc Fullerton, . . . Cal
Bendix Corp, Microwave Devices Div Franklin . . . Ind
Bird Electronic Corp Cleveland (Solon) . . . Ohio
Blonder-Tongue Labs Inc Newark . . . N J
Gamma Scientific Inc San Diego . . . Cal
Gardner Lab Inc Bethesda . . . Md
General Microwave Corp Farmingdale . . . N Y
Guide Industries Inc Sun Valley . . . Cal
Herley Industries, Inc Syosset . . . N Y
Hewlett-Packard Palo Alto . . . Cal
Instrument Development Labs Div Kollmorgen Corp
  Attleboro . . . Mass
Lion Research Corp Newton . . . Mass
Maury Microwave Corp Cucamonga . . . Cal
MCS Corp Monrovia . . . Cal
Microwave Instruments Co Corona del Mar . . . Cal
Narda Microwave Corp Plainview . . . N Y
Omega Laboratories Inc Rowley . . . Mass
PRD Electronics Inc, Sub H-I Corp Westbury . . . N Y
Rohde & Schwarz Sales Co USA Inc Passaic . . . N J
Schoeffel Instrument Corp Westwood . . . NJ
Systron-Donner Corp Concord . . . Cal
Telonic Engineering Co Div Telonic Indus Inc
  Laguna Beach . . . Cal

REFLECTORS—PASSIVE, MICROWAVE

NIPPON ELECTRIC CO LTD TOKYO . . . JAPAN
Ainslie Corp Braintree . . . Mass
Andrew Corp Orland Park . . . Ill
Costelow Co Inc Topeka . . . Kans
Dbm Research Corp Cocoa Beach . . . Fla
Electroforms Inc Gardena . . . Cal
Emerson & Cuming Inc Canton . . . Mass
Gabriel Electronics Div Maremont Corp Saco . . . Maine
Goodyear Aerospace Corp Akron . . . Ohio
Guide Industries Inc Sun Valley . . . Cal
Herley Industries, Inc Syosset . . . N Y
Master Tower Co Sioux City . . . Iowa
MCS Corp Monrovia . . . Cal
Microflect Co, Inc Salem . . . Ore
Micronetics Div Teledyne Systems Co San Diego . . . Cal
Nippon Electric Co Ltd Tokyo . . . Japan
Philco-Ford Corp Washington . . . D C
R F Systems Inc Cohasset . . . Mass
Rohn Mfg Co Peoria . . . Ill
Vacuum Metallizing Van Nuys . . . Cal

REGISTERS—SHIFT

C & K COMPONENTS INC WATERTOWN . . . MASS
E D P CORP ORLANDO . . . FLA
FORK STANDARDS INC WEST CHICAGO . . . ILL
Allen-Bradley Co Milwaukee . . . Wis
American Micro-Systems, Inc Santa Clara . . . Cal
Amtron Inc Sub Republic Corp Midlothian . . . Ill
Artronic Instrument Co Silver Spring . . . Md
C & K Components Inc Watertown . . . Mass
Components Corp Denville . . . NJ
Control Logic Inc Natick . . . Mass
Di/An Controls Inc Boston . . . Mass
E D P Corp Orlando . . . Fla
Ferranti, Ltd Lancashire . . . England
Fork Standards Inc West Chicago . . . Ill
General Dynamics, Electronics Div Rochester . . . N Y
Metric Systems Corp Fort Walton Beach . . . Fla
Motorola Semiconductor Products Inc Phoenix . . . Ariz
Mullard Ltd London, WC 1 . . . Eng
National Semiconductor Corp Santa Clara . . . Cal
Philco-Ford Corp Washington . . . D C
Preston Scientific, Inc Anaheim . . . Cal
Pulse Communications Inc Falls Church . . . Va
Sprague Electric Co North Adams . . . Mass
Thorn Automation Ltd Rugeley, Staffs . . . England
Veeder-Root Hartford . . . Conn
Wiltek, Inc Wilton . . . Conn

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GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y . . . ADV PG 7
INTERELECTRONICS CORP CONGERS . . . N Y
NORTH HILLS ELECTRONICS INC GLEN COVE . . . N Y
OPAD ELECTRIC CO, INC NEW YORK . . . N Y
SUPERIOR ELECTRIC CO THE BRISTOL . . . CONN
TECHNICAL APPARATUS BUILDERS DIV POWER
  ALTERNATING DIRECT CORP BROOKLYN
  N Y . . . ADV PG 471
American Rectifier Corp College Point . . . N Y
Astro-Metrix Corp Burbank . . . Cal
Beckman Instruments Inc Fullerton, . . . Cal
Bronson Corp, Sub Kurz & Root Co Appleton . . . Wisc
Bush Transformer Div, Gladding-Keystone Corp Oneonta . . . NY
Central Transformer Co Chicago . . . Ill
C I T E Santa Margherita Ligure . . . Italy
Dero Research & Devel Corp Huntington . . . N Y
Drusch & Co 92 Rueil Malmaison . . . France
Elasco-Eastern Inc Bloomfield . . . Conn
Electran Mfg Co Constant Voltage Co Div Chicago . . . Ill
Electronic Resources Inc Tasker Indus Los Angeles . . . Cal
Ferranti, Ltd Lancashire . . . England
Fuji Electric Co Ltd Tokyo . . . Japan
General Electric Co, ECSO Schenectady . . . N Y
Giannini-Voltex-Radex-Irvine Whittier . . . Cal
Glenn Pacific A Teledyne Co Oakland . . . Cal
Green Electric Corp Fairlawn . . . NJ
Hevi-Duty Electric Div Sola Basic Industries Goldsboro . . . N C
Interelectronics Corp Congers . . . N Y
Lear Siegler Inc Santa Monica . . . Cal
Lear Siegler Inc, Power Equipment Div Cleveland . . . Ohio
Leland Airborne Products Div AMF Vandalia . . . Ohio
Loyola Industries Inc Harbor City . . . Cal
Magnetic Specialties Inc Trenton . . . N J
North Hills Electronics Inc Glen Cove . . . N Y
Novatronics Inc Pompano Beach . . . Fla
Opad Electric Co, Inc New York . . . N Y
Plessey Airborne Corp Hillside . . . NJ
Power Control Corp Pittsburgh . . . Pa
Radix Electronics Corp Anaheim . . . Cal
Robicon Corp Pittsburgh . . . Pa
Scientific Instruments Co Chatsworth . . . Cal
Sedco Systems Inc Farmingdale . . . N Y
S K G Associates Inc Boston . . . Mass
Sorensen Operation, Raytheon Co. Norwalk . . . Conn
Superior Electric Co The Bristol . . . Conn
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . N J
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn . . . N Y
Thiem-Transrex Inc Torrance . . . Cal
Topping Electronics Ltd Scarborough . . . Ont
Wanlass Electric Co Santa Ana . . . Cal
Welex Electronics, Div Halliburton Co Silver Spring . . . Md
Westinghouse Electric Corp, Aerospace Electrical Div
  Lima . . . Ohio
Yaskawa Electric Mfg Co Ltd Tokyo . . . Japan

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  INC OCEANPORT . . . N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y . . . ADV PG 7
INTERELECTRONICS CORP CONGERS . . . N Y
KEPCO INC FLUSHING N Y . . . ADV PG 4th Cover
NORTH HILLS ELECTRONICS INC GLEN COVE . . . N Y
OPAD ELECTRIC CO, INC NEW YORK . . . N Y
TECHNICAL APPARATUS BUILDERS DIV POWER
  ALTERNATING DIRECT CORP BROOKLYN
  NY . . . ADV PG 471
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Beckman Instruments Inc Fullerton, . . . Cal
Bronson Corp, Sub Kurz & Root Co Appleton . . . Wisc
Bush Transformer Div, Gladding-Keystone Corp Oneonta
Cal-Power Corp El Segundo
Components Corp Denville
Control Logic Inc Natick . . . M
Dero Research & Devel Corp Huntington
Dorsett Electronics Inc Tulsa
Drusch & Co 92 Rueil Malmaison . . . Fra
Eastern Delta Corp Fair Lawn
Elasco-Eastern Inc Bloomfield
Electran Mfg Co Constant Voltage Co Div Chicago
Electronic Measurements Div Rowan Industries Inc
  Oceanport
Electronic Resources Inc Tasker Indus Los Angeles
Elgin Electronics Inc Erie
Ferranti, Ltd Lancashire . . . Eng
Fuji Electric Co Ltd Tokyo . . . Ja
General Electric Co, ECSO Schenectady
General Systems Inc Erie
Giannini-Voltex-Radex-Irvine Whittier
Grafix Inc Albuquerque . . . N
Halmar Electronics Inc Columbus
Instrulab Inc Dayton
Instrument Components Co Maple Heights
Interelectronics Corp Congers
Julie Research Labs, Inc New York
Kepco Inc Flushing
Kikusui Electronics Corp
  Kanagawa City . . . Kanagawa Pref Ja
Kruse-Storke Electronics Mountain View
Lear Siegler Inc Santa Monica
Lear Siegler Inc, Power Equipment Div Cleveland
Leland Airborne Products Div AMF Vandalia
Loyola Industries Inc Harbor City
Macarr Inc Bronx
Magnetic Specialties Inc Trenton
Motorola Semiconductor Products Inc Phoenix
Norbatrol Electronics Corp Murrysville
North Hills Electronics Inc Glen Cove
Novatronics Inc Pompano Beach
Nuclide Corp, AGV Div Acton . . . M
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Plessey Airborne Corp Hillside
Polyphase Instrument Co Bridgeport
Power Control Corp Pittsburgh
Radix Electronics Corp Anaheim
Rapid Electric Co Inc Bronx
Reaction Research Labs of America Groton
Rho Engineering Co Los Angeles
Robicon Corp Pittsburgh
Safety Electrical Equipment Corp New Haven
Scientific Instruments Co Chatsworth
Sedco Systems Inc Farmingdale
Silicon General Inc Westminister
S K G Associates Inc Boston . . . M
Sorensen Operation, Raytheon Co. Norwalk
Space Age Microcircuits Chatham
Space Craft Inc Huntsville
SRC Div Crescent Technology Corp Newport Beach,
Taft Electrosystems Inc Applied Elctns Div Metuchen
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn
Thiem-Transrex Inc Torrance
Todd Products Corp Hicksville
Topping Electronics Ltd Scarborough
Trio Laboratories Inc Plainview
Vector Engineering Inc Springfield
Welex Electronics, Div Halliburton Co Silver Spring
Weltronic Co Southfield
Westinghouse Electric Corp, Aerospace Electrical Div
  Lima
Yaskawa Electric Mfg Co Ltd Tokyo . . . Ja

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C M L INC PLAINFIELD
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GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y . . . ADV P
NIPPON ELECTRIC CO LTD TOKYO . . . JA
American Time Products, Elctns Div Bulova Watch Co Inc
  Woodside
Basler Electric Co Highland
Bogue Electric Mfg Co Paterson
Bramco Controls Div Ledex Inc Piqua
Bronson Corp, Sub Kurz & Root Co Appleton
Bush Transformer Div, Gladding-Keystone Corp Oneonta
C M L Inc Plainfield
Dero Research & Devel Corp Huntington
Drusch & Co 92 Rueil Malmaison . . . Fra
Electronic Resources Inc Tasker Indus Los Angeles
Elgar Corp San Diego
Fork Standards Inc West Chicago
Frequency Electronics Inc New Hyde Park
Fuji Electric Co Ltd Tokyo . . . Ja
General Electric Co, ECSO Schenectady
Giannini-Voltex-Radex-Irvine Whittier
Kato Engineering Co Mankato . . . M
Lear Siegler Inc Santa Monica
Lear Siegler Inc, Power Equipment Div Cleveland
Leland Airborne Products Div AMF Vandalia
Macarr Inc Bronx
Maricopa Controls Scottsdale
Nippon Electric Co Ltd Tokyo . . . Ja
Parzen Research Elctn Prods Gr Ovitron Corp Westbury
Plessey Airborne Corp Hillside
Power Systems Inc Venice
Relcom Mountain View
Riverbank Labs, Dept of Engrg Geneva
Robicon Corp Pittsburgh
Sorensen Operation, Raytheon Co. Norwalk . . . C
Space Craft Inc Huntsville
Taft Electrosystems Inc Applied Elctns Div Metuchen
Varo Inc, Static Power Div Plano
Wac Line Div Simmonds Precision Prods Dayton
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Now from Lambda. All solid state ac power conditioners

1% line and load regulation   3% harmonic distortion
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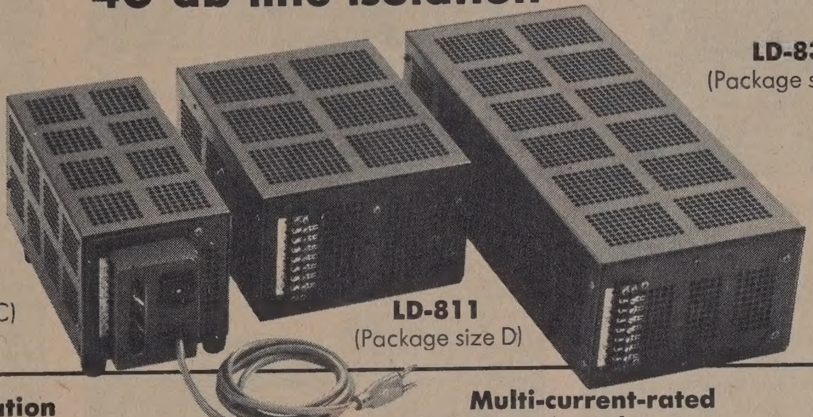

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less than 50 msec.

All silicon semiconductors

Convection cooled
no external heat sinks

Sinusoidal output
less than 3% distortion

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greater than 80%

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+0.7 PF leading to 0 PF lagging

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Multi-current-rated
40° C, 50° C, 60° C, 71° C

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Wide frequency range
57-63 Hz or 47-53 Hz

Wide temperature range
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Wide input voltage range
100-132, 180-235, 200-265 vac

Automatic current limiting
protects load as well as power supply

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all components replaceable

			INPUT VAC				MAXIMUM VA AT AMBIENT OF (1)				
		Model (3)	Resistive Load	Inductive Load	OUTPUT VAC (Adjustable)	Frequency Hz	40°C	50°C	60°C	71°C	Price (2)
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		LD-802*	100-132	105-132	100-132	57-63	225	180	130	70	200
		LD-803	180-235	190-235	200-220	57-63	200	165	120	70	200
		LD-803-V	200-265	210-265	220-240	47-53	200	165	120	70	200
	4 15/16" x 7 1/2" x 9 3/8"	LD-811	100-132	105-132	110-120	57-63	500	440	300	170	150
		LD-812*	100-132	105-132	100-132	57-63	450	350	270	120	225
		LD-813	180-235	190-235	200-220	57-63	400	320	250	120	225
		LD-813-V	200-265	210-265	220-240	47-53	400	320	250	120	225
	4 15/16" x 7 1/2" x 16 1/2"	LD-831	100-132	105-132	110-120	57-63	1000	800	600	350	230
		LD-832*	100-132	105-132	100-132	57-63	900	725	550	300	275
		LD-833	180-235	190-235	200-220	57-63	800	640	500	280	275
		LD-833-V	200-265	210-265	220-240	47-53	800	640	500	280	275

*Models LD-802, 812, and 832 are remotely programable.

Note 1. Ratings do not apply for capacitive load; consult factory.
2. All prices F.O.B. Melville, N.Y. All prices and specifications subject to change without notice.
3. "—V option" units are same as LD-803, 813 & 833 respectively except that internal taps on transformer are rewired for input frequency change.

One day delivery—90% of all models

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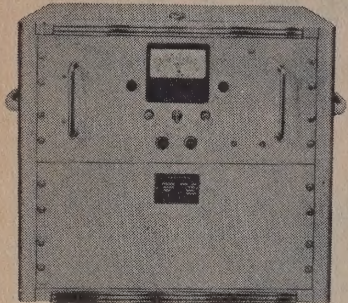
IN RATED OUTPUTS TO 275 KVA



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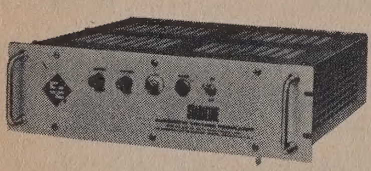
EMT — Electro Mechanical Transistorized types in ratings from 2.3 to 118 kva. Control circuit completely transistorized. POWERKOTE Coils in power section permit higher output ratings. Rated accuracy ±.75% for all variations of line voltage or load current within stated range of unit.

EMS — Electro Mechanical Transistorized types with ratings from 25 to 275 kva. Several types available with individual line control. Plug-in transistorized control circuit.

EMK — Electro Mechanical high speed, high accuracy types in ratings of 2.5/5.0 kva. Accuracy ±1.0% of nominal output voltage.



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IES — Feature completely solid-state circuitry with accuracy within 100 millivolts bandwidth, efficiency up to 95%, fast response, low distortion and wide operating frequency range. Ratings to 15 kva. No vacuum tubes, motors or blowers. All have provision for remote sensing and have removable plug-in solid-state circuit boards.

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C M L INC PLAINFIELD .... N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
INTERELECTRONICS CORP CONGERS .... N Y
LAMBDA ELECTRONICS CORP PLAINVIEW NY .. ADV PG 523
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
NOVA ELECTRIC MFG CO SADDLE BROOK .... N J
OPAD ELECTRIC CO, INC NEW YORK .... N Y
STEVENS-ARNOLD INC SOUTH BOSTON MASS . ADV PG 120
SUPERIOR ELECTRIC CO THE BRISTOL CONN .. ADV PG 524
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y .... ADV PG 471

Abbott Transistor Labs, Inc Los Angeles .... Cal
Allis-Chalmers Mfg Co Milwaukee .... Wis
American Rectifier Corp College Point .... N Y
Astro-Metrix Corp Burbank .... Cal
Aviation Electric Ltd St Laurent, Montreal .... Que
Basler Electric Co Highland Ill
Beckman Instruments Inc Fullerton, ... Cal
Bergen Lab, Inc Paterson .... N J
Bogue Electric Mfg Co Paterson .... N J
Borg-Warner Controls Div Borg-Warner Corp Santa Ana .. Cal
Bronson Corp, Sub Kurz & Root Co Appleton .... Wisc
Bush Transformer Div, Gladding-Keystone Corp Oneonta .. NY
California Instruments Corp San Diego .... Cal
Cal-Power Corp El Segundo .... Cal
Canadian Research Institute Don Mills .... Ont
CBC Industries Inc Philadelphia .... Pa
Central Transformer Co Chicago Ill
C I T E Santa Margherita Ligure .... Italy
Clare-Electroseal Corp Des Plaines Ill
C M L Inc Plainfield .... N J
Data Royal Corp San Diego .... Cal
Del Electronics Corp Mt Vernon .... N Y
Dero Research & Devel Corp Huntington .... N Y
Dinion Coil Co Inc Caledonia .... N Y
Elasco-Eastern Inc Bloomfield .... Conn
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electronic Research Associates Inc Cedar Grove .... N J
Electronic Resources Inc Tasker Indus Los Angeles .... Cal
Elgar Corp San Diego .... Cal
Elgin Electronics Inc Erie .... Pa
Euro Cedag Milan .... Italy
Ferranti, Ltd Lancashire .... England
Fincor Inc York .... Pa
Firing Circuits Div Marathon Electric Mfg Co Norwalk ... Conn
Forest Electric Co Melrose Park Ill
Fuji Electric Co Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
General Magnetics Inc Bloomfield .... N J
General Radio Co West Concord .... Mass
Geo Space Corp Houston .... Tex
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Glenn Pacific A Teledyne Co Oakland .... Cal
Green Rectifier Corp Fair Lawn .... N J
Gulton Industries Inc Metuchen .... N J
Gulton Industries Inc Engineered Magnetics Div Hawthorne .... Cal
Hevi-Duty Electric Div Sola Basic Industries Goldsboro ... N C
Hi-Altitude Instrument Co, Inc. Denver .... Colo
Interelectronics Corp Congers .... N Y
Iwatsu Electric Co Ltd Suginami-ku Tokyo .... Japan
Kato Engineering Co Mankato .... Minn
Kearfott Div Singer-General Precision Inc Little Falls ..... NJ
Kelk Ltd, George Don Mills .... Ont
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Landis & Gyr AG Zug .... Switzerland
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Power Equipment Div Cleveland .... Ohio
Leland Airborne Products Div AMF Vandalia .... Ohio
Loyola Industries Inc Harbor City .... Cal
Macarr Inc Bronx .... N Y
Magnetic Specialties Inc Trenton .... N J
Maricopa Controls Scottsdale .... Ariz
Mid-Eastern Industries Inc Scotch Plains .... N J
NH Research Inc Santa Ana .... Cal
Norbatrol Electronics Corp Murrysville .... Pa
North Hills Electronics Inc Glen Cove .... N Y
Nova Electric Mfg Co Saddle Brook .... N J
Opad Electric Co, Inc New York .... N Y
Origin Electric Co Ltd Tokyo .... Japan
Phoenix Transformer Co Phoenix .... Ariz
Plessey Airborne Corp Hillside .... NJ
Power Control Corp Pittsburgh .... Pa
Power Systems Inc Venice .... Cal
Qutronic Transformer Corp Oneonta .... N Y
Radix Electronics Corp Anaheim .... Cal
Robicon Corp Pittsburgh .... Pa
Scientific Instruments Co Chatsworth .... Cal
Sedco Systems Inc Farmingdale .... N Y
S K G Associates Inc Boston .... Mass
Sola Electric Div Sola Basic Industries Elk Grove Village ... Ill
Solid State Scientific Corp Montgomery .... Pa
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Stevens-Arnold Inc South Boston .... Mass
Superior Electric Co The Bristol .... Conn
Syracuse Electronics Corp Syracuse .... N Y
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Tel-Instrument Electronics Corp Carlstadt .... N J
Thiem-Transrex Inc Torrance .... Cal
Todd Products Corp Hicksville .... NY
Topping Electronics Ltd Scarborough .... Ont
Transval Electronics Div Jetronic Indus Inc Gardena ...... Cal
Twinco Div Atlas Engrg Co Inc Dorchester .... Mass
Vapor Corp Chicago Ill
Varo Inc, Static Power Div Plano .... Tex
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Wanlass Electric Co Santa Ana .... Cal
Westinghouse Electric Corp, Aerospace Electrical Div Lima .... Ohio

REGULATORS, VOLTAGE—D-C

BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON CAL .... ADV PG
ELECTRONIC MEASUREMENTS DIV ROWAN INDUSTRIES INC OCEANPORT ....
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV P
INTERELECTRONICS CORP CONGERS ....
KEPCO INC FLUSHING N Y .... ADV PG 4th C
NORTH HILLS ELECTRONICS INC GLEN COVE ....
OPAD ELECTRIC CO, INC NEW YORK ....
TABER INSTRUMENTS A TELEDYNE CO NORTH TONAWANDA ....
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y .... ADV PG
TRANSFORMER ELECTRONICS CO BOULDER COLO .... ADV PGS 2nd Cover & Facing
Abbott Transistor Labs, Inc Los Angeles ....
Aerospace Avionics Inc Bohemia ....
Allis-Chalmers Mfg Co Milwaukee ....
Amelco Semiconductor, A Teledyne Co Mountain View ....
American Rectifier Corp College Point ....
American Time Products, Elctns Div Bulova Watch Co Inc Woodside ....
Astro-Metrix Corp Burbank ....
Ault, Inc Minneapolis .... M
Aviation Electric Ltd St Laurent, Montreal ....
Basler Electric Co Highland ....
Beckman Instruments Inc Fullerton, ...
Beckman Instruments Inc, Helipot Div Fullerton ....
Beckman Instruments Intl SA 1207 Geneva .... Switzer
Bendix Corp Semiconductor Div Holmdel ....
Bergen Lab, Inc Paterson ....
Bogue Electric Mfg Co Paterson ....
Bronson Corp, Sub Kurz & Root Co Appleton V
Burr-Brown Research Corp Tucson ....
Bush Transformer Div, Gladding-Keystone Corp Oneonta ..
Cal-Power Corp El Segundo ....
Canadian Research Institute Don Mills ....
Chalco Engineering Corp Gardena ....
Clare-Electroseal Corp Des Plaines ....
Components Corp Denville ....
Control Logic Inc Natick .... M
Data Device Corp Hicksville ....
Dayton Electronics Products Co Dayton ....
Dero Research & Devel Corp Huntington ....
Drusch & Co 92 Rueil Malmaison .... Fra
Dynamic Controls Corp South Windsor C
Eastern Delta Corp Fair Lawn ....
Elasco-Eastern Inc Bloomfield C
Electran Mfg Co Constant Voltage Co Div Chicago ....
Electroid Corp Union ....
Electronic Measurements Div Rowan Industries Inc Oceanport ....
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Electronics Inc Erie . . . Pa
ild Controls Hicksville . . . N Y
ild Semiconductor Div Fairchild Cam & Inst Corp ntain View . . . Cal
ne Electronics, Inc Long Valley . . . N J
nti, Ltd Lancashire . . . England
Inc York . . . Pa
Circuits Div Marathon Electric Mfg Co Norwalk . . . Conn
Electric Co Melrose Park . . . Ill
lectric Co Ltd Tokyo . . . Japan
al Electric Co, ECSO Schenectady . . . N Y
al Instrument Corp, Semiconductor Prods Grp ksville . . . N Y
al Systems Inc Erie . . . Pa
pace Corp Houston . . . Tex
ni-Voltex-Radex-Irvine Whittier . . . Cal
Inc Albuquerque . . . N Mex
Industries Inc Sun Valley . . . Cal
n Industries Inc Metuchen . . . N J
n Industries Inc Engineered Magnetics Div vthorne . . . Cal
ar Electronics Inc Columbus . . . Ohio
lab Inc Dayton . . . Ohio
lectronics Corp Congers . . . N Y
Research Labs, Inc New York . . . N Y
Engineering Co Mankato . . . Minn
o Inc Flushing . . . N Y
ui Electronics Corp nagawa City . . . Kanagawa Pref Japan
Siegler Inc Santa Monica . . . Cal
Siegler Inc, Power Equipment Div Cleveland . . . Ohio
-Neville Co Cleveland . . . Ohio
d Airborne Products Div AMF Vandalia . . . Ohio
a Industries Inc Harbor City . . . Cal
rr Inc Bronx . . . N Y
etic Specialties Inc Trenton . . . N J
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atrol Electronics Corp Murrysville . . . Pa
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Electronics Canoga Park . . . Cal
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er Systems Inc Venice . . . Cal
onic Transformer Corp Oneonta . . . N Y
x Electronics Corp Anaheim . . . Cal
d Electric Co Inc Bronx . . . N Y
lco Inc Seattle . . . Wash
theon Co, Components Div, Ind Compnts Oper uincy . . . Mass
ction Research Labs of America Groton . . . Conn
o Products Inc Denver . . . Colo
Engineering Co Los Angeles . . . Cal
Associates Inc Menlo Park . . . Cal
con Corp Pittsburgh . . . Pa
ety Electrical Equipment Corp New Haven . . . Conn
auer Mfg Corp Cincinnati . . . Ohio
ntific Instruments Co Chatsworth . . . Cal
co Systems Inc Farmingdale . . . N Y
on General Inc Westminister . . . Cal
G Associates Inc Boston . . . Mass
Electric Div Sola Basic Industries Elk Grove Village . . . Ill
d State Scientific Corp Montgomery . . . Pa
ex Inc Philadelphia . . . Pa
ensen Operation, Raytheon Co. Norwalk . . . Conn
ce Age Microcircuits Chatham . . . N J
ce Craft Inc Huntsville . . . Ala
C Div Crescent Technology Corp Newport Beach, . . . Cal
acuse Electronics Corp Syracuse . . . N Y
er Instruments A Teledyne Co North Tonawanda . . . N Y
t Electrosystems Inc Applied Elctns Div Metuchen . . . N J
hnical Apparatus Builders Div Power Alternating Direct orp Brooklyn . . . N Y
em-Transrex Inc Torrance . . . Cal
d Products Corp Hicksville . . . NY
ping Electronics Ltd Scarborough . . . Ont
nchant Electronique 92 Clichy . . . France
nsformer Electronics Co Boulder . . . Colo
nsval Electronics Div Jetronic Indus Inc Gardena . . . Cal
o Laboratories Inc Plainview . . . N Y
nco Div Atlas Engrg Co Inc Dorchester . . . Mass
versal Electronics Co Santa Monica . . . Cal
o Inc, Static Power Div Plano . . . Tex
tor Engineering Inc Springfield . . . N J
toreen Instrument Div Cleveland . . . Ohio
hay Resistor Prods Div Vishay Intertechnology Inc Malvern . . . Pa
c Line Div Simmonds Precision Prods Dayton . . . Ohio
nlass Electric Co Santa Ana . . . Cal
ltronic Co Southfield . . . Mich
stinghouse Electric Corp, Aerospace Electrical Div Lima . . . Ohio

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***See* Coils—Winding Only**

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***See* Relay Systems**

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***See* Racks—Mounting & Relay**

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AEMCO DIV, MIDTEX INC MANKATO MINN . . . ADV PG 525
AMPHENOL DANBURY . . . CONN
GENERAL REED CO CLARK . . . N J
NIPPON ELECTRIC CO LTD TOKYO . . . JAPAN
UNIVERSAL RELAY CORP NEW YORK . . . N Y
WHEELOCK SIGNALS INC LONG BRANCH . . . N J
Aemco Div, Midtex Inc Mankato . . . Minn
Allied Control Co Inc New York . . . N Y
American Cable Electronic Supply Inc Sacramento . . . Cal
Amphenol Danbury . . . Conn
Artisan Electronics Corp Parsippany . . . N J
Automated Measurements Corp Oakland . . . Calif
Automatic Metal Products Corp Brooklyn . . . N Y
Ava Electronics & Machine Corp Upper Darby . . . Pa
B & R Relays Ltd Essex . . . England
Clare & Co, C P Chicago . . . Ill
Coax Devices Chelsea . . . Mass
Computer Components Inc Jamaica . . . N Y
Coto-Coil Co Inc Providence . . . R I
Daico Industries Inc Gardena . . . Cal
Douglas Randall Inc Westerly . . . R I
Dow-Key Co Broomfield . . . Colo
Electronic Applications Co Pine Brook . . . N J
Electronic Instrument & Specialty Corp Winchester . . . Mass
Electronic Resources Inc Tasker Indus Los Angeles . . . Cal
General Microwave Corp Farmingdale . . . N Y
General Reed Co Clark . . . N J
General Relay Corp Dover . . . N J
Guide Industries Inc Sun Valley . . . Cal
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake . . . Ill
Herley Industries, Inc Syosset . . . N Y
Hi-G Inc Windsor Locks . . . Conn
ITT Jennings Div, Intl Tel & Tel Corp San Jose . . . Cal
Jerrold Electronics Corp Philadelphia . . . Pa
Kidde & Co Inc, Walter Belleville . . . N J
Lake Engineering Co Ltd Scarborough . . . Ont
Magnecraft Electric Co Chicago . . . Ill
Matrix Div, Schafer Electronics Chatsworth . . . Cal
Meridian Metalcraft Inc Whittier . . . Cal
Nippon Electric Co Ltd Tokyo . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . Fla
Plessey Co Ltd Ilford Essex . . . England
Pollak Corp, Joseph Boston . . . Mass
Rohde & Schwarz Sales Co USA Inc Passaic . . . N J
Scherma Mfg Co Inc, F A New York . . . N Y
Standard Relay Corp West Babylon . . . N Y
Struthers-Dunn Inc Pitman . . . N J
Teledata Inc Queens Village . . . N Y
Transco Products Inc Venice . . . Cal
Trompeter Electronics Inc Chatsworth . . . Cal
Tru-Connector Corp Peabody . . . Mass
United Standard Industries Inc Glenview . . . Ill
Universal Relay Corp New York . . . N Y
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ELECTRO-TEC CORP ORMOND BEACH, FLA . . . ADV PG 526
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GENERAL REED CO CLARK . . . N J
GRIGSBY BARTON INC ARLINGTON HEIGHTS . . . ILL
GUARDIAN ELECTRIC MFG CO CHICAGO . . . ILL
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK . . NY
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NIPPON ELECTRIC CO LTD TOKYO . . . JAPAN
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON . . . IND
PRINTACT RELAY DIV EXECUTONE INC LONG ISLAND CITY . . . N Y
STEVENS-ARNOLD INC SOUTH BOSTON MASS . ADV PG 120
UNIVERSAL RELAY CORP NEW YORK . . . N Y
WHEELOCK SIGNALS INC LONG BRANCH . . . N J
Adams & Westlake Co Elkhart . . . Ind
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . Fla
Alco Electronic Products, Inc Lawrence . . . Mass
Allen-Bradley Co Milwaukee . . . Wis
Allied Control Co Inc New York . . . N Y
Alpha Relays Inc Jersey City . . . N J
A M E C 45 Orleans . . . France
American Solenoid Co, Inc Rahway . . . N J
American Zettler, Inc Costa Mesa . . . Cal
Anritsu Electric Co Ltd Tokyo . . . Japan
Arco S P A Milano . . . Italy
Automatic Electric Co Northlake . . . Ill
Automatic Switch Co Florham Park . . . N J
Babcock Electronics, Relay Div Costa Mesa . . . Cal
Barron Controls & Relay Corp Grayslake . . . Ill
Branson Corp Denville . . . N J
Bristol Div, American Chain & Cable Co Waterbury . . . Conn
B & R Relays Ltd Essex . . . England
Clare & Co, C P Chicago . . . Ill
Compac Engineering Inc San Jose . . . Cal
Computer Components Inc Jamaica . . . N Y
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark . . . N J
Coto-Coil Co Inc Providence . . . R I
Couch S H, Div ESB Inc Boston . . . Mass
Cutler-Hammer Inc Milwaukee . . . Wisc
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Elec-Trol Inc Saugus . . . Cal
Electronic Controls Inc Wilton . . . Conn
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Electronic Resources Inc Tasker Indus Los Angeles . . . Cal
Electronic Specialty Co Portland Elctns Div Portland . . . Ore
Electro-Tec Corp Ormond Beach . . . Fla
Essex International Controls Div Logansport . . . Ind
Fifth Dimension Inc Princeton . . . N J
General Automatic Corp Bayonne . . . N J
General Electric Co, ECSO Schenectady . . . N Y
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Giannini-Voltex-Radex-Irvine Whittier . . . Cal
Grigsby Barton Inc Arlington Heights . . . Ill
Guardian Electric Mfg Co Chicago . . . Ill
Guide Industries Inc Sun Valley . . . Cal
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake . . . Ill
Hartman Electrical Mfg Co Mansfield . . . Ohio
High Vacuum Electronics Inc South Pasadena . . . Cal
Hi-G Industrial Products Hauppauge . . . N Y
IBM, Industrial Products Marketing New York . . . NY
ITT Europe Inc Components Gp Brussels 1 . . . Belgium
ITT Jennings Div, Intl Tel & Tel Corp San Jose . . . Cal
Jaidinger Mfg Co Inc Chicago . . . Ill
James Electronics Inc Chicago . . . Ill
Jerrold Electronics Corp Philadelphia . . . Pa
Kelvin Van Nuys . . . Cal
Kuhnke, H, Elektrotechnische Fabrik Gmbh Holstein . Germany
Leach Corp South Pasadena . . . Cal
Liberty Controls Div Liberty Leasing Co Inc. Shorewood . . . Ill
Life Instrument Co Inc Franklin . . . Mass
Line Electric Co Parsippany . . . N J
Mack Electric Devices Inc Wyncote . . . Pa
Magnecraft Electric Co Chicago . . . Ill

MKC Electronics Corp Kansas City....Kans
Nippon Electric Co Ltd Tokyo....Japan
Oki Electric Industry Co Ltd Tokyo....Japan
Oki Electronics of America, Inc Fort Lauderdale....Fla
Pacific Relays Inc Van Nuys....Cal
Plessey Airborne Corp Hillside....NJ
Plessey Co Ltd Ilford Essex....England
Pollak Corp, Joseph Boston....Mass
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton..Ind
Price Electric Corp Frederick....Md
Printact Relay Div Executone Inc Long Island City....N Y
Relays Inc New York....N Y
Relay Specialties Inc Fair Lawn....N J
Schrack Electrical Sales Corp New York....N Y
Sigma Instruments Inc Braintree....Mass
Solid State Electronics Corp Sepulveda....Cal
Sorenson Lighted Controls Inc West Hartford....Conn
Square D Co Park Ridge....Ill
Standard Relay Corp West Babylon....N Y
Stevens-Arnold Inc South Boston....Mass
Struthers-Dunn Inc Pitman....N J
Teledyne Relays A Teledyne Co Hawthorne....Cal
Thomson-CSF 78 Versailles....France
Tokyo Electric Co Ltd Tokyo....Japan
Torr Labs Inc Los Angeles....Cal
Trompeter Electronics Inc Chatsworth....Cal
Universal Relay Corp New York....N Y
Vactric Control Equipment Ltd Morden....England
Vanguard Relay Corp Lindenhurst....NY
Welch Relay Div Kratos Los Angeles....Cal
Welex Electronics, Div Halliburton Co Silver Spring....Md
Wells Co Inc, Gary Yonkers....N Y
Westinghouse Electric Corp, Relay & Instr Div Newark....N J
Wheelock Signals Inc Long Branch....N J
Yaskawa Electric Mfg Co Ltd Tokyo....Japan

RELAYS—ELECTROMAGNETIC, HIGH VOLTAGE

AEMCO DIV, MIDTEX INC MANKATO....MINN
ANRITSU ELECTRIC CO LTD TOKYO....JAPAN
DALE ELECTRONICS INC COLUMBUS....NEB
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y....ADV PG 7
GRIGSBY BARTON INC ARLINGTON HEIGHTS....ILL
GUARDIAN ELECTRIC MFG CO CHICAGO....ILL
LEACH CORP SOUTH PASADENA CAL...ADV PGS 532-535
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO
  PRINCETON....IND
UNIVERSAL RELAY CORP NEW YORK....N Y
WHEELOCK SIGNALS INC LONG BRANCH....N J
Aemco Div, Midtex Inc Mankato....Minn
Allied Control Co Inc New York....N Y
American Solenoid Co, Inc Rahway....N J
Anritsu Electric Co Ltd Tokyo....Japan
Arco S P A Milano....Italy
Automatic Electric Co Northlake....Ill
Automatic Switch Co Florham Park....N J
Barron Controls & Relay Corp Grayslake....Ill
B & R Relays Ltd Essex....England
Clare & Co, C P Chicago....Ill
Compac Engineering Inc San Jose....Cal
Computer Components Inc Jamaica....N Y
Coto-Coil Co Inc Providence....R I
Cutler-Hammer Inc Milwaukee....Wisc
Dale Electronics Inc Columbus....Neb
Deutsch Filtors Relay Div East Northport....N Y
Douglas Randall Inc Westerly....R I
Ebert Electronics Corp Floral Park....N Y
Eimac Div, Varian Associates San Carlos....Cal
Elec-Trol Inc Saugus....Cal
Electronic Instrument & Specialty Corp Winchester....Mass
Essex International Controls Div Logansport....Ind
Fuji Electric Co Ltd Tokyo....Japan
General Electric Co, ECSO Schenectady....N Y
Giannini-Voltex-Radex-Irvine Whittier....Cal
Grigsby Barton Inc Arlington Heights....Ill
Guardian Electric Mfg Co Chicago....Ill
Hart-Advance Relay Div Oak Electro/Netics Corp
  Crystal Lake....Ill
Hartman Electrical Mfg Co Mansfield....Ohio
High Vacuum Electronics Inc South Pasadena....Cal
ITT Jennings Div, Intl Tel & Tel Corp San Jose....Cal
Kelvin Van Nuys....Cal
Lake Engineering Co Ltd Scarborough....Ont
LaPine Scientific Co Chicago....Ill
Leach Corp South Pasadena....Cal
Liberty Controls Div Liberty Leasing Co Inc. Shorewood....Ill
Line Electric Co Parsippany....N J
Mack Electric Devices Inc Wyncote....Pa
Magnecraft Electric Co Chicago....Ill
MKC Electronics Corp Kansas City....Kans
Parelco, Inc San-Juan Capistrano....Cal
Pollak Corp, Joseph Boston....Mass
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton..Ind
Price Electric Corp Frederick....Md
Relays Inc New York....N Y
Ross Engineering Corp Saratoga....Cal
Schrack Electrical Sales Corp New York....N Y
Sigma Instruments Inc Braintree....Mass
Solid State Electronics Corp Sepulveda....Cal
Square D Co Park Ridge....Ill
Standard Relay Corp West Babylon....N Y
Struthers-Dunn Inc Pitman....N J
Universal Relay Corp New York....N Y
Vanguard Relay Corp Lindenhurst....NY
Vitra Instrument & Electronics Corp Syosset....N Y
Welex Electronics, Div Halliburton Co Silver Spring....Md
Westinghouse Electric Corp, Relay & Instr Div Newark....N J
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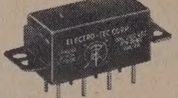
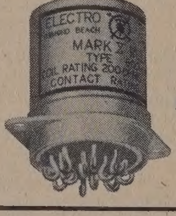

2 PDT
MARK II, SERIES 500
MIL-R-5757/9

6PDT 4PDT
(1" x 1")
MARK II, SERIES 300
(6 PDT).
SERIES 350 (4 PDT).
MIL-R-5757/1 and
MIL-R-5757/7

6PDT
MARK II, SERIES 085
(−55°C to +85°C)
SERIES 100
(−65°C to +125°C),
SERIES 200
(−65°C to +200°C).
MIL-R-5757/1.


4PDT, 10AMP
MARK X, SERIES 600-02
MSFC-339/22A

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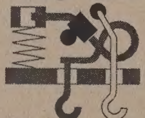

The moving contacts are mounted between two stationary contacts. On actuation, they drive into the stationary contacts, creating high pressures and low contact resistance at all current levels. In addition, wedge-action contact wipe provides self-cleaning of the precious-metal contacts.
*Patented

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AEMCO DIV, MIDTEX INC MANKATO....MI
ANRITSU ELECTRIC CO LTD TOKYO....JAP
DALE ELECTRONICS INC COLUMBUS....
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT
  IOWA....ADV PG
GRIGSBY BARTON INC ARLINGTON HEIGHTS....
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PRINTACT RELAY DIV EXECUTONE INC
  LONG ISLAND CITY....
UNIVERSAL RELAY CORP NEW YORK N Y....ADV PG
WHEELOCK SIGNALS INC LONG BRANCH....
Adams & Westlake Co Elkhart....
Aemco Div, Midtex Inc Mankato....M
Alco Electronic Products, Inc Lawrence....M
A L Controls Co New Haven....C
Allied Control Co Inc New York....
Alpha Relays Inc Jersey City....
A M E C 45 Orleans....Fra
American Solenoid Co, Inc Rahway....
American Zettler, Inc Costa Mesa....
Anritsu Electric Co Ltd Tokyo....Ja
Arco S P A Milano....I
Artisan Electronics Corp Parsippany....
Automatic Electric Co Northlake....
Automatic Switch Co Florham Park....
Babcock Electronics, Relay Div Costa Mesa....
Barron Controls & Relay Corp Grayslake....
Branson Corp Denville....
B & R Relays Ltd Essex....Engl
Cie De Signaux Et D'Entreprises Electriques
  Paris 17eme....Fra
Compac Engineering Inc San Jose....
Computer Components Inc Jamaica....
Cook Electric Co Automatic Controls Div Palatine....
Cornell-Dubilier Electronics Div Federal Pacific Electric Co
  Newark....
Dale Electronics Inc Columbus....
Deutsch Filtors Relay Div East Northport....
Douglas Randall Inc Westerly....
Eagle Signal A Gulf & Western Co Davenport....I
Ebert Electronics Corp Floral Park....
Elec-Trol Inc Saugus....
Electronic Controls Inc Wilton....C
Electronic Specialty Co Portland Elctns Div Portland....
Ericsson Centrum Inc New York....
Essex International Controls Div Logansport....
General Automatic Corp Bayonne....
Giannini-Voltex-Radex-Irvine Whittier....
Grason Stadler Co Inc West Concord....M
Grigsby Barton Inc Arlington Heights....
Guardian Electric Mfg Co Chicago....
Guide Industries Inc Sun Valley....
Hart-Advance Relay Div Oak Electro/Netics Corp
  Crystal Lake....
Hartman Electrical Mfg Co Mansfield....
High Vacuum Electronics Inc South Pasadena....
ITT Europe Inc Components Gp Brussels 1....Belg
ITT Jennings Div, Intl Tel & Tel Corp San Jose....
Jaidinger Mfg Co Inc Chicago....
James Electronics Inc Chicago....
Kameco Electronics Ltd. Montreal....
Kelvin Van Nuys....
Kuhnke, H, Elektrotechnische Fabrik Gmbh Holstein..Germ
Leach Corp South Pasadena....
Line Electric Co Parsippany....
MKC Electronics Corp Kansas City....K
Oki Electric Industry Co Ltd Tokyo....Ja
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton..
Price Electric Corp Frederick....
Printact Relay Div Executone Inc Long Island City....
Rele Finder Sas 70040 Almese Tor....I
Schrack Electrical Sales Corp New York....
Sierra Electric Div Sola Basic Ind Gardena....
Sigma Instruments Inc Braintree....M
Solid State Electronics Corp Sepulveda....
Sorenson Lighted Controls Inc West Hartford....C
Standard Relay Corp West Babylon....
Struthers-Dunn Inc Pitman....
Syracuse Electronics Corp Syracuse....
Takamisawa Electric Co, Ltd Tokyo....Ja
Teledyne Relays A Teledyne Co Hawthorne....
Thomson-CSF 78 Versailles....Fra
Torr Labs Inc Los Angeles....
Universal Relay Corp New York....
Vanguard Relay Corp Lindenhurst....
Welch Relay Div Kratos Los Angeles....
Westinghouse Electric Corp, Relay & Instr Div Newark....
Wheelock Signals Inc Long Branch....

RELAYS—ELECTROMECHANICAL

AEMCO DIV, MIDTEX INC MANKATO MINN...ADV PG
COUCH S H, DIV ESB INC BOSTON....MA
DALE ELECTRONICS INC COLUMBUS....
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT
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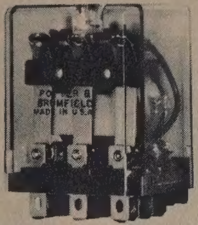
SIEMENS AMERICA INC NEW YORK....
Aemco Div, Midtex Inc Mankato....M
Agastat Div, Amerace Esna Corp. Elizabeth....
Allen-Bradley Co Milwaukee....
Allied Control Co Inc New York....



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or further information on P&B re- ays, see the following categories:

atching Page No. 591
lercury Page No. 592
lil-spec., High Reliability Page No. 593
ower (up to 25 amps) Page No. 595
eed Page No. 601
elephone Page No. 611
ime Delay Page No. 612

wide variety of general purpose nd special purpose relays are carried in stock.

For information on the whole P&B line, write for Industrial Cata- og 68 or Distributor Catalog 100. Data sheets describing engineering details of individual relays are also vailable.

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B & R Relays Ltd Essex........England
B/W Controller Corp Birmingham........Mich
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Couch S H, Div ESB Inc Boston........Mass
Dale Electronics Inc Columbus........Neb
Dormeyer Industries Chicago........Ill
Eagle Signal A Gulf & Western Co Davenport........Iowa
Electronic Specialty Co Portland Elctns Div Portland........Ore
Electro-Tec Corp Ormond Beach........Fla
Elmwood Sensors Inc Cranston........R I
Essex International Controls Div Logansport........Ind
Fujitsu Ltd Tokyo........Japan
Furnas Electric Co Batavia........Ill
Giannini-Voltex-Radex-Irvine Whittier........Cal
Grigsby Barton Inc Arlington Heights........Ill
Guardian Electric Mfg Co of Cal Inc Culver City........Cal
Hartman Electrical Mfg Co Mansfield........Ohio
Hi-G Inc Windsor Locks........Conn
Hi-G Industrial Products Hauppauge........N Y
Hillburn Relay Corp Farmingdale........N Y
IBM, Industrial Products Marketing New York........NY
Impectron Inc New York........N Y
ITT Europe Inc Components Gp Brussels 1........Belgium
ITT Jennings Div, Intl Tel & Tel Corp San Jose........Cal
Kameco Electronics Ltd. Montreal........Que
Kelvin Van Nuys........Cal
Lake Engineering Co Ltd Scarborough........Ont
Leach Corp South Pasadena........Cal
Ledex Div Ledex Inc Dayton........Ohio
Mack Electric Devices Inc Wyncote........Pa
Magnecraft Electric Co Chicago........Ill
Miniature Electronic Components Corp Holbrook........Mass
North Electric Co Galion........Ohio
Ohmite Mfg Co Skokie........Ill
Oki Electronics of America, Inc Fort Lauderdale........Fla
Pacific Relays Inc Van Nuys........Cal
Parelco, Inc San-Juan Capistrano........Cal
P & D Mfg Co Inc Sub Bendix Corp Long Island City........N Y
Plessey Airborne Corp Hillside........NJ
Plessey Co Ltd Ilford Essex........England
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton........Ind
Printact Relay Div Executone Inc Long Island City........N Y
Relay Specialties Inc Fair Lawn........N J
Rele Finder Sas 70040 Almese Tor........Italy
Scherma Mfg Co Inc, F A New York........N Y
Schrack Electrical Sales Corp New York........N Y
Siemens America Inc New York........N Y
Sigma Instruments Inc Braintree........Mass
Simplex Time Recorder Co Gardner........Mass
Smiths Industries Ltd, Aviation Div Wembley, Mdsx........England
Solid State Electronics Corp Sepulveda........Cal
Square D Co Park Ridge........Ill
Standard Relay Corp West Babylon........N Y
Stelma Inc Stamford........Conn
Stromberg-Carlson Sub Gen Dynamics Rochester........N Y
Struthers-Dunn Inc Pitman........N J
Sylvania Elec Prods Inc Special Prod Div Danvers........Mass
Syracuse Electronics Corp Syracuse........N Y
Teledyne Relays A Teledyne Co Hawthorne........Cal
Thomson-CSF 78 Versailles........France
Tokyo Electric Co Ltd Tokyo........Japan
Vanguard Relay Corp Lindenhurst........NY
Vapor Corp Chicago........Ill
Vitra Instrument & Electronics Corp Syosset........N Y
WABCO Aerospace Dept Pittsburgh........Pa
Wells Co Inc, Gary Yonkers........N Y
Westinghouse Electric Corp, Relay & Instr Div Newark........N J
Westinghouse Electric Corp, Standard Control Div Beaver........Pa
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RELAYS—FREQUENCY SELECTIVE (AUDIO TONE-OPERATED)

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE........FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y........ADV PG 7
J-B-T INSTRUMENTS INC NEW HAVEN........CONN
NIPPON ELECTRIC CO LTD TOKYO........JAPAN
STEVENS-ARNOLD INC SOUTH BOSTON MASS........ADV PG 120
UNIVERSAL RELAY CORP NEW YORK........N Y
Airpax Electronics Inc, Cambridge Div Cambridge........Md
Airpax Electronics Inc Seminole Div Fort Lauderdale........Fla
Allied Control Co Inc New York........N Y
American Time Products, Elctns Div Bulova Watch Co Inc Woodside........N Y
Automatic Switch Co Florham Park........N J
Autronics Corp Pasadena........Cal
Bramco Controls Div Ledex Inc Piqua........Ohio
Datametrics Corp Van Nuys........Cal
Deans Co, W S Downey........Cal
Douglas Randall Inc Westerly........R I
Executive Electronics Inc. Denver........Colo
Fujitsu Ltd Tokyo........Japan
General Electric Co, ECSO Schenectady........N Y
Guardian Electric Mfg Co of Cal Inc Culver City........Cal
Guide Industries Inc Sun Valley........Cal
Hammarlund Mfg Co Inc, The Mars Hill........N C
Hathaway Instrument Div Denver........Colo
J-B-T Instruments Inc New Haven........Conn
Kidde & Co Inc, Walter Belleville........N J
Larson Instrument Co Inc Orangeburg........N Y
Logitek Div General Devices Inc. Farmingdale........N Y
Magnecraft Electric Co Chicago........Ill
Meson Electronics Co, Inc Rochester........N Y
Microwave Associates Inc Burlington........Mass
Nippon Electric Co Ltd Tokyo........Japan
Oki Electric Industry Co Ltd Tokyo........Japan
Precision Electronics Inc Amityville........N Y
Reach Electronics Inc Lexington........Neb
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester........N H
Simplex Time Recorder Co Gardner........Mass
Solid State Electronics Corp Sepulveda........Cal
Standard Relay Corp West Babylon........N Y
Stevens-Arnold Inc South Boston........Mass
Trepac Corp of America Englewood........N J
Universal Relay Corp New York........N Y
Westinghouse Electric Corp, Relay & Instr Div Newark........N J

RELAYS—HIGH-G

COUCH S H, DIV ESB INC BOSTON........MASS
ELECTRO-TEC CORP ORMOND BEACH........FLA
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y........ADV PG 7
GUARDIAN ELECTRIC MFG CO CHICAGO........ILL
LEACH CORP SOUTH PASADENA CAL........ADV PGS 532-535
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON........IND
PRINTACT RELAY DIV EXECUTONE INC LONG ISLAND CITY........N Y
UNIVERSAL RELAY CORP NEW YORK........N Y
WHEELOCK SIGNALS INC LONG BRANCH........N J
Allied Control Co Inc New York........N Y
Alpha Relays Inc Jersey City........N J
A M E C 45 Orleans........France
Babcock Electronics, Relay Div Costa Mesa........Cal
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Branson Corp Denville........N J
B & R Relays Ltd Essex........England
Couch S H, Div ESB Inc Boston........Mass
Cutler-Hammer Inc Milwaukee........Wisc
Deutsch Filtors Relay Div East Northport........N Y
Dialtron Corp Brooklyn........N Y
Douglas Randall Inc Westerly........R I
Elec-Trol Inc Saugus........Cal
Electronic Instrument & Specialty Corp Winchester........Mass
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Electro-Tec Corp Ormond Beach........Fla
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Guardian Electric Mfg Co Chicago........Ill
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake........Ill
Hartman Electrical Mfg Co Mansfield........Ohio
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Leach Corp South Pasadena .... Cal
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Potter & Brumfield, Div Amer Mach & Fdry Co Princeton .. Ind
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Sigma Instruments Inc Braintree .... Mass
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Torr Labs Inc Los Angeles .... Cal
Universal Relay Corp New York .... N Y
Vactric Control Equipment Ltd Morden .... England
Welch Relay Div Kratos Los Angeles .... Cal
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RELAYS—KEYING & BREAK-IN

AEMCO DIV, MIDTEX INC MANKATO .... MINN
ALLIED ELECTRONICS CORP CHICAGO ILL .... ADV PG 531
ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
GUARDIAN ELECTRIC MFG CO CHICAGO ILL
LEACH CORP SOUTH PASADENA CAL ... ADV PGS 532-535
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON .... IND
UNIVERSAL RELAY CORP NEW YORK .... N Y
Aemco Div, Midtex Inc Mankato .... Minn
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Relays Inc New York .... N Y
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Sigma Instruments Inc Braintree .... Mass
Solid State Electronics Corp Sepulveda .... Cal
Standard Relay Corp West Babylon .... N Y
Stelma Inc Stamford .... Conn
Thomson-CSF 78 Versailles .... France
Trepac Corp of America Englewood .... N J
Universal Relay Corp New York .... N Y
Vanguard Relay Corp Lindenhurst .... NY
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan

RELAYS—LATCHING

AEMCO DIV, MIDTEX INC MANKATO .... MINN
CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS .... N Y
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT IOWA .... ADV PG 536
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
GENERAL REED CO CLARK .... N J
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PRINTACT RELAY DIV EXECUTONE INC LONG ISLAND CITY N Y .... ADV PG 528
SIEMENS AMERICA INC NEW YORK .... N Y
UNIVERSAL RELAY CORP NEW YORK .... N Y
WHEELOCK SIGNALS INC LONG BRANCH .... N J
Adams & Westlake Co Elkhart .... Ind
Aemco Div, Midtex Inc Mankato .... Minn
Agastat Div, Amerace Esna Corp. Elizabeth .... N J
Allen-Bradley Co Milwaukee .... Wis
Allied Control Co Inc New York .... N Y
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Arco S P A Milano .... Italy
Artisan Electronics Corp Parsippany .... N J
Automatic Electric Co Northlake Ill
Babcock Electronic Corp Costa Mesa .... Cal
Babcock Electronics, Relay Div Costa Mesa .... Cal
Barron Controls & Relay Corp Grayslake Ill
Branson Corp Denville .... N J
B & R Relays Ltd Essex .... England
Clare & Co, C P Chicago Ill
Computer Components Inc Jamaica .... N Y
Control Data Corp, Magnetic Prods Oper Minneapolis ... Minn
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Coto-Coil Co Inc Providence .... R I
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Cutler-Hammer Inc Milwaukee .... Wisc
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Deutsch Filtors Relay Div East Northport .... N Y
Dormeyer Industries Chicago Ill
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Where **memory without power** is a requirement in the design of control circuitry, the use of the "LD" relay results in a **compact-low cost module.** Reliability is assured by the unique design which includes, as standard, many features not generally available in commercial relays.

Encapsulated coil, bifurcated gold or palladium contacts, low thermal EMF, plug-in without sockets or soldering, low bounce and chatter, series-break switching eliminates pigtails, permanent magnet avoids return spring and mechanical linkage—all of which assures continuous performance for many millions of cycles.

Available with 6, 12 or 24 VDC 1 watt coil (AC operation with series diode) in 2, 3 and 4 pole configuration. Series break swingers permit each pair of fixed contacts to be etched with common (Form C) or isolated (Form A plus Form B) switching between make and break circuits.

For data write or call 212-EX 2-4800.

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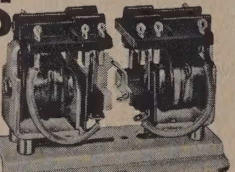
P&B LATCHING RELAYS



KB SERIES RELAY

The KB is one of many latching relays available from P&B. One coil operates relay to set latch and the other coil releases it. Ideal for memory applications. Operates on momentary pulse to either coil. Listed by U/L and Canadian Standards Association.

Also available with dust cover as KBP Series, furnished with 20-pin octal plug for socket mounting.

For complete specifications on latching and many other relay types, send for Catalog 68.

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Welch Relay Div Kratos Los Angeles .... Cal
Westinghouse Electric Corp, Standard Control Div Beaver . Pa
Wheelock Signals Inc Long Branch .... N J

RELAYS—MERCURY

AEMCO DIV, MIDTEX INC MANKATO MINN . . . ADV PG 529
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NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
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Adams & Westlake Co Elkhart .... Ind
Aemco Div, Midtex Inc Mankato .... Minn
Alpha Relays Inc Jersey City .... N J
Automatic Electric Co Northlake Ill
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Dormeyer Industries Chicago Ill
Douglas Randall Inc Westerly .... R I
Durakool Inc Elkhart .... Ind
Ebert Electronics Corp Floral Park .... N Y
Elec-Trol Inc Saugus .... Cal
Electronic Instrument & Specialty Corp Winchester .... Mass
Electrovac Vienna .... Austria
Fifth Dimension Inc Princeton .... N J
Fujitsu Ltd Tokyo .... Japan
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Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake Ill
Hathaway Components Div Denver .... Colo
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Jennings Div, Intl Tel & Tel Corp San Jose .... Cal
James Electronics Inc Chicago Ill
Kahl Scientific Instrument Corp El Cajon .... Cal
Kelvin Van Nuys .... Cal
Kidde & Co Inc, Walter Belleville .... N J
Lake Engineering Co Ltd Scarborough .... Ont
Mack Electric Devices Inc Wyncote .... Pa
Magnecraft Electric Co Chicago Ill
Mercury Contacts Inc Dayton .... Ohio
Micro Metrics Inc Paterson .... N J
MKC Electronics Corp Kansas City .... Kans
New Product Engineering Inc. Wabash .... Ind
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Phipps Precision Products Van Nuys .... Cal
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton . . Ind
Standard Relay Corp West Babylon .... N Y
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Tele-Norm Corp Woodside .... N Y
Trompeter Electronics Inc Chatsworth .... Cal
Universal Relay Corp New York .... N Y
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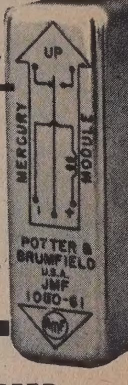

P&B MERCURY-WETTED RELAYS

JMF SERIES

DELIVER BILLIONS OF HIGH SPEED, BOUNCE-FREE OPERATIONS.

The new JMF modules have a very low profile for PC board mounting and are compatible with solid state circuits.

All versions, the JML and JMC with non-bridging contacts and the JMP polarized series for single-side-stable, bi-stable and chopper operations, as well as the JM's with from SPDT to 4PDT bridging contacts, are available.

Write for the P&B Mercury-Wetted Contact Relay Catalog. It explains the extreme longevity, high speed and unvarying dependability you can expect from these relays.

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Division American Machine & Foundry Company, Princeton, Indiana 47570
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P&B Relays are available from your local electronic parts distributor.

RELAYS—MIL-SPEC, HIGH RELIABILITY

COUCH S H, DIV ESB INC BOSTON .... MASS
ELECTRO-TEC CORP ORMOND BEACH FLA . . . . ADV PG 526
GENERAL REED CO CLARK .... N J
LEACH CORP SOUTH PASADENA CAL . . . ADV PGS 532-535
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON IND .... ADV PG 530
UNIVERSAL RELAY CORP NEW YORK .... N Y
Agastat Div, Amerace Esna Corp. Elizabeth .... N J
Allied Control Co Inc New York .... N Y
Alpha Relays Inc Jersey City .... N J
A M E C 45 Orleans .... France
American Zettler, Inc Costa Mesa .... Cal
Babcock Electronic Corp Costa Mesa .... Cal
Babcock Electronics, Relay Div Costa Mesa .... Cal
Branson Corp Denville .... N J
Bristol Div, American Chain & Cable Co Waterbury .... Conn
Clare & Co, C P Chicago Ill
Cook Electric Co Automatic Controls Div Palatine Ill
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark .... N J
Couch S H, Div ESB Inc Boston .... Mass
Cutler-Hammer Inc Milwaukee .... Wisc
Deutsch Filtors Relay Div East Northport .... N Y
Douglas Randall Inc Westerly .... R I
Electronic Controls Inc Wilton .... Conn
Electronic Instrument & Specialty Corp Winchester .... Mass

P&B
HIGH
PERFORMANCE
RELAYS

HL RELAY

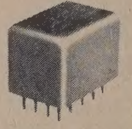
The HL is a micro-miniature, dual coil, polarized magnetic latching relay for high reliability and positive performance in dry circuit to 2 amp applications. Random vibration tested to .4g²/Hz. Hermetic seals are verified with radioactive krypton 85. Meets MIL-R-5757D.

Other high performance P&B relays include the following:

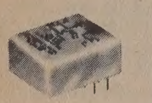
HC RELAY

Same as HL except non-polarized and non-latching.

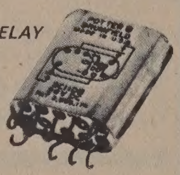
TL RELAY


Four-pole micro-miniature magnetic latching for severe environs. Available in 1 and 2 coil versions. Rated at 3 amps—4PDT.

FC & FL RELAY


Micro-miniature, latching or non-latching for printed circuits. Rated 3 or 5 amps, DPDT. Shock: 150g. Coil pick up: FC, 160mw; FL, 150mw.

SC & SL RELAY


Micro-miniature permanent magnet or magnetic latching relays. Rated at 2 or 3 amps, DPDT. Coil pick up: SC, 260mw; SL, 230mw.

All of these relays are rated to withstand 150g shock and 30g to 2000 Hz vibration.

For data on other P&B relays see pages 589 591 592 595 601 611 612

For information on the whole P&B line, write for Industrial Catalog 68 or Distributor Catalog 100. Data sheets describing engineering details of individual relays are also available.

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General Electric Co, Specialty Controls Waynesboro	Va
General Reed Co Clark	N J
Giannini-Voltex-Radex-Irvine Whittier	Cal
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena	Cal
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake	Ill
Hartman Electrical Mfg Co Mansfield	Ohio
Hi-G Inc Windsor Locks	Conn
Kelvin Van Nuys	Cal
Kidde & Co Inc, Walter Belleville	N J
Leach Corp South Pasadena	Cal
Magnecraft Electric Co Chicago	Ill
Networks Electronic Corp Chatsworth	Cal
North Electric Co Galion	Ohio
Pacific Relays Inc Van Nuys	Cal
Plessey Co Ltd Ilford Essex	England
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton	Ind
Price Electric Corp Frederick	Md
Sigma Instruments Inc Braintree	Mass
Solid State Electronics Corp Sepulveda	Cal
Standard Relay Corp West Babylon	N Y
Struthers-Dunn Inc Pitman	N J
Teledyne Relays A Teledyne Co Hawthorne	Cal
Texas Instruments Incorporated Dallas	Tex
Universal Relay Corp New York	N Y
WABCO Aerospace Dept Pittsburgh	Pa
Welch Relay Div Kratos Los Angeles	Cal

RELAYS—OVERLOAD

AEMCO DIV, MIDTEX INC MANKATO	**MINN**
AMERICANA X-RAY CO ENGLEWOOD	**N J**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
GRIGSBY BARTON INC ARLINGTON HEIGHTS	**ILL**
GUARDIAN ELECTRIC MFG CO CHICAGO	**ILL**
G-V CONTROLS INC LIVINGSTON N J	**ADV PG 546**
LEACH CORP SOUTH PASADENA CAL	**ADV PGS 532-535**
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON	**IND**
Adams & Westlake Co Elkhart	Ind
ADC Electronics, Inc Harbor City	Cal
Aemco Div, Midtex Inc Mankato	Minn
Allen-Bradley Co Milwaukee	Wis
Allied Control Co Inc New York	N Y
Alpha Relays Inc Jersey City	N J
Americana X-Ray Co Englewood	N J
Arco Electronics Div. Loral Corp. Great Neck	N Y
Automatic Switch Co Florham Park	N J
Autronics Corp Pasadena	Cal
Barron Controls & Relay Corp Grayslake	Ill
Bitronics Inc Bethlehem	Pa
B & R Relays Ltd Essex	England
B/W Controller Corp Birmingham	Mich
Computer Components Inc Jamaica	N Y
Consolidated Electric Corp Seattle	Wash
Cook Electric Co Automatic Controls Div Palatine	Ill
Cutler-Hammer Inc Milwaukee	Wisc
Data Device Corp Hicksville	N Y
Diversified Electronics Inc Evansville	Ind
Douglas Randall Inc Westerly	R I
Ebert Electronics Corp Floral Park	N Y
Electronic Control Corp Detroit	Mich
Essex International Controls Div Logansport	Ind
E-T-A Products Co of America Chicago	Ill
Fuji Electric Co Ltd Tokyo	Japan
Furnas Electric Co Batavia	Ill
Gems Co Inc Farmington	Conn
General Automatic Corp Bayonne	N J
General Electric Co, ECSO Schenectady	N Y
Giannini-Voltex-Radex-Irvine Whittier	Cal
Grigsby Barton Inc Arlington Heights	Ill
Guardian Electric Mfg Co Chicago	Ill
G-V Controls Inc Livingston	N J
Hartman Electrical Mfg Co Mansfield	Ohio
Heinemann Electric Co Trenton	N J
Hoagland Instrument Co Red Bank	N J
Inet Power A Teledyne Co Gardena	Cal
Instrumentation & Control Systems Inc Addison	Ill
International Rectifier Semiconductor Div El Segundo	Cal
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Kidde & Co Inc, Walter Belleville	N J
LaPine Scientific Co Chicago	Ill
Larson Instrument Co Inc Orangeburg	N Y
Leach Corp South Pasadena	Cal
Liberty Controls Div Liberty Leasing Co Inc. Shorewood	Ill
Life Instrument Co Inc Franklin	Mass
Logitek Div General Devices Inc. Farmingdale	N Y
Machinery Electrification Inc Northboro	Mass
Networks Electronic Corp Chatsworth	Cal
Pacific Relays Inc Van Nuys	Cal
Parko Electronics Co Inc Santa Ana	Cal
Plessey Airborne Corp Hillside	NJ
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton	Ind
Precision Electronics Inc Amityville	N Y
Ross Engineering Corp Saratoga	Cal
Schrack Electrical Sales Corp New York	N Y
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester	N H
Sigma Instruments Inc Braintree	Mass
Square D Co Park Ridge	Ill
Standard Relay Corp West Babylon	N Y
Struthers-Dunn Inc Pitman	N J
Sylvania Elec Prods Inc Special Prod Div Danvers	Mass
Symbolic Displays Inc Orange	Cal
Teledyne Relays A Teledyne Co Hawthorne	Cal
Texas Instruments Incorporated Dallas	Tex
Vanguard Relay Corp Lindenhurst	NY
Welch Relay Div Kratos Los Angeles	Cal
Wells Co Inc, Gary Yonkers	N Y
Westinghouse Electric Corp, Relay & Instr Div Newark	N J
Westinghouse Electric Corp, Standard Control Div Beaver	Pa
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

RELAYS—OVERVOLTAGE & UNDERVOLTAGE

AMERICANA X-RAY CO ENGLEWOOD	
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV**
GENERAL REED CO CLARK	
GUARDIAN ELECTRIC MFG CO CHICAGO ILL	**ADV PG**
G-V CONTROLS INC LIVINGSTON N J	**ADV PG**
LEACH CORP SOUTH PASADENA CAL	**ADV PGS 532**
PARKER INSTRUMENT CORP STAMFORD	**C**
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON	
PRINTACT RELAY DIV EXECUTONE INC LONG ISLAND CITY	
TEMPO INSTRUMENT INC IND DIV PLAINVIEW	
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y	
TORWICO ELECTRONICS, INC LAKEWOOD	
ADC Electronics, Inc Harbor City	
Allen-Bradley Co Milwaukee	
Allied Control Co Inc New York	
Americana X-Ray Co Englewood	
Arco Electronics Div. Loral Corp. Great Neck	
Automatic Switch Co Florham Park	
Autronics Corp Pasadena	
Avtron Mfg, Inc Cleveland	
Barron Controls & Relay Corp Grayslake	
Basler Electric Co Highland	
Beckwith Electric Co Inc Mt Prospect	
Beede Electrical Instrument Co, Inc Penacook	
Bitronics Inc Bethlehem	
B & R Relays Ltd Essex	Eng
Computer Components Inc Jamaica	
Consolidated Electric Corp Seattle	V
Control Data Corp, Magnetic Prods Oper Minneapolis	
Custom Control Mfg Inc Merriam	
Cutler-Hammer Inc Milwaukee	
Data Device Corp Hicksville	
Deltron, Inc North Wales	
Diversified Electronics Inc Evansville	
Douglas Randall Inc Westerly	
Ebert Electronics Corp Floral Park	
Essex International Controls Div Logansport	
Fuji Electric Co Ltd Tokyo	Ja
Furnas Electric Co Batavia	
General Automatic Corp Bayonne	
General Electric Co, ECSO Schenectady	
General Reed Co Clark	
General Relay Corp Dover	
Giannini-Voltex-Radex-Irvine Whittier	
Guardian Electric Mfg Co Chicago	
Guardian Electric Mfg Co of Cal Inc Culver City	
Guide Industries Inc Sun Valley	
G-V Controls Inc Livingston	
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake	
Hartman Electrical Mfg Co Mansfield	
Hi-G Inc Windsor Locks	
Hillburn Relay Corp Farmingdale	
Hi-Tek Corp Santa Ana	
Hoagland Instrument Co Red Bank	
Industrial Systems & Controls USEM Div Emerson Elec Co Milford	
Inet Power A Teledyne Co Gardena	
Intertechnique Plaisir 78	Fr
ITT Jennings Div, Intl Tel & Tel Corp San Jose	
Jaidinger Mfg Co Inc Chicago	
Kelvin Van Nuys	
Kidde & Co Inc, Walter Belleville	
LaMarche Mfg Co Des Plaines	
Lark Electronics Inc New York	
Larson Instrument Co Inc Orangeburg	
Leach Corp South Pasadena	
Lear Siegler Inc Santa Monica	
Liberty Controls Div Liberty Leasing Co Inc. Shorewood	
Life Instrument Co Inc Franklin	
Logitek Div General Devices Inc. Farmingdale	
Motor Generator Div Hobart Bros Co Troy	
Natel Electronic Industries Inc. Van Nuys	
Nichols Co Ltd, R H Downsview	
Pacific Relays Inc Van Nuys	
Parker Instrument Corp Stamford	
Parko Electronics Co Inc Santa Ana	
Plessey Airborne Corp Hillside	
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton	
Precision Electronics Inc Amityville	
Printact Relay Div Executone Inc Long Island City	
Relays Inc New York	
Ross Engineering Corp Saratoga	
Safety Electrical Equipment Corp New Haven	
Schrack Electrical Sales Corp New York	
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester	
Sigma Instruments Inc Braintree	
Solid State Electronics Corp Sepulveda	
Square D Co Park Ridge	
Standard Relay Corp West Babylon	
Struthers-Dunn Inc Pitman	
Sylvania Elec Prods Inc Special Prod Div Danvers	
Symbolic Displays Inc Orange	
Teledyne Relays A Teledyne Co Hawthorne	
Tempo Instrument Inc Ind Div Plainview	
Tempo Instrument Inc, Military Div Plainview	
Texas Instruments Incorporated Dallas	
Thorn Automation Ltd Rugeley, Staffs	Eng
Tia Electric Co Princeton	
Torwico Electronics, Inc Lakewood	
Vanguard Relay Corp Lindenhurst	
Wac Line Div Simmonds Precision Prods Dayton	
Welch Relay Div Kratos Los Angeles	
Wells Co Inc, Gary Yonkers	
Westinghouse Electric Corp, Aerospace Electrical Div Lima	
Westinghouse Electric Corp, Relay & Instr Div Newark	
Weston Instruments Div Weston Instr Inc Newark	
Yaskawa Electric Mfg Co Ltd Tokyo	Ja

AYS—POLARIZED

AL ELECTRIC CO, ECSO SCHENECTADY
. . . . . ADV PG 7
AL REED CO CLARK . . . . N J
BY BARTON INC ARLINGTON HEIGHTS ILL
DIAN ELECTRIC MFG CO CHICAGO ILL
CORP SOUTH PASADENA CAL . . . . ADV PGS 532-535
R & BRUMFIELD, DIV AMER MACH & FDRY CO
NCETON . . . . IND
ACT RELAY DIV EXECUTONE INC
G ISLAND CITY . . . . N Y
NS AMERICA INC NEW YORK . . . . N Y
NS-ARNOLD INC SOUTH BOSTON MASS . . ADV PG 120
RSAL RELAY CORP NEW YORK . . . . N Y
LOCK SIGNALS INC LONG BRANCH . . . . N J
s & Westlake Co Elkhart . . . . Ind
Control Co Inc New York . . . . N Y
ics-Howard Co Boston . . . . Mass
Relays Inc Jersey City . . . . N J
C 45 Orleans . . . . France
atic Electric Co Northlake Ill
nics Corp Pasadena . . . . Cal
r-Colman Co, EMP Div Rockford Ill
Div, American Chain & Cable Co Waterbury . . . . . Conn
Relays Ltd Essex . . . . England
Signaux Et D'Entreprises Electriques
is 17eme . . . . France
& Co, C P Chicago Ill
uter Components Inc Jamaica . . . . N Y
ol Data Corp, Magnetic Prods Oper Minneapolis . . . Minn
Electric Co Automatic Controls Div Palatine Ill
ll-Dubilier Electronics Div Federal Pacific Electric Co
vark . . . . N J
Coil Co Inc Providence . . . . R I
Device Corp Hicksville . . . . N Y
as Randall Inc Westerly . . . . R I
Electronics Corp Floral Park . . . . N Y
ronic Specialty Co Portland Elctns Div Portland . . . . . Ore
International Controls Div Logansport . . . . Ind
lectric Co Ltd Tokyo . . . . Japan
u Ltd Tokyo . . . . Japan
al Electric Co, ECSO Schenectady . . . . N Y
al Reed Co Clark . . . . N J
ini-Voltex-Radex-Irvine Whittier . . . . Cal
by Barton Inc Arlington Heights Ill
dian Electric Mfg Co Chicago Ill
Advance Relay Div Oak Electro/Netics Corp
stal Lake Ill
nan Electrical Mfg Co Mansfield . . . . Ohio
Industrial Products Hauppauge . . . . N Y
urope Inc Components Gp Brussels 1 . . . . Belgium
ennings Div, Intl Tel & Tel Corp San Jose . . . . Cal
eco Electronics Ltd. Montreal . . . . Que
on Instrument Co Inc Orangeburg . . . . N Y
h Corp South Pasadena . . . . Cal
nstrument Co Inc Franklin . . . . Mass
ecraft Electric Co Chicago Ill
Electronics Corp Kansas City . . . . Kans
h Electric Co Galion . . . . Ohio
lectric Industry Co Ltd Tokyo . . . . Japan
lectronics of America, Inc Fort Lauderdale . . . . Fla
fic Relays Inc Van Nuys . . . . Cal
os Precision Products Van Nuys . . . . Cal
er & Brumfield, Div Amer Mach & Fdry Co Princeton . . Ind
Electric Corp Frederick . . . . Md
act Relay Div Executone Inc Long Island City . . . . N Y
ys Inc New York . . . . N Y
itak Instrument Corp Sub Struthers-Dunn Inc
anchester . . . . N H
ens America Inc New York . . . . N Y
a Instruments Inc Braintree . . . . Mass
State Electronics Corp Sepulveda . . . . Cal
dard Relay Corp West Babylon . . . . N Y
ens-Arnold Inc South Boston . . . . Mass
thers-Dunn Inc Pitman . . . . N J
amisawa Electric Co, Ltd Tokyo . . . . Japan
data Inc Queens Village . . . . N Y
dyne Relays A Teledyne Co Hawthorne . . . . Cal
nson-CSF 78 Versailles . . . . France
Labs Inc Los Angeles . . . . Cal
ac Corp of America Englewood . . . . N J
ersal Relay Corp New York . . . . N Y
Line Div Simmonds Precision Prods Dayton . . . . Ohio
ch Relay Div Kratos Los Angeles . . . . Cal
ex Electronics, Div Halliburton Co Silver Spring . . . . . . Md
s Co Inc, Gary Yonkers . . . . N Y
tinghouse Electric Corp, Relay & Instr Div Newark . . . . N J
elock Signals Inc Long Branch . . . . N J
kawa Electric Mfg Co Ltd Tokyo . . . . Japan

LAYS—POWER (OVER 100 MILLIWATTS)

MCO DIV, MIDTEX INC MANKATO MINN . . . ADV PG 537
CH S H, DIV ESB INC BOSTON . . . . MASS
CTRO-TEC CORP ORMOND BEACH . . . . FLA
WOOD SENSORS INC CRANSTON . . . . R I
ERAL ELECTRIC CO, ECSO SCHENECTADY
Y . . . . ADV PG 7
GSBY BARTON INC ARLINGTON HEIGHTS ILL
, INDUSTRIAL PRODUCTS MARKETING NEW YORK . . NY
CH CORP SOUTH PASADENA CAL . . . . ADV PGS 532-535
TER & BRUMFIELD, DIV AMER MACH & FDRY CO
RINCETON IND . . . . ADV PG 531
VERSAL RELAY CORP NEW YORK . . . . N Y
ms & Westlake Co Elkhart . . . . Ind
nco Div, Midtex Inc Mankato . . . . Minn
Controls Co New Haven . . . . Conn
ed Control Co Inc New York . . . . N Y
ha Relays Inc Jersey City . . . . N J
E C 45 Orleans . . . . France
erican Solenoid Co, Inc Rahway . . . . N J
erican Zettler, Inc Costa Mesa . . . . Cal
isan Electronics Corp Parsippany . . . . N J

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POWER
RELAYS

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DC: 6V to 110V
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Division American Machine & Foundry Company, Princeton, Indiana 47570
Export: AMF International, 261 Madison Avenue, New York, N.Y. 10016

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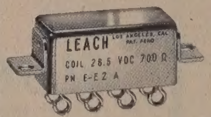
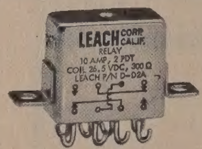
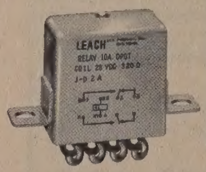
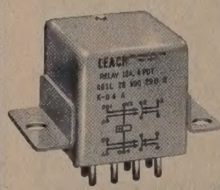
Electronics Buyers' Guide

Leach Subminiature Relays Dry Circuit to 10 Amps

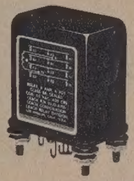
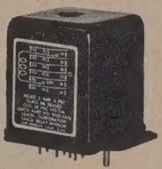
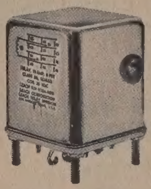
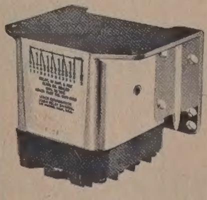
LEACH
CORPORATION
RELAY DIVISION

5915 Avalon Boulevard
Los Angeles, California
Tel: (213) 232-8221

		Contact Rating, Amps—Resistive	Contact Configuration	Nominal Operating Voltages	Resistance, Ohms ± 10% @ 25°C	Bounce Time, Sec. Max. @ 26.5 VDC	Release Time, Sec. Max. Incl. Bounce @ 26.5 VDC	Operate Time, Sec. Max. Incl. Bounce @ 26.5 VDC	Sinusoidal Vibration, Minimum, G	Shock, Minimum, G	Weight, Maximum, Oz.
2 Amp, 2PDT **Series G Microminiature** Only 0.32 inch high, these low level to 2 amp relays save space where it's most needed in electronic circuit packaging. All welded construction assures reliable performance. 150 mil terminal spacing provides ample space for terminal connections, assures good dielectric capability. MIL-R-5757. 0.32"x0.310"x0.610".		Dry Circuit to 2	2 PDT	6 12 26.5 VDC	56 210 1350	.001	.004	.004	30	100	0.13
2 Amp, 2PDT **Series E** All welded half size relay for dry circuit/low level to 2 amp switching. Bifilar coil winding available. 6 mounting and 3 terminal types. MIL-R-5757. .800"x.410"x.400".		Dry Circuit to 2	2PDT	6 12 26.5 VDC	38 150 700	.002	.004	.004	30	100	.30
10 Amp, 2PDT **Series D** Most compact, welded relay for use where size and performance are critical. 6 mounting styles and 3 terminal types. MIL-R-5757. 1.015"x.885"x.515".		10	2PDT	6 12 26.5 VDC	18 70 300	.002	.010	.010	20	50	1.2
10 Amp, 2PDT **Magnetic Latching** **Series CL** Magnetic latch, all welded relay. Resistive contact rating: 10 amps. 5 mounting and 3 terminal types. MIL-R-5757. 1.015"x1.100"x.515".		10	2PDT Magnetic Latch	6 12 26.5 48 VDC	Each Coil 38 150 600 2350	.002	NA	.015	30	50	1.6
10 Amp, 2PDT **Series J** Balanced-Force* Relay. All welded, hermetically sealed. Special features insure meeting rupture and overload requirements. 3 mounting and 3 terminal types. MIL-R-6106. 1.015"x1.000"x.515". AC coil model available. 1.015"x1.125"x.515".		10	2PDT	6 12 28 VDC	20 80 320	.001	DC Coils .010	DC Coils .010	30	100	DC Coils 1.4
				28 115 VAC, 400 Hz	I_{coil} Max. .200 .040		AC Coils .050	AC Coils .015			AC Coils 1.4
10 Amp, 4PDT **Series K** Balanced-Force* Relay. All welded, polarized. Special features insure meeting rupture and overload requirements. 3 mounting and 3 terminal types. MIL-R-6106. AC coil model available. 1.015"x1.000"x1.015".		10	4PDT	6 12 28 VDC	18 70 290	.001	DC Coils .015	DC Coils .015	30	100	DC Coils 2.5
				28 115 VAC, 400 Hz	I_{coil} Max. .225 .040		AC Coils .050	AC Coils .020			AC Coils 2.7

*Patented and T.M. Leach Corp.

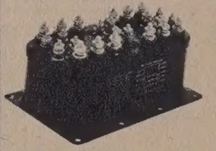
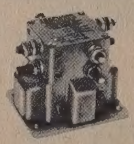
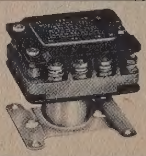
Leach Power and Control Relays 5 to 15 Amps

LEACH CORPORATION **RELAY DIVISION** 5915 Avalon Boulevard Los Angeles, California Tel: (213) 232-8221		Contact Rating, Amps—Resistive	Contact Configuration	Nominal Operating Voltages	Resistance, Ohms ± 10% @25°C for 28 VDC	Maximum Release Time, Seconds	Maximum Operate Time, Seconds	Bounce Time, Seconds, Maximum	Sinusoidal Vibration, Minimum, G	Shock, Minimum, G	Weight, Maximum, Lbs.
5 Amp, 2PDT **Series 9229** **Series 9235; Magnetic Latch** Contact rating @ 28 VDC or 115 VAC, 400 Hz. Resistive: 5 amps; Inductive: 3 amps. 1.750″ x 1.531″ x .687″. MIL-R-6106, MIL-R-5757.		5	2PDT	28 VDC 115 VAC, 400 Hz 115 VAC, 60 Hz	9229 248Ω	AC Coils .050 DC Coils .020	AC Coils .020	.002	10	25	.18
					9235 310Ω	N.A.	DC Coils .020				.20
5 Amp, 4PDT **Series 9220** **Series 9228; Magnetic Latch** Contact rating @ 28 VDC or 115 VAC, 400 Hz. Resistive: 5 amps; Inductive: 3 amps. 1.750″ x 1.531″ x 1.032″. MIL-R-6106, MIL-R-5757.		5	4PDT	28 VDC 115 VAC, 400 Hz 115 VAC, 60 Hz	9220 248Ω	AC Coils .050 DC Coils .020	AC Coils .020	.002	10	25	.30
					9228 200Ω	N.A.	DC Coils .020				.30
5 Amp, 6PDT **Series 9226** **Series 9223; Magnetic Latch** Contact rating @ 28 VDC or 115 VAC, 400 Hz. Resistive: 5 amps; Inductive: 3 amps. 1.812″ x 1.531″ x 1.531″. MIL-R-6106, MIL-R-5757.		5	6PDT	28 VDC 115 VAC, 400 Hz 115 VAC, 60 Hz	9226 180Ω	AC Coils .050 DC Coils .020	AC Coils .020	.002	10	25	.40
					9223 200Ω	N.A.	DC Coils .020				.67
10 Amp, 2PDT **Series 9227** **Series 9237; Magnetic Latch** Contact rating @ 28 VDC or 3 phase 115/200 VAC, 400 Hz. Resistive: 10 amps; Inductive: 6 amps DC and 10 amps AC. 1.781″ x 1.531″ x 1.032″. MIL-R-6106, MIL-R-5757.		10	2PDT	28 VDC 115 VAC, 400 Hz 115 VAC, 60 Hz	9227 175Ω	AC Coils .050 DC Coils .020	AC Coils .020	.002	10	25	.30
					9237 200Ω	N.A.	DC Coils .020				.30
10 Amp, 4PDT **Series 9224** **Series 9225; Magnetic Latch** Contact rating @ 28 VDC or 3 phase 115/200 VAC, 400 Hz. Resistive: 10 amps; Inductive: 6 amps DC and 10 amps AC. 1.812″ x 1.531″ x 1.531″. MIL-R-6106, MIL-R-5757.		10	4PDT	28 VDC 115 VAC, 400 Hz 115 VAC, 60 Hz	9224 110Ω	AC Coils .050 DC Coils .020	AC Coils .020	.002	10	25	.43
					9225 200Ω	N.A.	DC Coils .020				.40
15 Amp, 4PDT **Series 9274** Contact rating @ 28 VDC or 3 phase 115/200 VAC, 400 Hz. Resistive: 10 amps DC and 15 amps AC; Inductive: 10 DC and AC. 1.80″ x 2.06″ x 2.06″. MIL-R-6106.		15	4PDT	28 VDC 115 VAC, 400 Hz 115 VAC, 60 Hz	92Ω	AC Coils .050 DC Coils .020	AC Coils .025 DC Coils .025	N.O. .003 N.C. .005	10	25	.80

Leach Power Contactors 20 to 400 Amps

LEACH
CORPORATION
RELAY DIVISION

5915 Avalon Boulevard
Los Angeles, California
Tel: (213) 232-8221

		Contact Ratings, Amps—Resistive	Contact Configuration	Nominal Operating Voltages	Resistance—Ohms ± 10% @ 25°C—26.5 VDC	Bounce Time, Seconds, Maximum	Release Time, Seconds, Maximum	Operate Time, Seconds, Maximum	Sinusoidal Vibration, Minimum, G	Shock, Minimum, G	Weight, Maximum, Lbs.	Latch Model Available
20 Amp Series 9324 3PST/NO 25g shock, 10g vibration Bifilar coil winding available. MIL-R-6106.		20	3PST/NO	28 VDC; 115 VAC, 400 Hz; 115 VAC, 60 Hz	160	.002	AC Coils .050 DC Coils .010	AC Coils .025 DC Coils .020	10	25	.60	No
20 Amp Series 9325 3PDT/NO Mechanical interlock version of 9324. MIL-R-6106.		20	3PDT/NO	28 VDC; 115 VAC, 400 Hz; 115 VAC, 60 Hz	160	.005	AC Coils .050 DC Coils .010	AC Coils .025 DC Coils .020	10	25	1.4	Mech. Interlock
25 Amp Series 9123—3PST/NO 50g shock, 15g vibration. Auxiliary 5 amp contacts available. MIL-R-6106. Repairable models available.		25	3PST/NO	28 VDC; 115 VAC, 400/60 Hz	50	.002	AC Coils .050 DC Coils .010	.025	15	50	1.25	No
50 Amp Series 9124—3PST/NO 50g shock, 15g vibration. Auxiliary 5 amp contacts available. MIL-R-6106. Repairable models available.		50	3PST/NO	28 VDC; 115 VAC, 400/60 Hz	50	.002	AC Coils .050 DC Coils .010	.025	15	50	1.25	No
50 Amp Series 9125—6PST/NO Mechanical interlock version of 9124. MIL-R-6106. Aux. 5 amp contacts available.		50	6PST/NO	28 VDC; 115 VAC, 400/60 Hz	50	.002	AC Coils .050 DC Coils .010	.030	10	50	2.90	Mech. Interlock
100 Amp Series 9213 Sealed rotary, 1, 2, 3 and 4 pole. Auxiliary contacts from 5 amps. MIL-R-6106.		100	3PST/NO 4PST/NO	28 VDC; 115 VAC, 400 Hz; 115 VAC, 60 Hz	44.5	.010	AC Coils .060 DC Coils .020	AC Coils .040 DC Coils .030	10	25	2.7	No
25 to 100 Amp Series 9207 Unsealed rotary, 1, 2, 3 and 4 pole. Auxiliary contacts from 5 amps. MIL-R-6106.		25-100	3PST/NO 4PST/NO	28 VDC; 115 VAC, 400 Hz; 115 VAC, 60 Hz	44.5	.010	AC Coils .050 DC Coils .020	.030	10	50	1.6	No
25 to 400 Amp Solenoid Type Power Contactors MIL-R-6106.		25-400	1PST/NO 3PST/NO	28 VDC	Varying	N/A	.015	.040	2	25	2.6	No

Leach Electronic Time Delays

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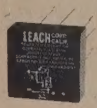
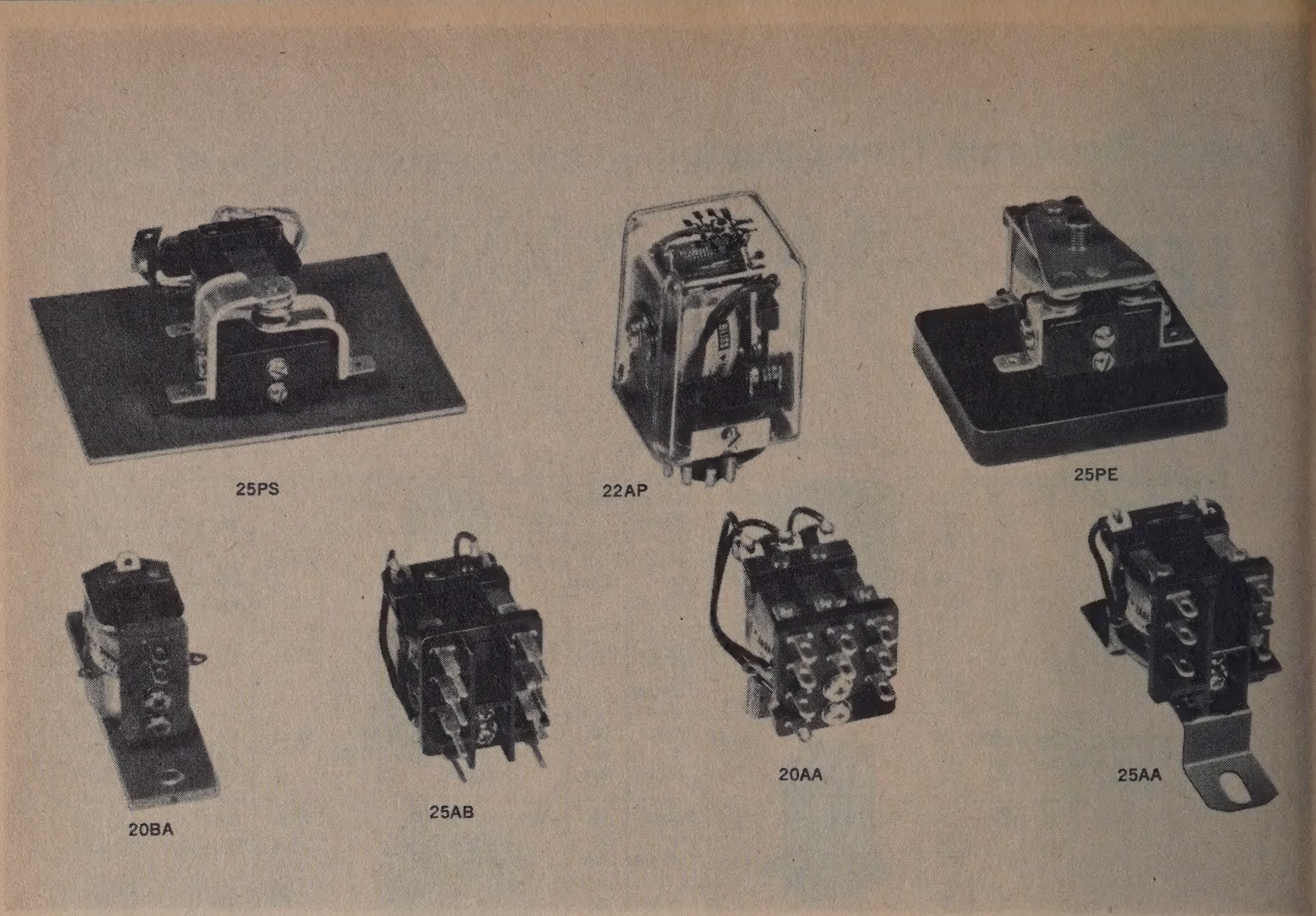
	Enclosures	Enclosure Types Available	Timing Range (1)	Contact Rating—Resistive	Contact Configuration	Temperature Range	Accuracy (1)	Input Voltage	Maximum Operating Current @ 25°C	Transient Protection	Weight, Maximum	Dimensions, Maximum by Enclosure Type
Time Delay on Operate, Relay Output Series R300 Available in enclosure types 10, 20, 30	 Type 10	10	100 ms to 300 sec.	2 and 10 amp	2 PDT and 4 PDT	−55° to +125°C	±10%	18 to 32VDC	150 ma	pos. and neg.	8 oz.	1.5" x 1.5" x 1.8"
		20	100 ms to 300 sec.	2 and 10 amp	2 PDT				150 ma	pos. and neg.	5 oz.	1.2" x 1.0" x 1.8"
		30	100 ms to 180 sec.	2 amp	2 PDT				60 ma	pos.	3 oz.	1.0" x 1.0" x 1.3"
Time Delay on Operate, Solid State Output Series S300 Available in enclosure types 20, 30, 40	 Type 20	20	10 ms to 300 sec.	500 ma max.	1 PNO	−55° to +125°C	±10%	18 to 32VDC	60 ma	pos. and neg.	5 oz.	1.2" x 1.0" x 1.8"
		30	10 ms to 180 sec.	500 ma max.	1 PNO				30 ma	pos.	3 oz.	1.0" x 1.0" x 1.3"
		40	10 ms to 20 sec.	250 ma max.	1 PNO				30 ma	pos.	1 oz.	1.0" x 0.5" x 1.1"
Time Delay on Release, Relay Output, Positive or Negative Control Series R400 Available in enclosure types 10, 20, 30	 Type 30	10	100 ms to 300 sec.	2 and 10 amp	1 PDT and 3 PDT	−55° to +125°C	±10%	18 to 32VDC	150 ma	pos. and neg.	8 oz.	1.5" x 1.5" x 1.8"
		20	100 ms to 300 sec.	2 and 10 amp	1 PDT				150 ma	pos. and neg.	5 oz.	1.2" x 1.0" x 1.8"
		30	100 ms to 180 sec.	2 amp	1 PDT				60 ma	pos.	3 oz.	1.0" x 1.0" x 1.3"
Time Delay on Release, Solid State Output, Positive or Negative Control Series S400 Available in enclosure types 20, 30	 Type 40	20	10 ms to 300 sec.	500 ma max.	1 PNO	−55° to +125°C	±10%	18 to 32VDC	60 ma	pos. and neg.	5 oz.	1.2" x 1.0" x 1.8"
		30	10 ms to 180 sec.	500 ma max.	1 PNO				60 ma	pos.	3 oz.	1.0" x 1.0" x 1.3"
Time Delay on Operate, Solid State Output, Epoxy Case Series S350 Available in epoxy enclosure type 50	 Type 50	Epoxy 50	50 ms to 20 sec.	250 ma max.	1 PNO	−55° to +125°C	±10%	18 to 32VDC	15 ma	pos.	1 oz.	0.9" x 0.9" x 0.4"

(1) Units with extended timing ranges and greater accuracy are available on special order.



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Type and Description	Contact Arrangement	Contact Rating	Size and Weight	Pull-In Speed	Drop-Out Speed
20AA Economy Open Type for AC, DC, and Plate Circuit	SPDT DPDT 3PDT	5A and 10A @ 115 Vac	1⅞″ x 1 7/32″ x 1½″ 2 ounces	22 ms avr.	12 ms avr.
20BA Economy Open Type Sensitive Plate Circuit	SPDT	5A @ 115 Vac	1⅞″ x 1 5/16″ x 1½″ 2 ounces		
22AP Enclosed Plug-In with 8 and 11 pins for AC, DC, and Plate Circuit	SPDT 3PDT DPDT (11 pin) (8 pin)	5A and 10A @ 115 Vac	1⅜″ x 2⅛″ x 1⅜″ 3 ounces	22 ms avr.	12 ms avr.
25AA Open Type for AC, DC, and Plate Circuit	SPDT DPDT 3PDT	5A and 10A @ 115 Vac 5A-1/10 HP 10A-⅙ HP @ 115 VAC @ 115 Vac ¼ HP ⅓ HP @ 230 Vac @ 230 Vac	1⅞″ x 1 9/32″ x 1½″ 2 ounces	22 ms avr.	12 ms avr.
25AB Open Type Printed Circuit for AC, DC, and Plate Circuit	SPDT DPDT 3PDT	5A and 10A @ 115 Vac 5A-1/10 HP 10A-⅙ HP @ 115 Vac @ 115 Vac ⅙ HP ⅓ HP @ 230 Vac @ 230 Vac	2 7/32″ x 1 9/32″ x 1½″ 2 ounces	22 ms avr.	12 ms avr.
25PE Medium Power 25 Amp Double Break for AC, DC	SPST-NO-DB	15A @ 115/230 Vac 25A @ 115/230 Vac 1½ HP @ 115/230 Vac	2 3/32″ x 1 9/32″ x 1 27/32″ 2¾ ounces	50 ms max.	30 ms max.
25PS Medium Power 20 Amp for AC, DC	SPDT	20A @ 115/230 Vac 1 HP @ 115/230 Vac	2¼″ x 1 9/32″ x 1 13/16″ 3 ounces	50 ms max.	30 ms max.

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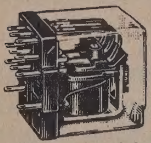
Small, efficient relay rated at 10 amperes, 115 volts, non-inductive A.C. Heavy solder lug terminals molded in phenolic block, with barriers for over-surface insulation. Up to three , double throw contacts. Size: 1$\frac{11}{16}$" x 1¼" x . Approx. wt. 1.9 oz.

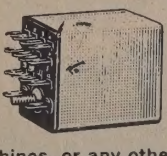
SERIES 2300 POWER RELAY

Has 15 amp. contacts. Inverted coil construction protects armature and contacts. Contacts D.P.D.T. U/L rated for 15 amps at 115 VAC non-inductive, or 1 H.P. at 115/ v., 60 c. Screw type terminals easily acces- . Size: 3$\frac{5}{16}$" x 2½" x 2$\frac{1}{16}$". Shipping wt. 8 oz.



SERIES 1220 RELAY

10 ampere DPDT or 3PDT relay is designed to reduce both cost and height by eliminating radio-type plug, extra wiring and sub-assembly between relay and plug. Complete with dust cover and mounting bracket. Plug-in, solder or quick-connect terminals. U/L listed. Size: 1$\frac{5}{32}$" x 1$\frac{11}{16}$" x 1$\frac{9}{16}$". Coils available for 6-240 VAC, 6-110 VDC.



SERIES 1310 RELAY

This is Guardian's 4PDT 3 amp plug-in relay. Designed and built for maximum endurance and reliability, it is especially suitable for computers, data processing, logic systems, business machines, or any other application that requires uncompromising quality. The new 1300 Series is available AC or DC, plug-in or quick-disconnect, 6 to 115 VAC and 6 to 110 VDC. Contact rating 3 amps at 30 VDC or 115 VAC resistive.

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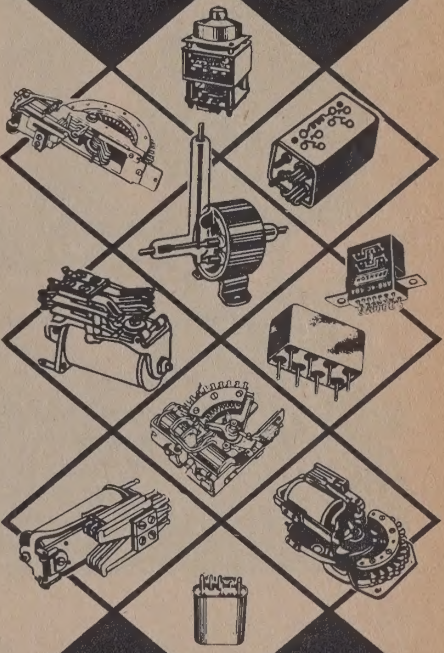

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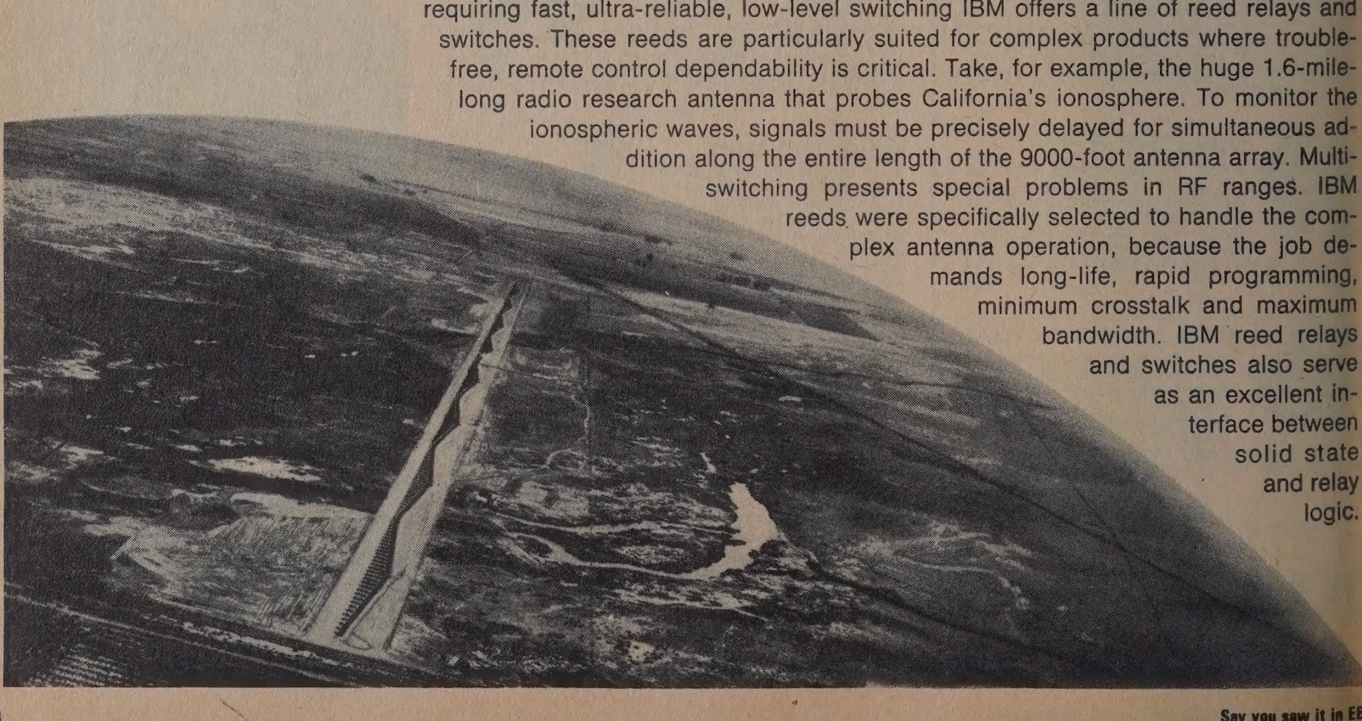

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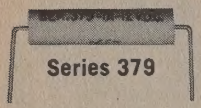

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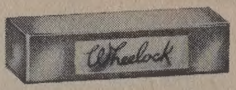

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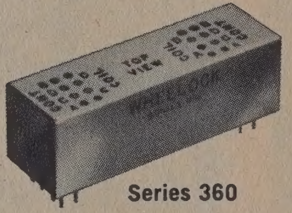
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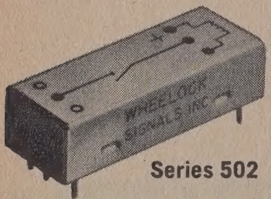
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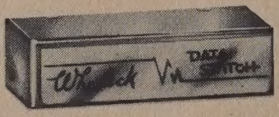
- Contact rating: 10 watts
- Standard 1″ grid spacing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- Coil ratings: 125 to 600 mw
- Contact rating: 10W

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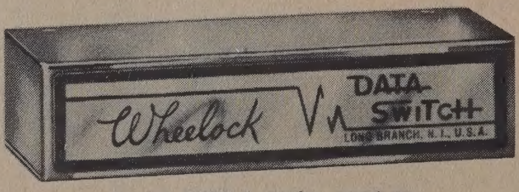
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- Coil voltages: 6 to 120 VDC
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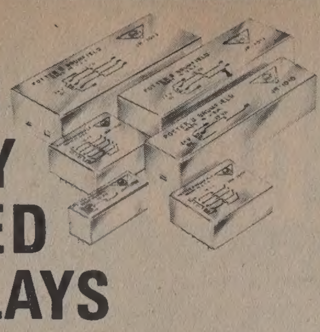

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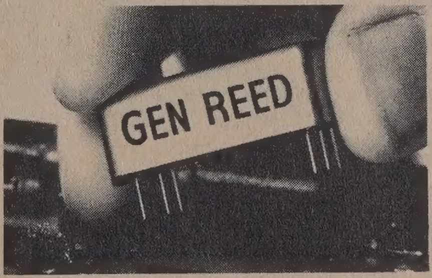

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Certifiable to MIL-R-5757/29B

- Choice of 14 basic Form A, Form C, and combinations of A and C capsules in three standard-size metal cases.
- Coils: 6, 12, and 26.5 volts, or to specifications.
- Printed circuit type pin on standard 0.1-inch grid spacing, in standoff insulating header.
- All units magnetically and electrostatically shielded.
- Resists humidity, vibration, and shock.
- Fast operate time; long life; high reliability.

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Sunshine Scientific Instruments Inc Philadelphia	Pa
Takamisawa Electric Co, Ltd Tokyo	Japan
Tele-Norm Corp Woodside	N Y
Thermosen Inc Stamford	Conn
Thomson-CSF 78 Versailles	France
Torr Labs Inc Los Angeles	Cal
Triridge Corp Aliquippa	Pa
Trompeter Electronics Inc Chatsworth	Cal
United Standard Industries Inc Glenview	Ill
Universal Relay Corp New York	N Y
Vanguard Relay Corp Lindenhurst	NY
Wells Co Inc, Gary Yonkers	N Y
Wheelock Signals Inc Long Branch	N J

RELAYS—SENSITIVE (100 MILLIWATTS OR LESS)

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE	**FLA**
COUCH S H, DIV ESB INC BOSTON	**MASS**
DALE ELECTRONICS INC COLUMBUS	**NEB**
DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK	**ADV PG 138**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
GENERAL REED CO CLARK	**N J**
GRIGSBY BARTON INC ARLINGTON HEIGHTS	**ILL**
LEACH CORP SOUTH PASADENA CAL	**ADV PGS 532-535**
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON	**IND**
SIEMENS AMERICA INC NEW YORK	**N Y**
TORWICO ELECTRONICS, INC LAKEWOOD	**N J**
UNIVERSAL RELAY CORP NEW YORK	**N Y**
Adams & Westlake Co Elkhart	Ind
Airpax Electronics Inc, Cambridge Div Cambridge	Md
Airpax Electronics Inc Seminole Div Fort Lauderdale	Fla
Allied Control Co Inc New York	N Y
Alpha Relays Inc Jersey City	N J
A M E C 45 Orleans	France
American Zettler, Inc Costa Mesa	Cal
Arco Electronics Div. Loral Corp. Great Neck	N Y
Artisan Electronics Corp Parsippany	N J
ATR Electronics, Inc St Paul	Minn
Automatic Switch Co Florham Park	N J
Babcock Electronics, Relay Div Costa Mesa	Cal
Beede Electrical Instrument Co, Inc Penacook	N H
Bioneers Inc. New Rochelle	NY
B & R Relays Ltd Essex	England
Clare & Co, C P Chicago	Ill
Cook Electric Co Automatic Controls Div Palatine	Ill
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Couch S H, Div ESB Inc Boston	Mass
Custom Control Mfg Inc Merriam	Kan
Dale Electronics Inc Columbus	Neb
Dale Electronics Inc, Sioux Div Yankton	S Dak
Data Device Corp Hicksville	N Y
Deutsch Filtors Relay Div East Northport	N Y
Douglas Randall Inc Westerly	R I
Edison, Thomas A Industries, Instr Div West Orange	N J
Elec-Trol Inc Saugus	Cal
Electronic Instrument & Specialty Corp Winchester	Mass
Electronic Specialty Co Portland Elctns Div Portland	Ore
Essex International Controls Div Logansport	Ind
General Automatic Corp Bayonne	N J
General Electric Co, ECSO Schenectady	N Y
General Electric Co, Specialty Controls Waynesboro	Va
General Reed Co Clark	N J
Giannini-Voltex-Radex-Irvine Whittier	Cal
Grigsby Barton Inc Arlington Heights	Ill
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake	Ill
Hi-G Inc Windsor Locks	Conn
Hi-G Industrial Products Hauppauge	N Y
Hillburn Relay Corp Farmingdale	N Y
InResCo Inc Brick Town	NJ
Instrumentation & Control Systems Inc Addison	Ill
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Jaidinger Mfg Co Inc Chicago	Ill
Kelvin Van Nuys	Cal
Kidde & Co Inc, Walter Belleville	N J
Lark Electronics Inc New York	N Y
Larson Instrument Co Inc Orangeburg	N Y
Leach Corp South Pasadena	Cal
Life Instrument Co Inc Franklin	Mass
Line Electric Co Parsippany	N J
Magnecraft Electric Co Chicago	Ill
Ohmite Mfg Co Skokie	Ill
Pacific Relays Inc Van Nuys	Cal
Parelco, Inc San-Juan Capistrano	Cal
Plessey Airborne Corp Hillside	NJ
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton	Ind
Price Electric Corp Frederick	Md
Relay Specialties Inc Fair Lawn	N J
Rele Finder Sas 70040 Almese Tor	Italy
Scherma Mfg Co Inc, F A New York	N Y
Schrack Electrical Sales Corp New York	N Y
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester	N H
Siemens America Inc New York	N Y
Sigma Instruments Inc Braintree	Mass
Simpson Electric Co Chicago	Ill
Slocum Industries Reseda	Cal
Solid State Electronics Corp Sepulveda	Cal
Space & Systems Div General Time Corp Stamford	Conn
Standard Relay Corp West Babylon	N Y
Struthers-Dunn Inc Pitman	N J
Takamisawa Electric Co, Ltd Tokyo	Japan
Teledyne Relays A Teledyne Co Hawthorne	Cal
Telstar Electronics Corp Southold	N Y
Torwico Electronics, Inc Lakewood	N J
Universal Relay Corp New York	N Y
Vanguard Relay Corp Lindenhurst	NY
WABCO Aerospace Dept Pittsburgh	Pa
Wells Co Inc, Gary Yonkers	N Y

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THINK REEDACS*

Reedacs incorporate solid state switching components based on Triac capabilities, and are specifically designed for inductive, tungsten or resistive loads rated up to 30 AMPS and 240 VRMS. Inputs are switch closure, AC or DC pulse, DC or transistor logic. Inrush load is 10 times rating.

TRIAC
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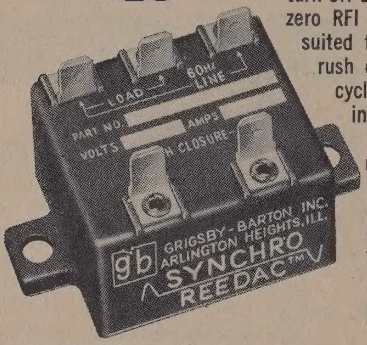
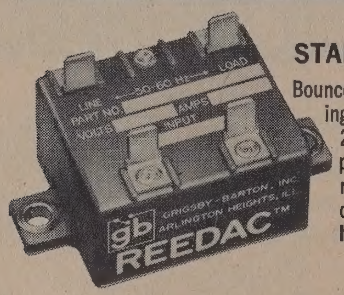
Solid state switching device has a rating of 4, 7, 10, 15 and 30 Amps at 120 or 240 VRMS. Input is any switch closure, DC pulse, or 5 VDC logic. Turn on occurs at less than 4V, and turn off at current zero, thus insuring virtually zero RFI and meeting MIL-STD 826A. Ideally suited for inductive or capactive loads. Inrush capability 10 times its rating for 1 cycle. Boasts compact rugged nylon housing, with quick connect, screw or solder type terminals (alternate: octal plug mounting). Also includes RC network to minimize commutating DV/DT to 10V per microsecond. **No minimum load current. Typical applications: Tungsten lamp loads, control motors and solonoids, interface with DTL logic, capacitive loads.**



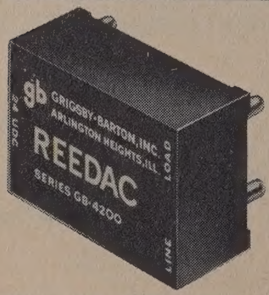
STANDARD REEDAC

Bounceless semi-solid-state device has a rating of 4, 7, 10, 15 and 30 Amps at 120 or 240 VRMS. Input: Any switch closure, DC pulse, or 5 VDC logic. Turn on occurs randomly throughout the sine wave, turn off at current zero. **Designed for general heavy duty applications.**



GB4200 REEDAC

Medium power static relay, **designed for PC board assembly**, is rated at 1½ Amps 120 VRMS. Compact package — approximately ¾ cubic inches—features high reliability, high speed operation. Input: Switch closure, DC pulse, 5 VDC logic. Accepts inrush of 12 Amps.



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*Patent Pending

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Yaskawa Electric Mfg Co Ltd Tokyo ....

RELAYS—SOLID STATE

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE ....
AMERICANA X-RAY CO ENGLEWOOD ....
API INSTRUMENTS CO CHESTERLAND ....
ELECTRO-TEC CORP ORMOND BEACH ....
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GRIGSBY BARTON INC ARLINGTON HEIGHTS ILL .... ADV P
GUARDIAN ELECTRIC MFG CO CHICAGO ....
G-V CONTROLS INC LIVINGSTON N J .... ADV P
LEACH CORP SOUTH PASADENA CAL ... ADV PGS 53
MICRO SWITCH DIV, HONEYWELL FREEPORT ....
NIPPON ELECTRIC CO LTD TOKYO JAPAN .... ADV P
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON ....
SIEMENS AMERICA INC NEW YORK ....
TELE-SIGNAL CORP SUB SINGER CO WOODBURY ....
TEMPO INSTRUMENT INC IND DIV PLAINVIEW N Y .... ADV P
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y .... ADV P
UNIVERSAL RELAY CORP NEW YORK ....
ZENRAD CONTROLS CO SANTA BARBARA CAL .... ADV P
Acromag Inc Wixom ....
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ADC Products Minneapolis ....
Aeromarine Electronics, Inc San Diego ....
Aircraft Instruments Co Montgomeryville ....
Airpax Electronics Inc, Cambridge Div Cambridge ....
Airpax Electronics Inc Seminole Div Fort Lauderdale ....
Allied Control Co Inc New York ....
Alpha Relays Inc Jersey City ....
A M E C 45 Orleans .... F
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Americana X-Ray Co Englewood ....
Amtron Inc Sub Republic Corp Midlothian ....
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Essex International Controls Div Logansport ....
Fairchild Controls Hicksville ....
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Frost Electronics Corp Rockaway ....
Fuji Electric Co Ltd Tokyo .... J
Fujitsu Ltd Tokyo .... J
Furnas Electric Co Batavia ....
Garzino S p A 10020 Pessinetto ....
Gems Co Inc Farmington ....
General Automatic Corp Bayonne ....
General Electric Co, ECSO Schenectady ....
General Magnetics Inc Bloomfield ....
Geo Space Systems Inc St Petersburg ....
Giannini-Voltex-Radex-Irvine Whittier ....
Grigsby Barton Inc Arlington Heights ....
Guardian Electric Mfg Co Chicago ....
Guardian Electric Mfg Co of Cal Inc Culver City ....
G-V Controls Inc Livingston ....
Harris-Intertype Corp Cleveland ....
Hartman Electrical Mfg Co Mansfield ....
Heinemann Electric Co Trenton ....
Hillburn Relay Corp Farmingdale ....
Hi-Tek Corp Santa Ana ....
Honeywell Inc Apparatus Controls Div Minneapolis ....
Honeywell Resdntl & Coml Sls Divs Minneapolis ....
Hybrid Electronics Inc Bedford ....
Industrial Solid State Controls Inc York ....
Inet Power A Teledyne Co Gardena ....
Instrumentation & Control Systems Inc Addison ....
International Rectifier Semiconductor Div El Segundo ....
Intertechnique Plaisir 78 .... Fr
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Jay-El Products Inc Gardena ....
Kameco Electronics Ltd. Montreal ....
Lark Electronics Inc New York ....
Larson Instrument Co Inc Orangeburg ....
La Telemecanique Electrique 92 Rueil .... Fr
Leach Corp South Pasadena ....
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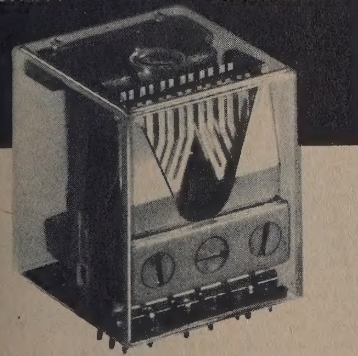

NEC MINIATURE RELAY—MR11

Characteristics are similar to the Western Electric MB Relay. Highly recommended for general industrial application, MR11 Relays are especially suitable for printed circuit configurations. Gold plated twin contacts add greater reliability and durability.

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NEW YORK, N.Y. 10017 (212) 661-3420

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Loyola Industries Inc Harbor City	Cal
Madison Labs, Inc Madison	Conn
Magnecraft Electric Co Chicago	Ill
Marconi Co Ltd Chelmsford	England
Micro Switch Div, Honeywell Freeport	Ill
Microwave Associates Inc Burlington	Mass
Microwave Products Group Inc Plainview	N Y
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell	N J
National Acme Elecl Controls Div Acme-Cleveland Corp Cleveland	Ohio
Neill Engineering Co East Hartland	Conn
New Product Engineering Inc. Wabash	Ind
Nippon Electric Co Ltd Tokyo	Japan
Norbatrol Electronics Corp Murrysville	Pa
Ohmite Mfg Co Skokie	Ill
Parko Electronics Co Inc Santa Ana	Cal
Payne Engineering Co South Charleston	W Va
Plessey Airborne Corp Hillside	NJ
Pollak Corp, Joseph Boston	Mass
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton	Ind
Power Control Corp Pittsburgh	Pa
Precision Electronics Inc Amityville	N Y
Princo Instruments Inc Southampton	Pa
Raytheon Co, Components Div, Ind Compnts Oper Quincy	Mass
Relay Specialties Inc Fair Lawn	N J
Robicon Corp Pittsburgh	Pa
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester	N H
Sensor Corp Greenwich	Conn
Siemens America Inc New York	N Y
Sigma Instruments Inc Braintree	Mass
S K G Associates Inc Boston	Mass
Slocum Industries Reseda	Cal
Solid State Electronics Corp Sepulveda	Cal
Square D Co Park Ridge	Ill
Standard Relay Corp West Babylon	N Y
Stelma Inc Stamford	Conn
Struthers-Dunn Inc Pitman	N J
Syracuse Electronics Corp Syracuse	N Y
Systems Matrix Inc Trenton	N J
Taft Electrosystems Inc Applied Elctns Div Metuchen	N J
Tann Controls Co Detroit	Mich
Techrand Corp of America Muskegon	Mich
Teledata Inc Queens Village	N Y
Teledyne Relays A Teledyne Co Hawthorne	Cal
Tele-Signal Corp Sub Singer Co Woodbury	N Y
Telstar Electronics Corp Southold	N Y
Tempo Instrument Inc Ind Div Plainview	N Y
Tempo Instrument Inc, Military Div Plainview	N Y
Thomson-CSF 78 Versailles	France
Transmagnetics Inc Flushing	N Y
Trepac Corp of America Englewood	N J
Universal Relay Corp New York	N Y
Vapor Corp Chicago	Ill
Versitron Inc Washington	D C
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Welex Electronics, Div Halliburton Co Silver Spring	Md
Westinghouse Electric Corp, Relay & Instr Div Newark	N J
Westinghouse Electric Corp, Standard Control Div Beaver	Pa
Weston Instruments Div Weston Instr Inc Newark	N J
Yaskawa Electric Mfg Co Ltd Tokyo	Japan
Zenrad Controls Co Santa Barbara	Cal

RELAYS—STEPPING

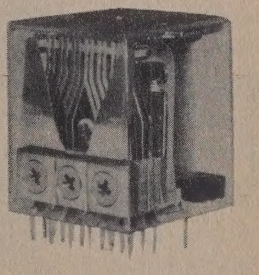
DALE ELECTRONICS INC COLUMBUS	**NEB**
DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK	**ADV PG 138**
GENERAL REED CO CLARK	**N J**
GUARDIAN ELECTRIC MFG CO CHICAGO	**ILL**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON	**IND**
SIEMENS AMERICA INC NEW YORK	**N Y**
UNIVERSAL RELAY CORP NEW YORK	**N Y**
ZENRAD CONTROLS CO SANTA BARBARA	**CAL**
Agastat Div, Amerace Esna Corp. Elizabeth	N J
Alpha Relays Inc Jersey City	N J
Arco S P A Milano	Italy
Automatic Electric Co Northlake	Ill
Clare & Co, C P Chicago	Ill
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Dale Electronics Inc Columbus	Neb
Dale Electronics Inc, Sioux Div Yankton	S Dak
Ebert Electronics Corp Floral Park	N Y
Ericsson Centrum Inc New York	N Y
Fisher-Akin Co Manhattan Beach	Cal
Fujitsu Ltd Tokyo	Japan
General Reed Co Clark	N J
Giannini-Voltex-Radex-Irvine Whittier	Cal
Grason Stadler Co Inc West Concord	Mass
Guardian Electric Mfg Co Chicago	Ill
Guardian Electric Mfg Co of Cal Inc Culver City	Cal
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake	Ill
Hillburn Relay Corp Farmingdale	N Y
Instrumentation & Control Systems Inc Addison	Ill
ITT Europe Inc Components Gp Brussels 1	Belgium
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Kameco Electronics Ltd. Montreal	Que
Kuhnke, H, Elektrotechnische Fabrik Gmbh Holstein	Germany
Ledex Div Ledex Inc Dayton	Ohio
Liberty Controls Div Liberty Leasing Co Inc. Shorewood	Ill
Nippon Electric Co Ltd Tokyo	Japan
North Electric Co Galion	Ohio
Oki Electric Industry Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Plessey Airborne Corp Hillside	NJ
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton	Ind
Schrack Electrical Sales Corp New York	N Y
Siemens America Inc New York	N Y
Standard Relay Corp West Babylon	N Y
Standard Telephones & Cables Ltd London WC 2	England
Struthers-Dunn Inc Pitman	N J
Takamisawa Electric Co, Ltd Tokyo	Japan

Trompeter Electronics Inc Chatsworth	Cal
Universal Relay Corp New York	N Y
Zenrad Controls Co Santa Barbara	Cal

RELAYS—SUBMINIATURE (MICROMINIATURE)

AEMCO DIV, MIDTEX INC MANKATO	**MINN**
ANRITSU ELECTRIC CO LTD TOKYO JAPAN	**ADV PG 543**
COUCH S H, DIV ESB INC BOSTON MASS	**ADV PG 544**
ELECTRO-TEC CORP ORMOND BEACH	**FLA**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PGS 7,544**
GENERAL REED CO CLARK	**N J**
GRIGSBY BARTON INC ARLINGTON HEIGHTS	**ILL**
GUARDIAN ELECTRIC MFG CO CHICAGO	**ILL**
LEACH CORP SOUTH PASADENA CAL	**ADV PGS 532-535**
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON	**IND**
PRINTACT RELAY DIV EXECUTONE INC LONG ISLAND CITY	**N Y**
UNIVERSAL RELAY CORP NEW YORK	**N Y**
WHEELOCK SIGNALS INC LONG BRANCH	**N J**
Aemco Div, Midtex Inc Mankato	Minn
Alco Electronic Products, Inc Lawrence	Mass
A L Controls Co New Haven	Conn
Allied Control Co Inc New York	N Y
Alpha Relays Inc Jersey City	N J
A M E C 45 Orleans	France
American Zettler, Inc Costa Mesa	Cal
Arco Electronics Div. Loral Corp. Great Neck	N Y
Aristo-Craft Distinctive Miniatures New York	N Y
Babcock Electronic Corp Costa Mesa	Cal
Babcock Electronics, Relay Div Costa Mesa	Cal
Branson Corp Denville	N J
Bristol Div, American Chain & Cable Co Waterbury	Conn
Compac Engineering Inc San Jose	Cal
Computer Components Inc Jamaica	N Y
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Couch S H, Div ESB Inc Boston	Mass
Davis Electric Co Cape Girardeau	Mo
Deans Co, W S Downey	Cal
Deutsch Filtors Relay Div East Northport	N Y
Dialight Corp Brooklyn	N Y
Dialtron Corp Brooklyn	N Y
Douglas Randall Inc Westerly	R I
Elec-Trol Inc Saugus	Cal
Electronic Controls Inc Wilton	Conn
Electronic Instrument & Specialty Corp Winchester	Mass
Electro-Tec Corp Ormond Beach	Fla
Fairchild Controls Hicksville	N Y
Fifth Dimension Inc Princeton	N J
General Electric Co, ECSO Schenectady	N Y
General Electric Co, Specialty Controls Waynesboro	Va
General Reed Co Clark	N J

Anritsu
MINIATURE RELAY



- 100,000,000 operations or more
- Up to 6 transfer contacts
- Twin contacts
- Card driving lift off system

Rated voltage: 12, 24, 48V
Max. switching current: 0.5A

Anritsu Electric Co.,Ltd.
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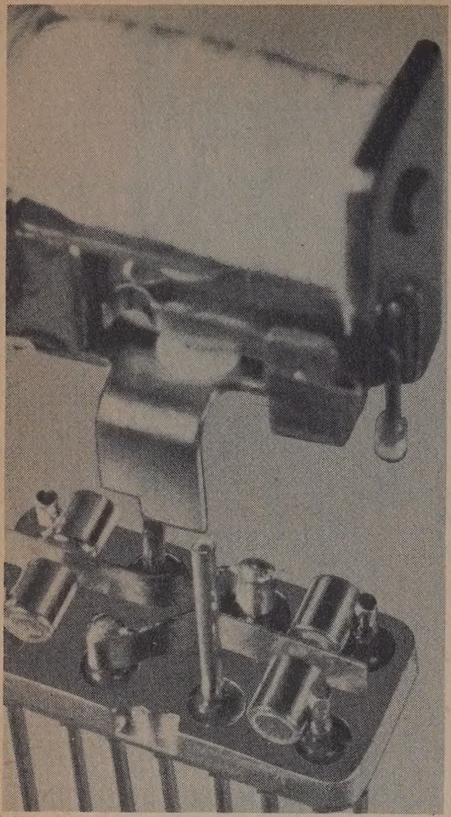
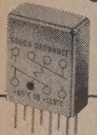
Phone: Tokyo 442-8171/Telex: 0242-2353
Cable: ANRITDENKI TOKYO



mite-size relays with macro-size contacts

Couch 2X relays are true 1/7-size, yet the contacts are as large or larger than many full and half-size crystal can units.

Couch 2X relays meet MIL-R-5757D/19 and/30 specs in 1/25th of a cu. in. Design simplicity and oversize contacts assure the ultimate in performance. Each relay is fully tested. Ideal for missile and aerospace switching applications or wherever reliability in small space is of prime importance. Available in many terminal styles and a wide choice of mountings.



Write for Data Sheets No. 9 and No. 10 today.

	2X (DPDT)	1X (SPDT)
Size	0.2" x 0.4" x 0.5"	same
Weight	0.1 oz. max.	same
Coil Operating Power	100 mw or 150 mw	70 mw or 100 mw
Coil Resistance	60 to 4000 ohms	125 to 4000 ohms
Temperature	—65°C to 125°C	same
Vibration	20G	same
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RUGGED ROTARY RELAYS *Dynamically and Statically Balanced*

ESB Couch

S. H. COUCH DIVISION
ESB INCORPORATED
36 River Street, Boston, Mass. 02126

MINIATURIZED RELAYS

Hermetically sealed unless otherwise noted

TRANSISTOR SIZE TO.5^{2} (3SBS)

All-welded, including coils
High contact forces
Low contact resistance
High thermal margin

Contact Form	Contact Rating	Sensitivity
2PDT	1A at 28Vd-c 0.2A at 28Vd-c Ind.	120 mw

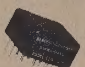
150 GRID-SPACE (3SBC, 3SBH)

Small size—only 0.32" high
Terminals on 0.150" centers
All-welded construction

2PDT 4PDT	2A at 28Vd-c 0.5A at 115Va-c	135 mw 250 mw

150 GRID MAGNETIC LATCH (3SBM)

New small size
Low profile
All-welded construction



4PDT	2A at 28Vd-c 0.5A at 115Va-c	100 mw* 200 mw†

*Single coil. †Dual coil

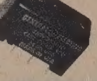
HALF-SIZE MICRO (3SAV)

Terminals on 0.2" centers
All-welded construction
Bifurcated contacts
Power or low-level switching

2PDT	2A at 28Vd-c 1A at 115Va-c	260 mw

HALF-SIZE PLASTIC CASE (3SBV)
Not hermetically sealed

Low profile
+85C operation
Bifurcated contacts
Power or low-level switching



2PDT	2A at 28Vd-c 0.5 at 115Va-c	285 mw

LATCHING MICRO (3SAM)

All-welded construction
Snap action—no hang-up
50 milliwatt sensitivity
Power or low-level switching
Grid spaced

2PDT	2A at 28Vd-c 1A at 115Va-c	50 mw* 75 mw†

*Single coil. †Dual coil.

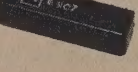
4-POLE MICRO (3SAH)

All-welded construction
No solder, solder flux
Power or low-level switching
Terminals on 0.2" centers

4PDT	2A at 26.5Vd-c 1A at 115Va-c	400 mw

DOUBLE HERMETIC SEAL REED (3SBN)

Sealed coils
Low profile
High sensitivity
Rugged construction



1-6PNO	10W-100V	40 mw‡
1-5PDT	3W-100V	50 mw‡

‡Per Pole.

Write for Bulletin GEA-6628

For complete information contact nearest GE Sales Office, see list on page 7, or write to General Electric Co., Section 998-67, Schenectady, N. Y. 12305.

Giannini-Voltex-Radex-Irvine Whittier . . . .
Grigsby Barton Inc Arlington Heights . . . .
Guardian Electric Mfg Co Chicago . . . .
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake . . . .
Hi-G Inc Windsor Locks . . . .
Hi-G Industrial Products Hauppauge . . . .
Intertechnique Plaisir 78 . . . . F
ITT Europe Inc Components Gp Brussels 1 . . . . Be
Jaidinger Mfg Co Inc Chicago . . . .
Kameco Electronics Ltd. Montreal . . . .
Kelvin Van Nuys . . . .
Leach Corp South Pasadena . . . .
Logitek Div General Devices Inc. Farmingdale . . . .
Magnecraft Electric Co Chicago . . . .
Microwave Associates Inc Burlington . . . .
Miniature Electronic Components Corp Holbrook . . . .
MKC Electronics Corp Kansas City . . . .
Naybor Laboratories Inc, E V Port Washington . . . .
New Product Engineering Inc. Wabash . . . .
Oki Electric Industry Co Ltd Tokyo . . . .
Pacific Relays Inc Van Nuys . . . .
Phipps Precision Products Van Nuys . . . .
Plessey Co Ltd Ilford Essex . . . . En
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton
Price Electric Corp Frederick . . . .
Printact Relay Div Executone Inc Long Island City . . . .
Relays Inc New York . . . .
Schrack Electrical Sales Corp New York . . . .
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester . . . .
Sigma Instruments Inc Braintree . . . .
Smiths Industries North America Ltd Jamaica . . . .
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . En
Solid State Electronics Corp Sepulveda . . . .
Space & Systems Div General Time Corp Stamford . . . .
Standard Relay Corp West Babylon . . . .
Standard Telephones & Cables Ltd London WC 2 . . . . En
Struthers-Dunn Inc Pitman . . . .
Takamisawa Electric Co, Ltd Tokyo . . . .
Teledyne Relays A Teledyne Co Hawthorne . . . .
Terado Corp St Paul . . . .
Thermosen Inc Stamford . . . .
Thomson-CSF 78 Versailles . . . . F
Universal Relay Corp New York . . . .
Vactric Control Equipment Ltd Morden . . . . En
WABCO Aerospace Dept Pittsburgh . . . .
Welch Relay Div Kratos Los Angeles . . . .
Wheelock Signals Inc Long Branch . . . .

RELAYS—TELEPHONE

AEMCO DIV, MIDTEX INC MANKATO . . . .
DALE ELECTRONICS INC COLUMBUS . . . .
GUARDIAN ELECTRIC MFG CO CHICAGO . . . .
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK
NIPPON ELECTRIC CO LTD TOKYO JAPAN . . . . ADV P
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON IND . . . . ADV P
PRINTACT RELAY DIV EXECUTONE INC LONG ISLAND CITY . . . .
SIEMENS AMERICA INC NEW YORK . . . .
UNIVERSAL RELAY CORP NEW YORK . . . .
WHEELOCK SIGNALS INC LONG BRANCH . . . .
Aemco Div, Midtex Inc Mankato . . . .
Allied Control Co Inc New York . . . .
Alpha Relays Inc Jersey City . . . .
American Zettler, Inc Costa Mesa . . . .
Arco Electronics Div. Loral Corp. Great Neck . . . .
ATR Electronics, Inc St Paul . . . .
Automatic Electric Co Northlake . . . .
Barron Controls & Relay Corp Grayslake . . . .
B & R Relays Ltd Essex . . . . En
Cie De Signaux Et D'Entreprises Electriques Paris 17eme . . . . F
Clare & Co, C P Chicago . . . .
Cook Electric Co Automatic Controls Div Palatine . . . .
Cornell-Dubilier Electronics Div Federal Pacific Electric C Newark . . . .
Dale Electronics Inc Columbus . . . .
Davis Electric Co Cape Girardeau . . . .
Ericsson Centrum Inc New York . . . .
Fujitsu Ltd Tokyo . . . .
General Automatic Corp Bayonne . . . .
Globe Electrical Mfg Co Sub Bell Elctn Corp Gardena . . . .
Guardian Electric Mfg Co Chicago . . . .
Guardian Electric Mfg Co of Cal Inc Culver City . . . .
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake . . . .
Hi-G Inc Windsor Locks . . . .
Hi-G Industrial Products Hauppauge . . . .
IBM, Industrial Products Marketing New York . . . .
ITT Europe Inc Components Gp Brussels 1 . . . . Be
ITT Jennings Div, Intl Tel & Tel Corp San Jose . . . .
ITT Telecommunications New York . . . .
Kameco Electronics Ltd. Montreal . . . .
Lake Engineering Co Ltd Scarborough . . . .
Liberty Controls Div Liberty Leasing Co Inc. Shorewood
Line Electric Co Parsippany . . . .
Magnecraft Electric Co Chicago . . . .
Nippon Electric Co Ltd Tokyo . . . .
North Electric Co Galion . . . .
Oki Electric Industry Co Ltd Tokyo . . . .
Oki Electronics of America, Inc Fort Lauderdale . . . .
Parelco, Inc San-Juan Capistrano . . . .
Plessey Co Ltd Ilford Essex . . . . En
Pollak Corp, Joseph Boston . . . .
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton
Price Electric Corp Frederick . . . .
Printact Relay Div Executone Inc Long Island City . . . .
Relays Inc New York . . . .
Relay Specialties Inc Fair Lawn . . . .
Scherma Mfg Co Inc, F A New York . . . .
Schrack Electrical Sales Corp New York . . . .
Sensitak Instrument Corp Sub Struthers-Dunn Inc Manchester . . . .
Siemens America Inc New York . . . .
Sigma Instruments Inc Braintree . . . .

&B
ELEPHONE
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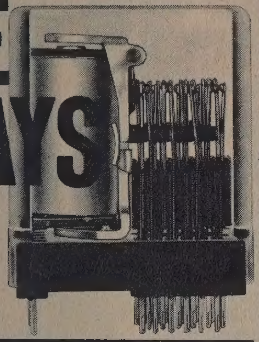
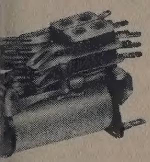
ELAYS

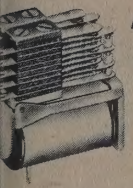


LSP RELAY

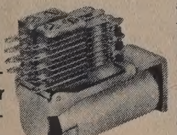
This relay-socket-cover combination enables you to save nearly $2.00 per relay over a factory wired octal-type plug. Wire the socket, then just plug in the LS relay and slip on the transparent dust cover.



SERIES
iable, medium coil. Lightweight armature
fast action. To 240V AC or 220V DC.
ted 4 amps. Maximum 24 springs, DC.

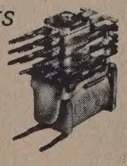


MH SERIES
Miniature telephone type for a wide range of switching duties. 240V AC-110V DC. Rated 5 amps @ 120V AC Res. Maximum 18 springs, DC.



ML SERIES
all size, sensitive DC re-
with minimum power
uirements. Ideal for bat-
y powered communica-
n equipment. Rated 3
ps, maximum 18 springs.

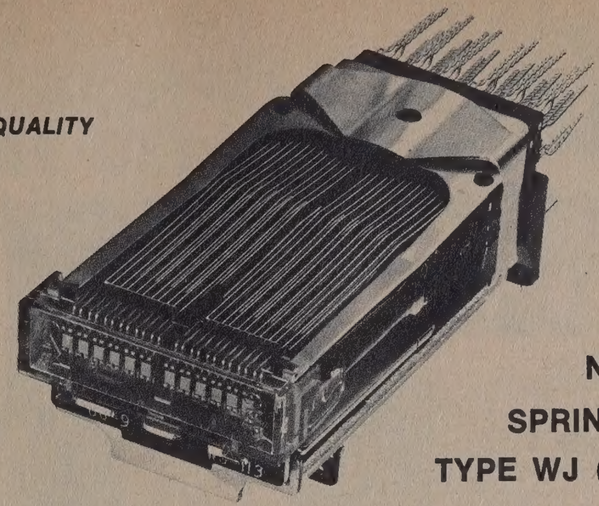
MC SERIES
Built with ceramic contact spacers for RF switching to minimize losses at high frequencies. 6V to 110V, rated 1 amp. DC: to 3PST, AC: DPDT.



MG SERIES
b-miniature telephone type
ay can be furnished open,
led or in nylon dust cover.
to 110V, rated 2 amps. To
DT.

MF | POTTER & BRUMFIELD
on American Machine & Foundry Company, Princeton, Indiana 47570
t: AMF International, 261 Madison Avenue, New York, N. Y. 10016

Relays are available from your local electronic parts distributor.



QUALITY

RELIABILITY

NEC WIRE
SPRING RELAY
TYPE WJ (24 Make)

is only one of a group, including types WA, WG, WJ and WM, similar to Western Electric wire spring relays used in Crossbar Switching Systems. Finest quality wire springs, precision parts and the latest assembly techniques provide longer life expectancy and high speed operation. NEC Wire Spring Relays are highly recommended for sophisticated telephone exchange systems, and wherever control relays are used. Additional information available upon request.

Nippon Electric NEW YORK INC.
PAN AM BUILDING 200 PARK AVE. NEW YORK, N.Y. 10017 (212) 661-3420
Nippon Electric Company, Limited
P.O. BOX 1, TAKANAWA TOKYO, JAPAN

Standard Relay Corp West Babylon	N Y
Standard Telephones & Cables Ltd London WC 2	England
Stelma Inc Stamford	Conn
Stromberg-Carlson Sub Gen Dynamics Rochester	N Y
Takamisawa Electric Co, Ltd Tokyo	Japan
Tele-Norm Corp Woodside	N Y
Universal Relay Corp New York	N Y
Wells Co Inc, Gary Yonkers	N Y
Weston Instruments Div Weston Instr Inc Newark	N J
Wheelock Signals Inc Long Branch	N J

RELAYS—THERMAL

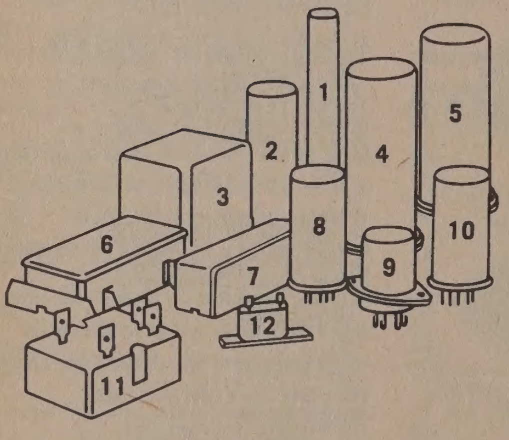
AMPERITE CO INC UNION CITY N J	**ADV PG 547**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
G-V CONTROLS INC LIVINGSTON N J	**ADV PG 546**
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK	**N J**
UNIVERSAL RELAY CORP NEW YORK	**N Y**
Amperite Co Inc Union City	N J
Arco S P A Milano	Italy
Betts & Betts Corp Southbury	Conn
Branson Corp Denville	N J
Cook Electric Co Automatic Controls Div Palatine	Ill
Dialight Corp Brooklyn	N Y
Dialtron Corp Brooklyn	N Y
Ebert Electronics Corp Floral Park	N Y
Edison, Thomas A Industries, Instr Div West Orange	N J
Elesta Ltd Electronics Bad Ragaz	Switzerland
Essex International Controls Div Logansport	Ind
E-T-A Products Co of America Chicago	Ill
Fuji Electric Co Ltd Tokyo	Japan
Fujitsu Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
G-V Controls Inc Livingston	N J
Hart-Advance Relay Div Oak Electro/Netics Corp Crystal Lake	Ill
Hayakawa Electric Co Ltd Osaka	Japan
Hoagland Instrument Co Red Bank	N J
Intertechnique Plaisir 78	France
ITT Europe Inc Components Gp Brussels 1	Belgium
ITT Jennings Div, Intl Tel & Tel Corp San Jose	Cal
Jaidinger Mfg Co Inc Chicago	Ill
Kahl Scientific Instrument Corp El Cajon	Cal
Lake Engineering Co Ltd Scarborough	Ont
Larson Instrument Co Inc Orangeburg	N Y
Life Instrument Co Inc Franklin	Mass
Livingston Electronic Div Jettron Prods Inc Hanover	N J
Networks Electronic Corp Chatsworth	Cal
Plessey Airborne Corp Hillside	NJ
Pollak Corp, Joseph Boston	Mass
Power Control Corp Pittsburgh	Pa
Princo Instruments Inc Southampton	Pa
Relay & Control Corp Long Island City	N Y
Relay Specialties Inc Fair Lawn	N J
Selco Electronics Inc Palisades Park	N J
Square D Co Park Ridge	Ill

Standard Relay Corp West Babylon	N Y
Sylvania Elec Prods Inc Special Prod Div Danvers	Mass
Texas Instruments Incorporated Dallas	Tex
Thermal Controls Inc Belleville	N J
Transitron Electronic Corp Wakefield	Mass
Tung-Sol Div Wagner Electric Corp Newark	N J
Universal Relay Corp New York	N Y
Westinghouse Electric Corp, Relay & Instr Div Newark	N J
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

RELAYS—TIME-DELAY

AEMCO DIV, MIDTEX INC MANKATO MINN	**ADV PG 548**
AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE	**FLA**
AMERICANA X-RAY CO ENGLEWOOD	**N J**
AMPERITE CO INC UNION CITY N J	**ADV PG 547**
ANRITSU ELECTRIC CO LTD TOKYO	**JAPAN**
COUCH S H, DIV ESB INC BOSTON	**MASS**
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT IOWA	**ADV PG 536**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
GUARDIAN ELECTRIC MFG CO CHICAGO	**ILL**
G-V CONTROLS INC LIVINGSTON N J	**ADV PG 546**
HAYDON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
LEACH CORP SOUTH PASADENA CAL	**ADV PGS 532-535**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON IND	**ADV PG 547**
TEMPO INSTRUMENT INC IND DIV PLAINVIEW N Y	**ADV PG 642**
TEMPO INSTRUMENT INC, MILITARY DIV PLAINVIEW N Y	**ADV PG 642**
UNIVERSAL RELAY CORP NEW YORK	**N Y**
Adams & Westlake Co Elkhart	Ind
ADC Electronics, Inc Harbor City	Cal
Aemco Div, Midtex Inc Mankato	Minn
Aerolite Electronics Corp Union City	N J
Agastat Div, Amerace Esna Corp. Elizabeth	N J
Airpax Electronics Inc Seminole Div Fort Lauderdale	Fla
A L Controls Co New Haven	Conn
Allen-Bradley Co Milwaukee	Wis
Allied Control Co Inc New York	N Y
Alpha Relays Inc Jersey City	N J
A M E C 45 Orleans	France
Americana X-Ray Co Englewood	N J
American Instrument Co, Inc Silver Spring	Md
American Time Products, Elctns Div Bulova Watch Co Inc Woodside	N Y
Amperite Co Inc Union City	N J
Amtron Inc Sub Republic Corp Midlothian	Ill
Anritsu Electric Co Ltd Tokyo	Japan
Apollo Corp Shinagawa Tokyo	Japan
Arco Electronics Div. Loral Corp. Great Neck	N Y
Artisan Electronics Corp Parsippany	N J
Audn Corp Hamburg	N Y

G-V
your complete source for timing and temperature control devices
RED / LINE THERMAL timing relay
G-V
HERMETIC TIME DELAY RELAY
INSTANT RESET TYPE
FLOW SENSING SWITCH
TIMING RELAY
VE-2101 R-2 OR



G-V CONTROLS INC.

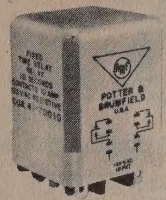
LIVINGSTON, NEW JERSEY 07039
(201) 992-6200

604

ITEM NO.	PART	DESCRIPTION
1	C8 Series Electrical Thermostat	Hermetically sealed, adjustable, immersion type. Temp. range: −65° to +300°F. Rated 1000 W. Differential ±1°F. Vibration, 2000 Hz; Shock, 50g.
2	Series R, T&H Miniature Hermetically Sealed Thermal Time Delay Relay	Sealed, adjustable. Delays: 0.1-240 secs. Operating voltages: 6.3-230V, AC/DC. Meets MIL-R-19648. 7 Pin plug-in or flange mountings.
3	900064 Series General Purpose Solid State Time Delay	Solid state timing circuit. Delays: 0.1-30 secs. Operating temp.: −55°C to +85°C. Operating voltage: 18-32 V DC. Vibration: 2000 Hz; Shock, 50g.
4	Red Line (DT) Series. Industrial Timing Relay	Octal size. Steel sheathed heater. Dust-proof, tamper-proof. Delays: 0.5-180 secs. Operating voltages: 6.3-230 V, AC/DC.
5	Red Line (DM) Series. Instant Reset Thermal Timing Element	Provides instant reset during and after time delay when used with magnetic relay. Delays: 0.75-360 secs. Operating voltage: 6.3-230 V, AC/DC.
6	PT Series High Precision Thermal Timing Relay	±5% over −55°C to +125°C. Vibration, 20g, 2000 Hz; Shock, 50g, 11 ms. Delays: 3-180 secs. Heater Voltages: 6.3-115 V AC/DC.
7	JT Series Thermal Time Delay	Designed for printed circuit board mounting. Stainless internal construction. Dust-proof. Tamper-proof. Delays: 2-180 secs. Operating voltages: 6.3-230 V, AC/DC. Also available in Instant Reset version, Series JM.
8	Thermette Series. Commercial Thermal Timer	9 Pin miniature thermal time delay. Metal enclosed. Dust-proof. Delays: 5-180 secs. Operating voltage: 6.3-26V, and 115 V, AC/DC.
9	LT Series. Sub-miniature Thermal Time Delay	Flange mounting, hermetically sealed with seated height only 40% of standard miniature timers. Delays: 2-75 secs. Operating voltages: 6.3-115 V AC/DC Vibration: 1000 Hz.
10	Air Flow Sensing Switch	Positive protection when air flow stops — operates alarm or automatic shut-off. Operates in any position. Heater voltages: 6.3, 26 and 115 V AC/DC.
11	Quick Connect Type Industrial Thermal Relay	Surface mounting, dust-proof. Time delays: 5 to 180 seconds. Temperature compensated. Heater voltages: 6.3, 26 and 115 AC/DC. Contacts SPST, NO or NC.
12	VE-2 Series Electrical Thermostat	Surface sensing thermostat. Preset or adjustable. Low differential. High degree contact force/motion. Vibration: 2000 Hz; Shock, 50g.

atic Electric Co Northlake	Ill
atic Switch Co Florham Park	N J
atic Timing & Controls, Inc King of Prussia	Pa
ics Corp Pasadena	Cal
on Corp Denville	N J
Motors-Timer Div Vocaline Corp of Amer Inc Saybrook	Conn
Watch Co Inc Elctns Div Servo Products Woodside	NY
Watch Co Inc, Timer Lab Flushing	N Y
Signaux Et D'Entreprises Electriques s 17eme	France
Electroseal Corp Des Plaines	Ill
& Co, C P Chicago	Ill
uter Components Inc Jamaica	N Y
c Corp New York	N Y
lidated Electric Corp Seattle	Wash
olotron Corp Farmingdale	N Y
Electric Co Automatic Controls Div Palatine	Ill
l-Dubilier Electronics Div Federal Pacific Electric Co vark	N J
S H, Div ESB Inc Boston	Mass
er Div Conrac Corp Old Saybrook	Conn
n Control Mfg Inc Merriam	Kan
-Hammer Inc Milwaukee	Wisc
netrics Inc Waltham	Mass
c-Tronic Corp Chicago	Ill
nt Corp Brooklyn	N Y
on Corp Brooklyn	N Y
nd Repeater Co Madison	N J
Controls Inc Boston	Mass
on Electronics Corp Scottsdale	Ariz
ified Electronics Inc Evansville	Ind
ool Inc Elkhart	Ind
nic Controls Corp South Windsor	Conn
Signal A Gulf & Western Co Davenport	Iowa
Electronics Corp Floral Park	N Y
n, Thomas A Industries, Instr Div West Orange	N J
onic Control Corp Detroit	Mich
onic Resources Inc Tasker Indus Los Angeles	Cal
onic Specialty Co Portland Elctns Div Portland	Ore
Ltd Electronics Bad Ragaz	Switzerland
Engineering Co Inc Essex	Conn
International Controls Div Logansport	Ind
Products Co of America Chicago	Ill
y Amplifier Co Chicago	Ill
Electronics Corp Rockaway	N J
lectric Co Ltd Tokyo	Japan
u Ltd Tokyo	Japan
s Electric Co Batavia	Ill
Co Inc Farmington	Conn
al Automatic Corp Bayonne	N J
al Electric Co, ECSO Schenectady	N Y
al Time, Industrial Controls Div Torrington	Conn
ini-Voltex-Radex-Irvine Whittier	Cal
Electrical Mfg Co Sub Bell Elctn Corp Gardena	Cal
lian Electric Mfg Co Chicago	Ill
lian Electric Mfg Co of Cal Inc Culver City	Cal
Industries Inc Sun Valley	Cal
ontrols Inc Livingston	N J
Advance Relay Div Oak Electro/Netics Corp stal Lake	Ill
nan Electrical Mfg Co Mansfield	Ohio
kawa Electric Co Ltd Osaka	Japan
on Co The, A W Waterbury	Conn
on Switch & Instrument Inc Waterbury	Conn
mann Electric Co Trenton	N J
Inc Windsor Locks	Conn
rn Relay Corp Farmingdale	N Y
k Corp Santa Ana	Cal
land Instrument Co Red Bank	N J
ator Industries Inc New York	N Y
trial Solid State Controls Inc York	Pa
trial Timer Corp Parsippany	N J
umentation & Control Systems Inc Addison	Ill
technique Plaisir 78	France
urope Inc Components Gp Brussels 1	Belgium
lennings Div, Intl Tel & Tel Corp San Jose	Cal
nger Mfg Co Inc Chicago	Ill
El Products Inc Gardena	Cal
on Products Inc Hanover	N J
eco Electronics Ltd. Montreal	Que
Engineering Co Ltd Scarborough	Ont
elemecanique Electrique 92 Rueil	France
h Corp South Pasadena	Cal
x Div Ledex Inc Dayton	Ohio
ty Controls Div Liberty Leasing Co Inc. Shorewood	Ill
nstrument Co Inc Franklin	Mass
Electric Co Parsippany	N J
gston Electronic Div Jettron Prods Inc Hanover	N J
ek Div General Devices Inc. Farmingdale	N Y
hinery Electrification Inc Northboro	Mass
necraft Electric Co Chicago	Ill
on Electronics Co, Inc Rochester	N Y
oor Laboratories Inc, E V Port Washington	N Y
on Electric Co Ltd Tokyo	Japan
te Mfg Co Skokie	Ill
lectric Industry Co Ltd Tokyo	Japan
fic Relays Inc Van Nuys	Cal
lco, Inc San-Juan Capistrano	Cal
o Electronics Co Inc Santa Ana	Cal
e Engineering Co South Charleston	W Va
ps Precision Products Van Nuys	Cal
obell Co Inc New York	N Y
sey Airborne Corp Hillside	NJ
k Corp, Joseph Boston	Mass
er & Brumfield, Div Amer Mach & Fdry Co Princeton	Ind
ision Electronics Inc Amityville	N Y
h Electronics Inc Lexington	Neb
y Specialties Inc Fair Lawn	N J
les Inc, M H Hartford	Conn
o Electronics Inc Palisades Park	N J
itak Instrument Corp Sub Struthers-Dunn Inc anchester	N H
na Instruments Inc Braintree	Mass
n-A-Matic Corp Skaneateles	N Y
um Industries Reseda	Cal
l State Electronics Corp Sepulveda	Cal
are D Co Park Ridge	Ill
ndard Instrument Corp Div Automatic Timing & Controls c King of Prussia	Pa

P&B SOLID STATE TIME DELAY RELAYS



CU RELAY

as low as

$12.50

Three separate series of solid state time delay controls are available, the CD series, the CH series, and the CU series. The differences between the three types consist in their degree of accuracy, the variety available in each series, and their cost.

CD SERIES Remarkably dependable, accurate and flexible, the CD series offers an unusually wide selection of operational configurations, all with accurate time delay values, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with the relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. The CD series is available for time delay on operate or on release.

CH SERIES The CH series is intended for a wide range of industrial applications where economy is of greater interest than highly critical performance. It is available in two types: Knob-adjustable with the relay in the same enclosure as the solid state unit. The second type has a fixed time delay period that is set at the factory and cannot be modified; its case has no knob. The CH series is available for time delay on operate and on release.

CU SERIES An outstanding value in a solid state time delay relay at low cost. Available in two types: Fixed time delay and adjustable with an external resistor. The CU series is offered with delay on operate only.

COMPARISON OF SPECIFICATIONS OF CD WITH CH AND CU SERIES

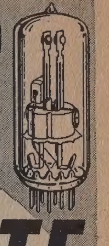
TYPE	DIAL SETTING	ACCURACY OR TOLERANCE	RESET TIME	REPEATABILITY
CD	Time, calibrated ±5% of full scale	±5% of nominal	60 Milliseconds	±1%
CH	Reference scale	±10% of nominal	100 Milliseconds	±2%
CU	Not applicable	Tolerance: Fixed ±5% of nominal; resist. adj. ±10% of nom.	150 Milliseconds	±3%

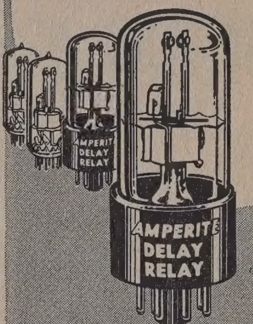
For information on the whole P&B line, write for Solid State Products Catalog or Distributor Catalog 100. Data sheets describing engineering details of individual relays are also available.

AMF | POTTER & BRUMFIELD
Division American Machine & Foundry Company, Princeton, Indiana 47570
Export: AMF International, 261 Madison Avenue, New York, N.Y. 10016

P&B Relays are available from your local electronic parts distributor.

GLASS ENCLOSED Thermostatic DELAY RELAYS by AMPERITE



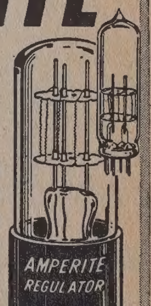


Offer true hermetic sealing — — assure maximum stability and life!

Delays: 2 to 180 seconds

Actuated by a heater, they operate on A.C., D.C., or Pulsating Current . . . Being **hermetically sealed**, they are not affected by altitude, moisture, or climate changes . . . **SPST only** — normally open or normally closed . . . Compensated for ambient temperature changes from −55° to +80°C. . . . Heaters consume approximately 2 W. and may be operated continuously. The units are **rugged, explosion-proof, long-lived, and inexpensive!**
TYPES: Standard Radio Octal and 9-Pin Miniature. . . . **List Price, $4.00**
PROBLEM? Send for Bulletin No. TR-81.

AMPERITE BALLAST REGULATORS



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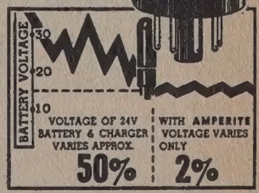

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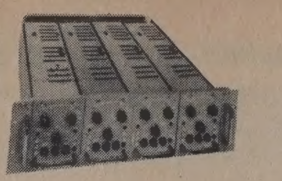

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Model 608D universal regenerative repeater is used to retime and reshape sync or S/S data or TTY signals automatically. Accepts up to 47% input signal distortion without frequency adjustment and regenerates signals with less than 2% distortion. Provides phase correction on 1/128 bit on each positive going data transition. Fully solid state employing IC's and silicon transistors for high stability. Crystal controlled time base generator.

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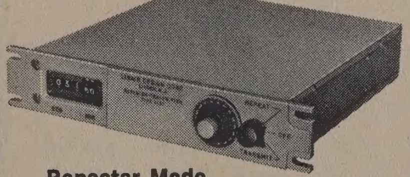

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- 26°/SEC. SLEW SPEED
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***See* Bridges**

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RESISTANCE PAINTS

***See* Paints—Printed-Circuit**

RESISTANCE STANDARDS

***See* Standards**

RESISTANCE THERMOMETERS

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RESISTANCE WIRE

***See* Wire—Resistance**

RESISTOR BOARDS

***See* Boards—Capacitor or Resistor**

RESISTOR BOXES

***See* Decade Boxes—Resistor**

RESISTOR-CAPACITOR MODULES

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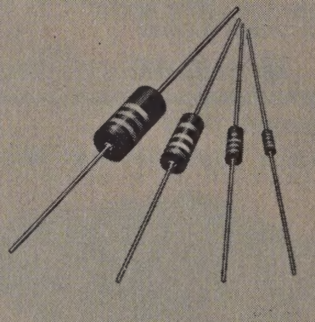
S E C I Soc Elettrotecnica Chimica Italiana Milano . . . . .
Stackpole Carbon Co, Electronic Components Div St Marys . . . . .
Taiyo Denki Co Ltd Sakai-C., Osaka . . . . . J
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City . . . . . J
United Mineral & Chemical Corp New York . . . . .



GUARANTEED UNIFORMITY IN ELECTRICAL, PHYSICAL CHARACTERISTICS

- Available in 2, 1, ½ and ¼ watt sizes.
- Uniform from resistor to resistor, order to order.
- 100% tested for resistance value.
- Solderability, load life and humidity-temperature characteristic checked.
- Impregnated to assure moisture resistance.
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Electronic Components Division
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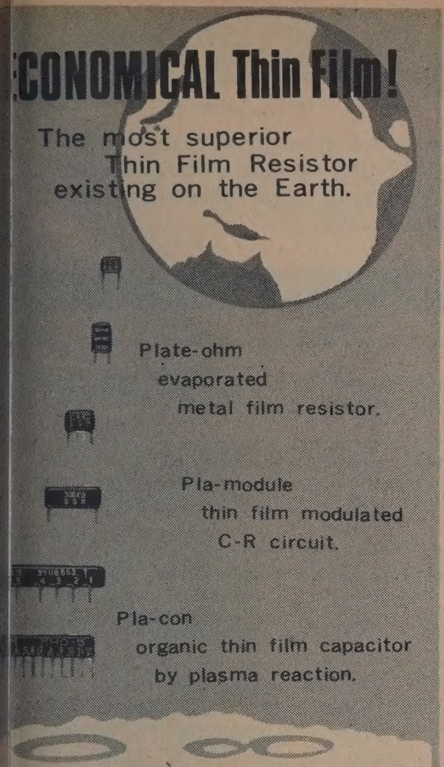
Advance Carbon Products, Inc San Francisco . . . . .
Aerovox Corp Distr Sales New Bedford . . . . .
Aikow Shoji Kaisha Ltd Osaka . . . . . J
Alcatel Paris 8eme . . . . . Fr
Amperex Electronic Corp, Component Div Hauppauge . . .
Angstrohm Precision, Inc Van Nuys . . . . .
British Radio Electronics (BREL) Washington . . . . .
Compagnie Generale de Metrologie Haute Savoie . . . . Fr
Constanta Co of Canada Ltd Montreal . . . . . Qu
Continental-Wirt Electronics Corp Philadelphia . . . . .
Dale Electronics Inc Columbus . . . . .
Electra/Midland Corp Kansas City . . . . .
Film Components Div Reon Resister Corp Yonkers . . . . .
Fujitsu Ltd Tokyo . . . . . J
Hayakawa Electric Co Ltd Osaka . . . . . J
Impectron Inc New York . . . . .
Ionetics Corp Avenel . . . . .
IRC Div TRW Inc Los Angeles . . . . .
ITT Europe Inc Components Gp Brussels 1 . . . . . Bel
Japan Resistor Mfg Co Ltd Tokyo . . . . . J
Kidco Inc Medford . . . . .
La Radiotechnique Compelec Paris 11e . . . . . Fr
Matsushita Electric Industrial Co Ltd Osaka . . . . . J
Mepco Inc Morristown . . . . .
Morganite Resistors Ltd Jarrow . . . . . Eng
NPC Electronics Canoga Park . . . . .
Nytronics Inc Berkeley Heights . . . . .
Nytronics Inc, Precision Resistor Div Kutztown . . . . .
Palmer Ltd, G A Stanley W Molesey, Surrey . . . . . Eng
Penn Resistor Corp Lansdale . . . . .
Priester Corp, H E Hartsdale . . . . .
Pyrofilm Resistor Co Inc Whippany . . . . .
Reon Resistor Corp Yonkers . . . . .
Resistance Products Co Harrisburg . . . . .
S E C I Soc Elettrotecnica Chimica Italiana Milano . . . . .
Solitron/Microwave Long Island City . . . . .
Standard Telephones & Cables Ltd London WC 2 . . . . Eng
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City . . . . . Ja
Telefunken Sales Corp Garden City . . . . .
Texas Instruments Incorporated Dallas . . . . .
Toyo Electronics Industry Corp Kyoto . . . . . Ja
United Mineral & Chemical Corp New York . . . . .
Victoreen Instrument Div Cleveland . . . . .
Wells Co Inc, Gary Yonkers . . . . .
Welwyn Electric Ltd Northumberland . . . . . Eng
Welwyn International Inc Westlake . . . . .

RESISTORS, FIXED—FILM METALIZED

DALE ELECTRONICS INC COLUMBUS NEB . . . . . ADV PGS 552,
MALLORY & CO INC, P R INDIANAPOLIS . . . . .
SUSUMU INDUSTRIAL CO LTD MINAMI-KU KYOTO JAPAN . . . . . ADV PG
Aerovox Corp Distr Sales New Bedford . . . . . M
Aikow Shoji Kaisha Ltd Osaka . . . . . Ja
Airco Speer Electronic Components Dubois . . . . .
American Components, Inc Conshohocken . . . . .
Angstrohm Precision, Inc Van Nuys . . . . .
Caddock Electronics Inc Riverside . . . . .
Central Resistor Corp Addison . . . . .
Constanta Co of Canada Ltd Montreal . . . . . Qu
Continental-Wirt Electronics Corp Philadelphia . . . . .
Corning Glass Works Corning . . . . .
CTS Corp Elkhart . . . . .
CTS Electronics Inc South Pasadena . . . . .
CTS Microelectronics Inc Lafayette . . . . .
Dale Electronics Inc Columbus . . . . .
Denki Kogyo Co Ltd Tokyo . . . . . Ja
Deutsche Vitrohm GMBH & Co KG 208 Pinneberg . . . Germ
Electra/Midland Corp Kansas City . . . . .
Electrosil Ltd Sunderland Durham . . . . . Eng
EMC Technology Inc Philadelphia . . . . .
Ferranti, Ltd Lancashire . . . . . Eng
Film Components Div Reon Resister Corp Yonkers . . . . .
Film Microelectronics, Inc Burlington . . . . . M
Halex Inc Torrance . . . . .
Hybridyne Inc Los Angeles . . . . .
Impectron Inc New York . . . . .
Ionetics Corp Avenel . . . . .
IRC Div TRW Inc Los Angeles . . . . .
Japan Resistor Mfg Co Ltd Tokyo . . . . . Ja



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The most superior
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evaporated
metal film resistor.

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thin film modulated
C-R circuit.

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organic thin film capacitor
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lory & Co Inc, P R Indianapolis	Ind
lory Controls Co Frankfort	Ind
sushita Electric Industrial Co Ltd Osaka	Japan
gadyne Industries Inc Rochester	N Y
oco Inc Morristown	N J
avac Inc Flushing	N Y
I S P A I 20124 Milano	Italy
I USA Inc Nutley	N J
rotek Electronics Inc Cambridge	Mass
ganite Resistors Ltd Jarrow	England
C Electronics Canoga Park	Cal
ronics Inc Berkeley Heights	N J
ronics Inc, Precision Resistor Div Kutztown	Pa
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mer Ltd, G A Stanley W Molesey, Surrey	England
ssey Co Ltd Ilford Essex	England
ssey Electronics Corp Farmingdale	N Y
ester Corp, H E Hartsdale	N Y
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antum Devices Bergenfield	NJ
n Resistor Corp Yonkers	N Y
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itron/Microwave Long Island City	N Y
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o Electronics Industry Corp Kyoto	Japan
ted Mineral & Chemical Corp New York	N Y
c-Ohm Electronics Co Haddonfield	N J
cuum Metallizing Van Nuys	Cal
toreen Instrument Div Cleveland	Ohio
hay Resistor Prods Div Vishay Intertechnology Inc Malvern	Pa
lwyn Electric Ltd Northumberland	England
lwyn International Inc Westlake	Ohio

ESISTORS, FIXED—FILM NONMETALIZED

LE ELECTRONICS INC COLUMBUS NEB	**ADV PGS 552,553**
erican Components, Inc Conshohocken	Pa
nperex Electronic Corp, Component Div Hauppauge	N Y
ys Instrument Corp Brooklyn	N Y
ddock Electronics Inc Riverside	Cal
nstanta Co of Canada Ltd Montreal	Quebec
le Electronics Inc Columbus	Neb
ectro Materials Corp of America Mamaroneck	N Y
MC Technology Inc Philadelphia	Pa
etics Corp Avenel	N J

IRC Div TRW Inc Los Angeles	Cal
Japan Resistor Mfg Co Ltd Tokyo	Japan
Matsushita Electric Industrial Co Ltd Osaka	Japan
Nytronics Inc Berkeley Heights	N J
Nytronics Inc, Precision Resistor Div Kutztown	Pa
Palmer Ltd, G A Stanley W Molesey, Surrey	England
Priester Corp, H E Hartsdale	N Y
Pyrofilm Resistor Co Inc Whippany	N J
Resistance Products Co Harrisburg	Pa
S E C I Soc Elettrotecnica Chimica Italiana Milano	Italy
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japan
Telefunken Sales Corp Garden City	N Y
United Mineral & Chemical Corp New York	N Y
Vac-Ohm Electronics Co Haddonfield	N J
Wells Co Inc, Gary Yonkers	N Y
Welwyn Electric Ltd Northumberland	England
Welwyn International Inc Westlake	Ohio

RESISTORS, FIXED—TAPE

DALE ELECTRONICS INC COLUMBUS NEB	**ADV PGS 552,553**
LECTROHM INC CHICAGO	**ILL**
R C L ELECTRONICS INC IRVINGTON	**N J**
Brys Instrument Corp Brooklyn	N Y
Dale Electronics Inc Columbus	Neb
IRC Div TRW Inc Los Angeles	Cal
Lectrohm Inc Chicago	Ill
Minco Products Inc Minneapolis	Minn
Ohmweve Co Inc West Hartford	Conn
R C L Electronics Inc Irvington	N J
S E C I Soc Elettrotecnica Chimica Italiana Milano	Italy
Square D Co Park Ridge	Ill
Vitta Corp Wilton	Conn
Welwyn Electric Ltd Northumberland	England

RESISTORS, FIXED—WIREWOUND (UNDER 10 WATTS)

DALE ELECTRONICS INC COLUMBUS NEB	**ADV PGS 552,553**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
LECTROHM INC CHICAGO ILL	**ADV PG 555**
MALLORY & CO INC, P R INDIANAPOLIS	**IND**
OMTRONICS MFG INC OMAHA NEB	**ADV PG 554**
R C L ELECTRONICS INC IRVINGTON N J	**ADV PG 556**
RESISTORS INC CHICAGO ILL	**ADV PG 551**
Ace Coil & Electronics Corp. Metuchen	N J
Astrodata Inc Anaheim	Cal
Atlas Coil Corp Ansonia	Conn
Bean Inc, William T Detroit	Mich
Bradford Components Inc Salamanca	N Y
Caddock Electronics Inc Riverside	Cal
Canadian Research Institute Don Mills	Ont

Pain

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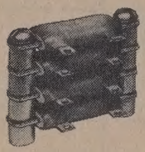
If vendors have you in a pinch and another source of supply will help, turn to the Electronics Buyers' Guide. You'll find all the information you need on over 1,363 sources of power supplies, listed under 11 headings from *AC Regulated Power Supplies to Laser Power Supplies.*

Electronics Buyers' Guide

Versatile Ohmic Capabilities In Wirewounds:

For Rigid Specs, Short Tempers!

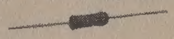
MINIATURE, FLAT OVAL RESISTORS



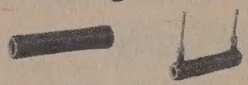
10, 15, 20 Watts **Indispensable** to modular or packaged circuitry.

CONVENTIONAL SIZE RESISTORS

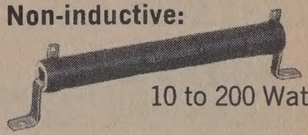
- **Axial Lead:** 3 to 10 Watts



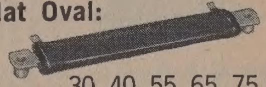
- **Fixed Lug:** 5 to 200 Watts



- **Non-inductive:** 10 to 200 Watts



- **Flat Oval:** 30, 40, 55, 65, 75 Watts



- **Ribbon Edgewound:** 90 to 400 Watts

- **MIL-R-26 Types**

Send us your prints. We'll meet your requirements reliably—without sweet talking your temper. More than 25 years' custom design, manufacturing.

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DALE for Optimum Value in Resistors

Wirewound Resistors, Film Resistors, Wirewound Trimmer and Precision Potentiometers—no matter how exacting your specifications—Dale can meet them. This ability stems from unmatched experience in wire winding and film deposition as well as superiority in producing resistance devices with improved metallurgical and performance characteristics. If your needs are not listed here, contact Dale at once.

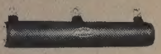
ESTABLISHED RELIABILITY RESISTORS *(Write for Catalog A)*

TYPE	RANGE	SIZES	WATTAGES	TOLERANCE	FEATURES
TYPE **ARS**	0.1 ohm to 40K ohms	3	2, 5, 10	1%	Established reliability, failure rate less than .00015% at 1000 hours of operation at 50% at rated power at 25° C.
TYPE **AGS**	.1 ohm to 12.4K ohms	4	1, 2.25, 4, 7	1%	Established reliability, failure rate .000054% per 1000 hours. Estimated failure rate after GARD screening .00009% per 1000 hours. Beryllium oxide core for greater stability and hot spot elimination.
TYPE **ARH**	.1 ohm to 39.2K ohms	4	5, 10, 15, 30	1%	Established reliability power wirewound resistor designed to utilize maximum heat-sink effect of chassis mounting. Manufactured under white room conditions with quality verified by acceptance testing.
TYPE **AWA**	.1 ohm to 1.21 Meg.	4	.15, .25, .33, 1	.01% to 1%	Established reliability epoxy-molded precision bobbin wirewound resistor with high stability and low T.C.; offers excellent moisture protection and low noise. Quality verified by acceptance testing.
TYPE **EMF** (METAL FILM)	24.9 ohms to 1 Meg.	3	1/10, 1/8, 1/4	.1% to 1%	Established reliability epoxy-molded metal film resistor. Failure rate estimated at .1%. Goal is .001% to conditions of MIL-R-55182.
WIREWOUND PRECISION RESISTORS *(Write for Catalog A)*					
TYPE **RS & RLS**	.1 ohm to 273K ohms	11	.4, .75, 1, 1.1, 2.5, 3, 3.25, 4, 5, 7, 10	0.05% to 5%	Meet requirements of MIL-R-26E and MIL-R-23379. Silicone coated and molded styles. Weldable leads available. RS has axial leads. RLS has radial leads.
TYPE **NS & NLS**	1 ohm to 136.5K ohms	10	½, 1, 2, 2½, 3, 5, 7, 10	0.05% to 3%	Silicone coated, non-inductive winding. Type NLS has radial leads. Weldable leads available.
TYPE **G & GL** TYPE **GN & GNL**	.1 ohm to 273K ohms 1 ohm to 136.5K ohms	10	1, 1½, 2¼, 4, 6, 7 10, 15	0.05% to 3%	**G & GL** resistance units offer decreased size with increased heat dissipation. Silicone coated and molded. Meet requirements of MIL-R-26E and MIL-R-23379. GL has radial leads. **GN & GNL** have identical construction but are non-inductively wound. GNL has radial leads. Weldable leads available.
TYPE **HG & NHG**	**HG:** .1 ohm to 273K ohms **NHG:** .1 ohm to 136.5K ohms	4	15, 20, 35, 50	0.05% to 3%	**HG** features maximum heat dissipation at no increase in size. Meets or exceeds requirements of MIL-R-18546. Chassis mounted molded radiator housing. **NHG** has identical construction but is non-inductively wound.
TYPE **RH & NH**	**RH:** .008 ohm to 273K ohms **NH:** .1 ohm to 136.5K ohms	6	7.5, 12.5, 25, 50, 100, 250	0.05% to 3%	**RH** resistance unit molded into radiator housing. Meets requirements of MIL-R-18546. Mounts on chassis. **NH** has identical construction but is non-inductively wound.
TYPE **PH**	.1 ohm to 95.2K ohms	4	10, 25, 50, 100	0.05% to 3%	Precision power wirewound resistance unit in radiator housing. Mounts through hole in chassis. Also available with non-inductive winding. Wide choice of dual or axial terminals. Single terminal (chassis-grounded) and plug-in models also available.
TYPE **WWA**	.1 ohm to 23 Meg.	10	.1, .125, .15, .2, .25, .33, .5, .75, .875, 1	0.05% to 1%	Bobbin type design with patented Dale features. Non-inductive winding, epoxy molded. Meets requirements of MIL-R-93, Char. C. and MIL-R-39005.
TYPE **WWP**	.1 ohm to 1.5 Meg.	2	1/8, 1/4	.02% to 1%	Rectangular or round miniature epoxy-molded precision bobbin wirewound resistors. High stability and low T.C. Excellent moisture protection and low noise. High resistance per unit volume.
SPECIAL WIREWOUNDS	Can be readily made-to-order utilizing varied resistance element alloys and construction methods. Close tolerances (to .005%). Special resistance and tolerance matching available.				

DALE for Optimum Value in Resistors

For detailed information on the resistors listed here, write for Catalog A. Complete data on Trimmer Potentiometers and Precision Potentiometers will be found in Catalog B.

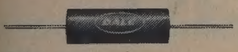
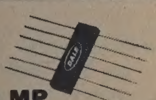
INDUSTRIAL WIREWOUND RESISTORS *(Write for Catalog A)*

TYPE	RANGE	SIZES	WATTAGES	TOLERANCE	FEATURES
TYPE **CW**	.1 ohm to 100K ohms	7	2.5, 3, 3.25, 4, 5, 7, 10	±5% (±10% below 1 ohm)	Commercial resistor with high power to size ratio. Complete welded construction.
TYPE **HL** **VL** TYPE **NHL, NVL** (Non-Inductive)	.1 ohm to 1.3 meg. 1 ohm to 90K ohms	25	5 thru 225	±5% (±10% below 1 ohm)	Two styles, tubular and flat. Available with vitreous enamel or multi-layer silicone coating. Meet requirements of MIL-R-26. Terminal or thru-bolt mounted. Tubular styles available with non-inductive windings.
TYPE **HLT** **VLT**  TYPE **HLA** **VLA**	.1 ohm to 1.1 meg. 1 ohm to 100K ohms	17 16	11 thru 225 12 thru 225	±10% ± 5%	Silicone (HLT) or vitreous coated (VLT) tapped and adjustable (HLA, VLA) units for voltage divided and multi-tap applications.
TYPE **HLM** **VLM** TYPE **HLW** **VLW**	.1 ohm to 51K ohms .1 ohm to 80K ohms	3 6	10, 15 and 20 3, 6, 10, 12, 15 and 20	±5% (±10% below 1 ohm)	Silicone (HLM) or vitreous coated miniature flat (VLM). Also tubular style with wire leads (HLW or VLW).

DEPOSITED CARBON RESISTORS *(Write for Catalog A)*

TYPE **DC**	1 ohm to 300 meg.	7	1/10, 1/8, 1/4, 1/2, 1, 2, 5	.5%, 1%, 2%	DC has epoxy coating. Meets requirements of Char. X and B, MIL-R-10509.
TYPE **MC**	1 ohm to 125 meg.	6	1/10, 1/8, 1/4, 1/2, 1, 2	.5%, 1%, 2%	Molded housing completely insulates and protects against environmental and mechanical damage. Weldable leads available. Meets requirements of Char. D of MIL-R-10509F.

METAL FILM RESISTORS *(Write for Catalog A)*

 TYPE **MF**	10 ohms to 10 meg.	7	1/20, 1/10, 1/8, 1/4, 1/2, 3/4, 1, 2	.1%, .25%, .5%, 1%	Molded housing for complete environmental protection. Meets requirements of Char. C, D and E of MIL-R-10509F.
TYPE **MFF**	10 ohms to 10 meg.	5	1/8, 1/4, 1/2, 1, 2	.1%, .25%, .5%, 1%	Epoxy coating. Meets requirements of Char. C, D of MIL-R-10509F, but is dimensionally smaller.
TYPE **D & P**	50 ohms to 2.6 meg.	3 (D) 1 (P)	**D** = 4, 8, 12 **P** = 8	.10%, .25%, .5%, 1%, 2%	Molded in aluminum housing. Type D mounts on chassis. Type P mounts through chassis. Complete environmental protection. High stability. Low reactance at high frequency.
 TYPE **MP**	25.5 ohms to 100K ohms each element	5	50 milli-watts per element at 125° C	.10%, .25%, .5%, 1%, 2%, 5%	Epoxy molded micro-resistive networks with 2 to 6 resistors. Environmental and mechanical protection meet requirements of MIL-R-10509F. Complete flexibility for matching T.C. and tolerance to specific ratios.

PACKAGED NETWORKS *(Write for Catalog A)*

Dale offers a choice of linear wirewound, bobbin wirewound, metal film, carbon film or cermet elements packaged to meet your requirements. Dale networks meet or exceed requirements of MIL-R-26, MIL-R-93 or MIL-R-10509, depending on element used. Contact the factory for complete information on standard designs and for special design assistance.

ORDERING INFORMATION

WHERE TO ORDER:
From your Authorized Dale Distributor, your Dale Representative, or Dale Electronics, Inc., Box 609, Columbus, Nebraska 68601 — PHONE 564-3131 AREA CODE 402 TWX 402-564-2807

TERMS: 1% 10—Net 30
F.O.B. POINT: Columbus, Nebraska

SPECIAL CHARGES:

Minimum Order Charge	$10.00
Minimum Item Charge	$ 7.50

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1316 28th Ave., Columbus, Nebraska 68601
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OMI
RESISTORS

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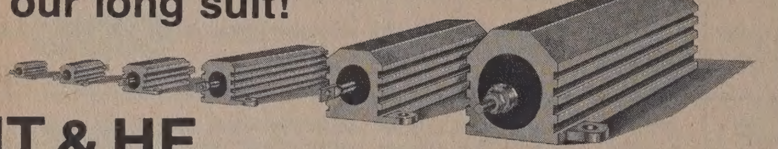
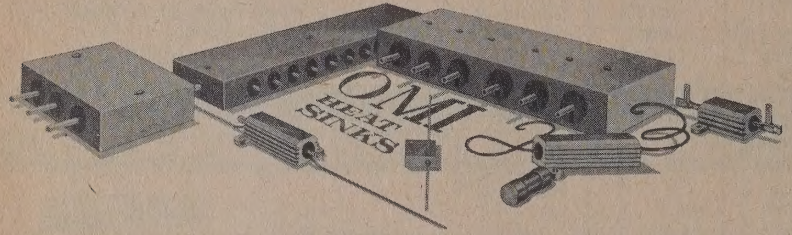
is our long suit!



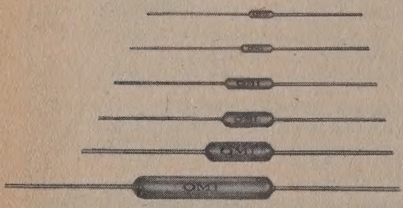
HT & HF
PRECISION POWER WIRE WOUND

Anodized, aluminum-housed resistors designed to chassis mount and to meet or exceed MIL-R-18546 specs. HT in six sizes 5-100 watts, ranges from .1 ohm to 250K. HF models use beryllium oxide cores offering great increase in power ratings. Note inclusion of HT-75 to fill the industrial gap with a power rating of 75 watts.



OMI HEAT SINKS MANUFACTURED TO CUSTOMER SPECIFICATIONS

Versatile factory tooling allows OMI to design heat sink resistors for your needs including high power capabilities, 4-wire low value resistors as well as standard 2-wire, with all resistors high-temperature, high-pressure integrally molded into housing construction.



"T" SERIES

17 Basic Mil R 26 Type sizes of highly reliable silicone coated resistors with power ratings from ½-10 watts. Available axial or radial leads.

"F" SERIES

Silicone coated beryllium oxide core allowing higher power dissipation with no increase in size. Also available non-inductively wound.

WHATEVER YOUR RESISTOR NEEDS TRY CUSTOMER-ORIENTED

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Clarostat Mfg Co Inc Dover
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Diplohmatic Div Harry Levinson Co Seattle
Eastern Precision Resistor Div Cardwell Condenser Corp
  Lindenhurst
Electro-Mech Components Inc San Gabriel
Electro Scientific Industries Inc Portland
Elgiloy Co Elgin
Fugle-Miller Labs Inc Kenilworth
Gamble Industries, Charles T Riverside
General Electric Co, ECSO Schenectady
General Radio Co West Concord
General Resistance Inc Div Chronetics Inc Mount Vernon
Hamilton-Hall Resistor Corp Milwaukee
Impectron Inc New York
InResCo Inc Brick Town
IRC Div TRW Inc Los Angeles
Japan Resistor Mfg Co Ltd Tokyo . . . J
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Omtronics Mfg Inc Omaha
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Electronics Buyers' Guide

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Labs Inc Manchester	N H
o Electric Corp Rochester	N Y
o of Florida Inc Dunedin	Fla
onix Inc Grand Junction	Colo
ed Mineral & Chemical Corp New York	N Y
r Electronics Inc Robinson Elctn Comps Div osta Mesa	Cal
wyn Electric Ltd Northumberland	England

SISTORS, FIXED—WIREWOUND (10 VATTS & OVER)

E ELECTRONICS INC COLUMBUS EB	**ADV PGS 552,553**
ERAL ELECTRIC CO, ECSO SCHENECTADY Y	**ADV PG 7**
TROHM INC CHICAGO ILL	**ADV PG 555**
TRONICS MFG INC OMAHA NEB	**ADV PG 554**
L ELECTRONICS INC IRVINGTON N J	**ADV PG 556**
ISTORS INC CHICAGO ILL	**ADV PG 551**
ha Components Corp Venice	Cal
as Coil Corp Ansonia	Conn
dford Components Inc Salamanca	N Y
ddock Electronics Inc Riverside	Cal
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Electronics Inc Van Nuys	Cal
rostat Mfg Co Inc Dover	N H
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mite Mfg Co Skokie	Ill
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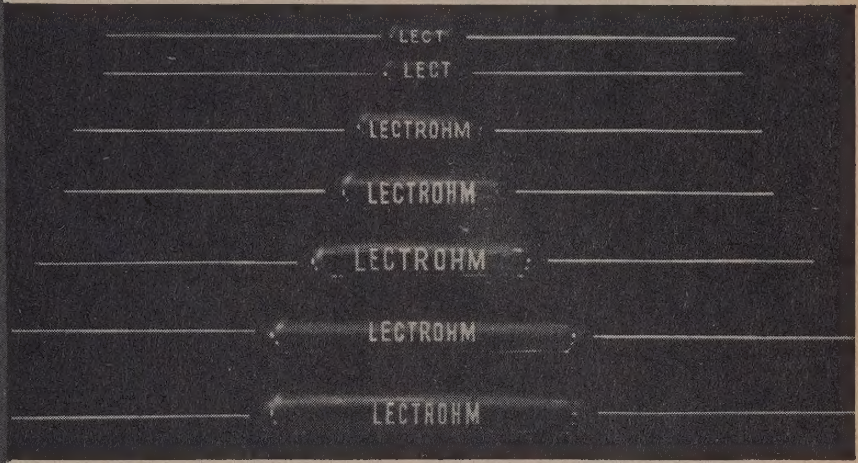

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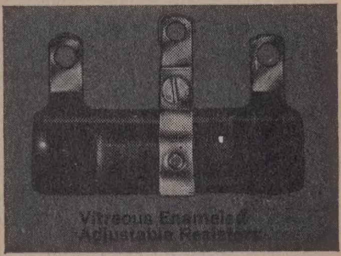

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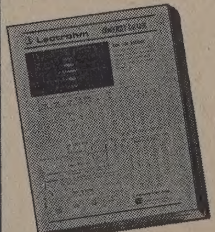

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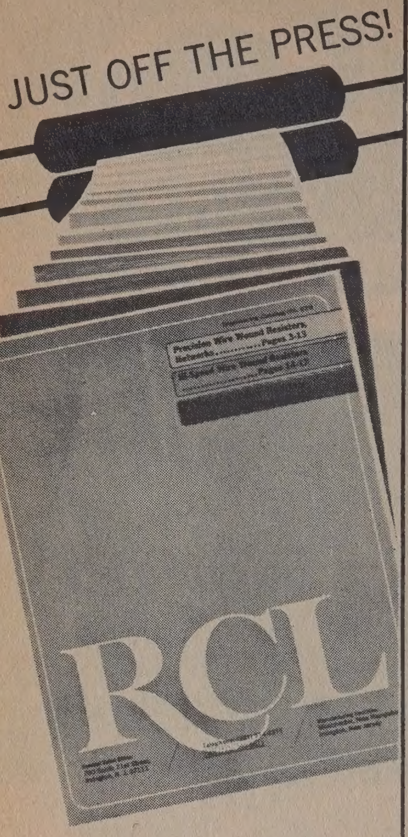

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  WIS . . . . ADV PG 434
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Palmer Electronics Inc Garfield . . . . N J
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Ferranti, Ltd Lancashire . . . . Engl
Litton Industries, Potentiometer Div Mt Vernon . . . .
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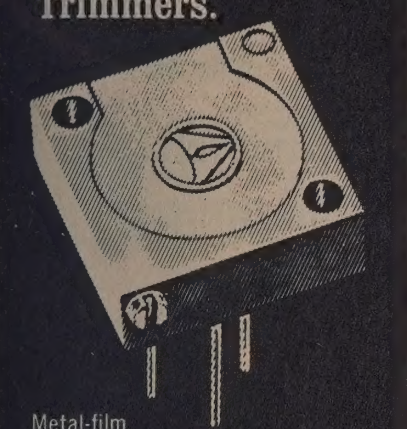

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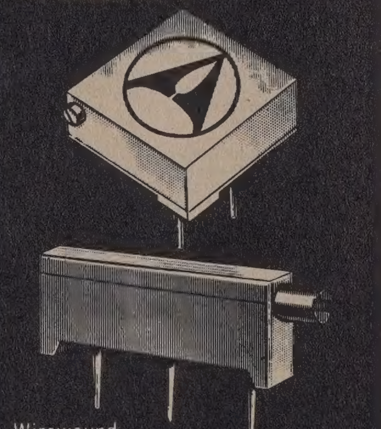

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***See* Synchros**

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R-F POWER AMPLIFIERS

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R-F POWER BRIDGES

See **Bridges**

R-F POWER MONITORS

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R-F PROBES

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R-F SIGNAL GENERATORS

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Circon Component Corp Goleta .... Cal
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Elco Tool & Screw Corp Rockford Ill
Fastex Div Illinois Tool Works Des Plaines Ill
Federal Screw Products Inc Chicago Ill
G C Electronics Div, Hydrometals Inc Rockford Ill
General Findings Co Industrial Div Attleboro .... Mass
Gibson Electric-Talon Div Textron Delmont .... Pa
Gries Reproducer Co Div Coats & Clark Inc New Rochelle .. N Y
Harper Co, H M Morton Grove Ill
Hi-Shear Corp Torrance .... Cal
Huck Mfg Co Detroit .... Mich
Metal Ceram Inc Mount Vernon .... N Y
Milford Rivet & Machine Co Milford .... Conn
Norrich Plastics Corp Roosevelt .... N Y
Product Components Corp Hastings-on-Hudson .... N Y
Pylon Co, Inc Attleboro .... Mass
Republic Steel Corp Cleveland .... Ohio
Richards Metal Products Inc Wolcott .... Conn
Russell, Burdsall & Ward, Bolt & Nut Co Port Chester .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Smith Inc, Herman H Brooklyn .... N Y
Southco Inc Lester .... Pa
Stimpson Co Inc, Edwin B Brooklyn .... N Y
Townsend Co, TRS Div Braintree .... Mass
United-Carr Inc Boston .... Mass
USM Corp, Fastener Div Shelton .... Conn
Vaco Products Co Chicago Ill

ROCHELLE SALT CRYSTALS

See **Crystal Blanks; Crystals—Piezoelectric**

RODS—GROUND

DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
STAR STAINLESS SCREW CO PATERSON .... N J
Allmetal Screw Products Co Inc Garden City .... N Y
Armco Steel Corp Middletown .... Ohio
Associated Engineering & Mfg Corp Glen Ridge .... N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon .... Ohio
Daburn Electronics & Cable Corp Bronx .... N Y
Emerson & Cuming Inc Canton .... Mass
Firth Sterling Corp McKeesport ....
Franklin Fibre-Lamitex Corp Wilmington ....
G C Electronics Div, Hydrometals Inc Rockford ....
Goodrich Industrial Prods Co, B F Akron C
Harvel Plastics Inc Easton ....
Insulating Shapes Inc Bronx ....
Laminated Fabricators San Bruno ....
Mackay Inc, A D New York ....
Maryland Lava Co Inc Bel Air ....
Metal Ceram Inc Mount Vernon ....
Microdot Inc. Troy .... M
Norrich Plastics Corp Roosevelt ....
Parker Metal Goods Co Worcester .... M
Polymer Corp Reading ....
Porcelain Products Co Div Clarken Co Carey C
Premax Products Div, Chisholm-Ryder Co Inc Niagara Falls ....
Rohn Mfg Co Peoria ....
Semi-Alloys Inc Mt Vernon ....
Siltronics Inc Oakmont ....
Star Stainless Screw Co Paterson ....
Sterling Instrument Div, Designatronics Inc Mineola ....
Sylvania Elec Prods Inc, Chem & Met Div Towanda ....
Trylon Inc Elverson ....
Union Carbide Corp, Materials Systems Div Kokomo ....
United Mineral & Chemical Corp New York ....
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh ....

RODS—METAL

See **Metal Desired**

RODS—PLASTIC

See **Plastics—Rod & Tubing**

RODS—THREADED

See **Metal Parts—Threaded Rods**

ROLLER BEARINGS

See **Bearings**

ROOMS—SCREEN

See **Chambers—Environmental**

ROTARY ACTUATORS

See **Actuators**

ROTARY BEAM ANTENNAS

See **Antennas—Communication**

ROTARY CONVERTERS

See **Converters—Power**

ROTARY INVERTERS

See **Inverters**

ROTARY JOINTS

See **Joints—Rotary**

ROTARY SOLENOIDS

See **Solenoids**

ROTORS—CASTINGS

Arwood Corp Rockleigh ....

RUBBER—PARTS, RODS, SHEETS & TUBING

Abesto Corp Bloomfield ....
Acushnet Co New Bedford .... Ma
APM-Hexseal Corp Englewood ....
Atlantic India Rubber Co Chicago ....
Auburn Mfg Co Middletown .... Co
Bacon Industries, Inc Watertown .... Ma
B & C Insulation Products, Inc Iselin ....
Beemer Engineering Co Fort Washington ....
Bendix Corp Rubber Prods Plant Toledo .... O
Bentley-Harris Mfg Co Conshohocken ....
Budd Co Polychem Div Newark ....
Connecticut Hard Rubber Co New Haven .... Co
Da/Pro Rubber Inc Van Nuys ....
Dow Corning Corp Midland .... Mi
Fel Pro Inc Div Felt Products Mfg Co Skokie ....
Florida General Electronics Inc Ormond Beach ......
General Compounds Co, Div Kai R Kuhl Co Los Angeles ...
General Gaskets Inc Middletown .... Co
Goodrich Industrial Prods Co, B F Akron .... O
Industrial Electronic Rubber Co Twinsburg .... O
Kirkhill Rubber Co Brea ....
MB Bedding Co Wilkes-Barre ....
Mechanical Rubber Products Co, Inc Warwick ....
Microdot Inc. Troy .... Mi
Minor Rubber Co Inc Bloomfield ....

ed Rubber & Plastic Corp Butler .... Wisc
ess Products Inc Racine .... Wis
-Flex Seals Inc Bronx .... N Y
ch Plastics Corp Roosevelt .... N Y
or Labs Inc Newtown .... Pa
r H K Co Inc, Thermoid Div Pittsburgh .... Pa
tum-Joclin Wallingford .... Conn
estos-Manhattan Inc Bridgeport .... Conn
itech Inc Burbank .... Cal
wood Industries Flexco Div Bell Gardens .... Cal
Gasket Mfg Corp New York .... N Y
Corp of America Metuchen .... N J
om Electronics Inc Chicago Ill

BBER—RAW MATERIAL

Corning Corp Midland .... Mich
ont De Nemours & Co Inc E I Wilmington .... Del
ral Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
ral Electric Co Silicone Prods Dept Waterford .... N Y
ral Tire & Rubber Co Akron .... Ohio
man Incorporated Belleville .... N J
Bedding Co Wilkes-Barre .... Pa
nanical Rubber Products Co, Inc Warwick .... NY
r Rubber Co Inc Bloomfield .... N J
or Labs Inc Newtown .... Pa
ffer Wacker Silicone Corp New York .... N Y
yal Chemical Div Uniroyal Inc Naugatuck .... Conn

BBERIZED HAIR

ee Packaging Materials

LVAGE OF PRECIOUS METALS

ee Precious Metals Recovery & Refining

PPHIRE—FINISHED PARTS

LER INC, HUGO P NEW YORK .... N Y
rox Corp New Bedford .... Mass
si Industries El Segundo .... Cal
products Corp New York .... N Y
ied Magnetics Corp Drum & Disc Head Div Goleta .... Cal
c Ceramics Inc Sub Basic Inc Hawthorne .... NJ
mic Magnetics Inc Fairfield .... N J
mics International Corp Mahwah .... NJ
talab Products Corp Rochelle Park .... N J
eral Laser Corp Natick .... Mass
strial Optics Div Yardney Razdow Labs Newark .... N J
co Inc Quakertown .... Pa
rnational Laser Systems Inc Orlando .... Fla
s Optical Works Inc A D Burlington .... Mass
er Inc, Hugo P New York .... N Y
oratoires De Marcoussis Ctr De Rsch De La CGE
Marcoussis .... France
er Optics Inc Danbury .... Conn
er Co, Adolf Providence .... R I
er Jewel Co Perth Amboy .... N J
cs Electronics Corp Dallas .... Tex
rtzite Processing, Inc Malden .... Mass
som Labs, John H Los Angeles .... Cal
ni-Elements Inc Saxonburg .... Pa
tner-Trush Inc Cazenovia .... N Y
s Jewel Co Philadelphia .... Pa
cor Products Co, Inc Malden .... Mass

PPHIRE—RAW, NATURAL OR YNTHETIC

LER INC, HUGO P NEW YORK .... N Y
ron, Div of Litton Industries, Inc Morris Plains .... N J
si Industries El Segundo .... Cal
tronic Space Products Inc Los Angeles .... Cal
co Inc Quakertown .... Pa
er Inc, Hugo P New York .... N Y
h Light Labs Ltd Colnbrook, Bucks .... England
oratoires De Marcoussis Ctr De Rsch De La CGE
1 Marcoussis .... France
ler Co, Adolf Providence .... R I
ser Jewel Co Perth Amboy .... N J
ni-Elements Inc Saxonburg .... Pa
ss Jewel Co Philadelphia .... Pa

TURABLE REACTORS

ee Reactors—Saturable

CALERS

ee Counters—Electronic

CANNERS—FACSIMILE

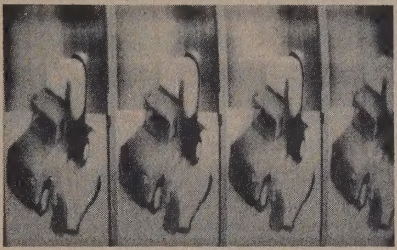
ee Facsimile Equipment

CANNERS—IMAGE

GHES AIRCRAFT CO VAC TUBE PRODS DV STORAGE
UBES & COML DISP SYS OCEANSIDE CAL . ADV PG 559
PPON ELECTRIC CO LTD TOKYO .... JAPAN
NTRONIC INSTRUMENTS INC ADDISON ILL
co Electronics Div Cincinnati .... Ohio
rnes Engineering Co Def & Space Div Stamford .... Conn
ckman & Whitley Mountain View .... Cal
ta Instrument Corp Newton Upper Falls .... Mass

Scan Conversion Requirements . . .

Hughes designs and manufactures custom scan conversion systems employing Hughes ultra high resolution electrical readout storage tubes to provide flicker-free output to TV monitors from slow scan, random scan or other non-compatible inputs.



Typical high resolution monitor reading from a Hughes scan converter system on which four 525-line TV frames have been stored.

For further information, contact Hughes Commercial Displays, 2020 Oceanside Blvd., Oceanside, California 92054.

HUGHES
HUGHES AIRCRAFT COMPANY
VACUUM TUBE PRODUCTS DIV.
OCEANSIDE, CALIFORNIA

Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Colorado Video Inc Boulder .... Colo
Dalto Electronics Corp Norwood .... N J
E G & G Inc, Systems Group Bedford .... Mass
Elastronics Labs Tarzana .... Cal
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp
Syosset .... NY
Graphic Electronics Inc La Salle Ill
Hughes Aircraft Co Vac Tube Prods Dv Storage Tubes & Coml
Disp Sys Oceanside .... Cal
Hycon Monrovia .... Cal
Information Control Corp El Segundo .... Cal
Information International Inc Boston .... Mass
Infrared Industries Inc Santa Barbara .... Cal
ITT Aerospace, Optical Div Fort Wayne .... Ind
Keuffel & Esser Co Morristown .... N J
Link Div Singer Co Binghamton .... N Y
Litton Industries, Electron Tube Div San Carlos .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
Nuclear-Chicago Des Plaines Ill
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Research Instruments Berkeley .... Cal
Philco-Ford Corp Washington .... D C
Picker Nuclear White Plains .... N Y
Ransom Labs, John H Los Angeles .... Cal
Scope Inc Reston .... Va
Sequential Electronic Systems Inc Elmsford .... N Y
Space & Systems Div General Time Corp Stamford .... Conn
Syntronic Instruments Inc Addison Ill
Technical Operations Inc Burlington .... Mass
Te Company Santa Barbara .... Cal
Westinghouse Electric Corp, Tube Div Elmira .... NY

SCANNERS—INPUT

CGS UNITS INC ROCHESTER .... N Y
CUNNINGHAM CORP SUB GLEASON WKS
HONEOYE FALLS .... N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
HEWLETT-PACKARD PALO ALTO .... CAL
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
Automation Dynamics Corp Northvale .... N J
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Bio-Medical Electronics Inc Rockville .... Md
CGS Units Inc Rochester .... N Y
Compuscan Inc Leonia .... N J
Cunningham Corp Sub Gleason Wks Honeoye Falls .... N Y
Dytro Corp Hicksville .... NY
Electro Scientific Industries Inc Portland .... Ore
General Electric Co, ECSO Schenectady .... N Y
Hewlett-Packard Palo Alto .... Cal
Howell Instruments Co Fort Worth .... Tex
ITT Aerospace, Optical Div Fort Wayne .... Ind
Keltron Corp Waltham .... Mass

Kuwano Electrical Instruments Co Ltd
Kawasaki .... Kanagawa Pref
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Cimron Div San Diego .... Cal
Loral Electronic Systems, Div Loral Corp New York .... NY
Non-Linear Systems Inc Del Mar .... Cal
Plessey Airborne Corp Hillside .... NJ
P P M Inc Cleveland .... Ohio
Rosemount Engineering Co Minneapolis .... Minn
Solartron Electronic Group Ltd Farnbrough .... England
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur . . Switzerland
United Systems Corp Dayton .... Ohio
Utility Communication Systems Inc West Chester .... Pa
Vidar Corp Mountain View .... Cal
Westinghouse Electric Corp, Tube Div Elmira .... NY

SCANNERS—OPTICAL

DISCON CORP FORT LAUDERDALE .... FLA
FORK STANDARDS INC WEST CHICAGO ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Aeroflex Labs, Inc Plainview .... N Y
American Instrument Co, Inc Silver Spring .... Md
American Time Products, Elctns Div Bulova Watch Co Inc
Woodside .... N Y
Applachian Electronic Instruments Inc Ronceverte .... W Va
Avco Electronics Div Cincinnati .... Ohio
Barnes Engineering Co Def & Space Div Stamford .... Conn
Bausch & Lomb Inc Rochester .... N Y
Beckman & Whitley Mountain View .... Cal
Chicago Aerial Industries Inc Barrington Ill
Compuscan Inc Leonia .... N J
Consolidated Ohmic Devices Inc Carle Place .... N Y
Crystalab Products Corp Rochelle Park .... N J
Data Trends Inc Mountain Lakes .... NJ
Discon Corp Fort Lauderdale .... Fla
Dolan Jenner Industries Inc Melrose .... Mass
Elastronics Labs Tarzana .... Cal
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Fairchild Space & Defense Sys Div Fairchild Cam Instr Corp
Syosset .... NY
Farrand Optical Co Inc Bronx .... N Y
Fork Standards Inc West Chicago Ill
Gaertner Scientific Corp Chicago Ill
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Graphic Electronics Inc La Salle Ill
Gulton Industries Inc Metuchen .... N J
H H Controls Co Inc Arlington .... Mass
Honeywell EDP Div Wellesley Hills .... Mass
Hycon Monrovia .... Cal
Hydra-Electric Co Burbank .... Cal
IBM Corp White Plains .... N Y
IBM Data Processing Div White Plains .... N Y
Industrial Control Co Farmingdale .... N Y
Information International Inc Boston .... Mass
Infrared Industries Inc Santa Barbara .... Cal
ITT Aerospace, Optical Div Fort Wayne .... Ind
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Laser Optics Inc Danbury .... Conn
Link Div Singer Co Binghamton .... N Y
Litton Industries, Electron Tube Div San Carlos .... Cal
Machinery Electrification Inc Northboro .... Mass
Nanosecond Systems Inc Fairfield .... Conn
National Cash Register Co Dayton .... Ohio
Nikon Inc Instrument Div Garden City .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Nuclear Research Instruments Berkeley .... Cal
Optomechanisms Inc Plainview .... N Y
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Perkin-Elmer Corp Norwalk .... Conn
Philco-Ford Corp Washington .... D C
Photobell Co Inc New York .... N Y
Plessey Airborne Corp Hillside .... NJ
Plessey Co Ltd Ilford Essex .... England
Ransom Labs, John H Los Angeles .... Cal
Schoeffel Instrument Corp Westwood .... NJ
Sequential Electronic Systems Inc Elmsford .... N Y
Space Rays Inc Burlington .... Mass
Stocker & Yale Inc Beverly .... Mass
Sylvania Electronic Systems Waltham .... Mass
Technical Operations Inc Burlington .... Mass
Te Company Santa Barbara .... Cal
Towner Systems Co Alameda .... Cal
TRW Systems Group Redondo Beach .... Cal
Westinghouse Electric Corp, Aerospace Div Baltimore .... Md

SCANNERS—SWITCHING

***See* Commutators—Switching**

SCINTILLATION COUNTERS

***See* Counters—Nuclear Particle**

SCINTILLATION CRYSTALS

***See* Crystals—Scintillation**

SCINTILLATORS

AMBAC Industries Inc Garden City .... N Y
Atomic Labs, Div Cenco Instr Corp Chicago Ill
Baird-Atomic, Inc Cambridge .... Mass
Beckman Instruments Inc Fullerton, ... Cal
Collins & Assoc Don L Glendale .... Cal
Compuscan Inc Leonia .... N J
Cryogenic Research Co Inc Boulder .... Colo
Crystalab Products Corp Rochelle Park .... N J
Digital Automation Co Pennington .... N J
Horiba Instruments Inc Kyoto .... Japan
Isotopes A Teledyne Co Westwood .... N J
Koch Light Labs Ltd Colnbrook, Bucks .... England
La Radiotechnique Compelec Paris 11e .... France

Nuclear-Chicago Des Plaines Ill
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Measurements Corp Indianapolis .... Ind
Nuclear Supplies Encino .... Cal
Pilot Chemicals Inc Watertown .... Mass
Polysciences Inc Warrington .... Pa
Quartz & Silice Paris 8 eme .... France
Semi-Elements Inc Saxonburg .... Pa

SCRAMBLERS—SPEECH

TELE-SIGNAL CORP SUB SINGER CO WOODBURY .... N Y
Bendix Corp, Communications Div Towson .... Md
Ground/data Corp Fort Lauderdale .... Fla
Kahn Research Labs Inc Freeport .... N Y
Lynch Communication Systems San Francisco .... Cal
Micronetics Div Teledyne Systems Co San Diego .... Cal
Philco-Ford Corp Washington .... D C
P M C Electronics Corp Philadelphia .... Pa
Sylvania Electronic Systems Waltham .... Mass
Tele-Signal Corp Sub Singer Co Woodbury .... N Y

SCREEN PRINTING

See **Silk-Screen Processing Services**

SCREEN ROOMS

See **Chambers—Environmental**

SCREENS, PRINTED CIRCUIT—SILK

KRESSILK PRODUCTS INC ELMSFORD .... N Y
WIRE CLOTH ENTERPRISES INC PITTSBURGH .... PA
Abacus Electronics Corp Dobbs Ferry .... N Y
Advanced Space Age Products Inc Alexandria .... Va
American Screen Process Equipment Co Chicago Ill
Avionics Ltd Niagara-on-the-Lake .... Ont
Coastal Dynamics Corp Venice .... Cal
Feay Co, Neal Goleta .... Cal
Kepro Circuit Systems Inc St Louis .... Mo
Kressilk Products Inc Elmsford .... N Y
Lambert Co, Inc Boston .... Mass
Lehigh Metal Products Corp Cambridge .... Mass
Markon Mfg Inc Englewood .... Colo
Mid-West Metal Products Inc Kansas City .... Kans
Naz-Dar Co Chicago Ill
Podgor Co Inc, Joseph E Philadelphia .... Pa
Qualitron Corp Danbury .... Conn
Stafford Mfg Co Inc Brooklyn .... N Y
Strandberg Engineering Labs Inc Greensboro .... N C
Wire Cloth Enterprises Inc Pittsburgh .... Pa

SCREENS, PRINTED CIRCUIT—WIRE MESH

KRESSILK PRODUCTS INC ELMSFORD .... N Y
WIRE CLOTH ENTERPRISES INC PITTSBURGH .... PA
Abacus Electronics Corp Dobbs Ferry .... N Y
Advanced Space Age Products Inc Alexandria .... Va
Affiliated Manufacturers Inc Whitehouse .... N J
American Screen Process Equipment Co Chicago Ill
Avionics Ltd Niagara-on-the-Lake .... Ont
Buckbee-Mears Co. St Paul .... Minn
Coastal Dynamics Corp Venice .... Cal
Dry Screen Process Inc Pittsburgh .... Pa
Etchomatic Inc Waltham .... Mass
Kepro Circuit Systems Inc St Louis .... Mo
Kressilk Products Inc Elmsford .... N Y
Lambert Co, Inc Boston .... Mass
Markon Mfg Inc Englewood .... Colo
Naz-Dar Co Chicago Ill
Newark Wire Cloth Co Newark .... N J
Podgor Co Inc, Joseph E Philadelphia .... Pa
Towne Labs Inc Somerville .... N J
Tyler Co, W S Mentor .... Ohio
Unique Wire Weaving Co Inc Hillside .... N J
Wire Cloth Enterprises Inc Pittsburgh .... Pa
Wire Cloth Manufacturers Inc Parsippany .... N J

SCREWS

CIRCON COMPONENT CORP GOLETA CAL .... ADV PG 292
CONCORD ELECTRONICS CORP NEW YORK .... N Y
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
KINETRON CORP ASBURY PARK .... NJ
SECS, INC LONG ISLAND CITY .... N Y
STAR STAINLESS SCREW CO PATERSON .... N J
Abacus Electronics Corp Dobbs Ferry .... N Y
Abscoa Industries Inglewood .... Cal
Acme Model Engineering Co Ridgefield .... N J
Allen Mfg Co Hartford .... Conn
Allmetal Screw Products Co Inc Garden City .... N Y
Aluminum Co of America Pittsburgh .... Pa
Amatom Electronic Hardware New Rochelle .... N Y
Anti-Corrosive Metal Products Co, Inc Albany .... N Y
APM-Hexseal Corp Englewood .... N J
Camcar Screw & Mfg, A Textron Div Rockford Ill
Central Screw Co Broadview Ill
Chase Metals Service Div Chase Brass & Copper Co Cleveland .... Ohio
Circon Component Corp Goleta .... Cal
Concord Electronics Corp New York .... N Y
Continental Screw Co New Bedford .... Mass
Cox Mfg Co San Antonio .... Tex
Daburn Electronics & Cable Corp Bronx .... N Y
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Elastic Stop Nut Div Amerace Esna Corp Union .... N J
Elco Tool & Screw Corp Rockford Ill
Eugene Engineering Co Inc Rockland .... Mass
Federal Screw Products Inc Chicago Ill
G C Electronics Div, Hydrometals Inc Rockford Ill
Gemp Terminals Inc Yonkers .... N Y
General Findings Co Industrial Div Attleboro .... Mass
Gillette Electronic Products Co Beverly .... N J
Great Eastern Metal Products Co Yonkers .... N Y
Gries Reproducer Co Div Coats & Clark Inc New Rochelle .. N Y
Harper Co, H M Morton Grove Ill
H & H Screw Products Mfg Co Ashton .... R I
Hydro Molding Co Inc Plattsburgh .... N Y
Kinetron Corp Asbury Park .... NJ
Long Lok Div Whittaker Corp Los Angeles .... Cal
Mercury Div Whittaker Corp Los Angeles .... Cal
Microdot Inc. Troy .... Mich
Micro Parts Inc Los Angeles .... Cal
Morris Co, J I Southbridge .... Mass
Multi-Flex Seals Inc Bronx .... N Y
Norrich Plastics Corp Roosevelt .... N Y
Nutmeg Screw Machine Products Co Waterbury .... Conn
Nylogrip Products Waltham .... Mass
Parker-Kalon Corp. Affl. USM Clifton .... N J
Parker Metal Goods Co Worcester .... Mass
Pawtucket Screw Co Inc Pawtucket .... R I
Penn Engineering & Mfg Corp Doylestown .... Pa
Product Components Corp Hastings-on-Hudson .... N Y
Pylon Co, Inc Attleboro .... Mass
Republic Steel Corp Cleveland .... Ohio
Russell, Burdsall & Ward, Bolt & Nut Co Port Chester .... N Y
Secs, Inc Long Island City .... N Y
Shakeproof Div, Illinois Tool Works Inc Elgin Ill
Shigoto Industries Ltd New York .... N Y
Southco Inc Lester .... Pa
Stake Fastener Co Div Dupree Inc S El Monte .... Cal
Standard Polymer Inc Van Nuys .... Cal
Standard Screw Co Bellwood Ill
Star Stainless Screw Co Paterson .... N J
Teale Machine Co Inc Rochester .... N Y
Tridair Industries Fastener Div Torrance .... Cal
Waldom Electronics Inc Chicago Ill
Weckesser Co Inc Chicago Ill

SEALERS

See **Coatings**

SEALING MACHINES

See **Machines—Hermetic-Sealing**

SEALING SERVICES—HERMETIC

KINETRON CORP ASBURY PARK .... NJ
Accratronics Seals Corp Burbank .... Cal
Alberox Corp New Bedford .... Mass
APM-Hexseal Corp Englewood .... N J
Associate General Labs Inc Brookfield Ill
Astro Seal Inc S El Monte .... Cal
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Castall Research Lab Inc Brockton .... Mass
Ceramics International Corp Mahwah .... NJ
Clare-Electroseal Corp Des Plaines Ill
Conax Corp Buffalo .... N Y
Crystal Components Gr Saegertown Div GTI Corp Saegertown .... Pa
Detoronics Corp S El Monte .... Cal
Device Seals Inc Sun Valley .... Cal
Fansteel Inc North Chicago Ill
Glasseal Products Co Inc Linden .... N J
Greenfield Components Corp Greenfield .... Mass
GTI Corp Meadville .... Pa
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead ... Cal
Hermetite Corp Avon .... Mass
Hi-Shear Corp Torrance .... Cal
H J Electronic Seal Co South Norwalk .... Conn
Kinetron Corp Asbury Park .... NJ
Latronics Corp Latrobe .... Pa
Litton Industries, Electron Tube Div San Carlos .... Cal
Lundey Associates Inc Waltham .... Mass
Microdot, Inc South Pasadena .... Cal
Mitronics Inc Murray Hill .... N J
National Beryllia Corp Haskell .... N J
Northeast Electronics Corp Milford .... Conn
Norton Co Chemical Process Prods Div Orrville .... Ohio
Precision Optics Div Penna Optical Co Reading .... Pa
Relay Specialties Inc Fair Lawn .... N J
Research Instrument Co Inc Westbury .... N Y
Sealtron Corp Cincinnati .... Ohio
Silicone Seals Inc Chicago Ill
Silver & Assoc Inc G H Newtonville .... Mass
Ultra-Violet Products Inc San Gabriel .... Cal

SEALS, HERMETIC—METAL-TO-CERAMIC

AMERICAN LAVA CORP CHATTANOOGA .... TENN
ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS & PHARM IND CORP MURRAY HILL .... N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Accratronics Seals Corp Burbank .... Cal
Alberox Corp New Bedford .... Mass
American Lava Corp Chattanooga .... Tenn
Astro Seal Inc S El Monte .... Cal
Basic Ceramics Inc Sub Basic Inc Hawthorne .... N J
Bendix Corp Electrical Components Div Sidney .... N Y
Castall Research Lab Inc Brockton .... Mass
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center .... N Y
Ceramics International Corp Mahwah .... NJ
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon ....
Consolidated Ceramics & Metalizing Corp Flemington ....
Coors Porcelain Co Golden ....
Corning Glass Works Corning ....
Culbertson Products Inc Bernardsville ....
Detoronics Corp S El Monte ....
Device Seals Inc Sun Valley ....
Eimac Div, Varian Associates San Carlos ....
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill ....
Ferranti, Ltd Lancashire .... Eng
Frenchtown/CFI Inc Frenchtown ....
General Electric Co, ECSO Schenectady ....
General Laboratory Assoc Inc Norwich ....
Glass Beads Co Latrobe ....
Glasseal Products Co Inc Linden ....
Greenfield Components Corp Greenfield .... M
GTI Corp Meadville ....
GTI Corp, Dix Engineering Div Costa Mesa ....
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead ..
Hi-Shear Corp Torrance ....
H J Electronic Seal Co South Norwalk C
Indium Corp of America Utica ....
Isochem Resins Co Lincoln ....
Latronics Corp Latrobe ....
Litton Industries, Electron Tube Div San Carlos ....
Livingston Electronic Div Jettron Prods Inc Hanover ....
Loctite Corp Newington C
Lundey Associates Inc Waltham .... M
Metalized Ceramics Corp Providence ....
Mitronics Inc Murray Hill ....
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton .
National Beryllia Corp Haskell ....
Networks Electronic Corp Chatsworth ....
NGK Spark Plug Co Ltd Mizuho-ku Nagoya .... Ja
Nippon Electric Co Ltd Tokyo .... Ja
Norton Co Chemical Process Prods Div Orrville ....
Nuclear Materials & Equipment Corp Apollo ....
Physical Sciences Corp Arcadia ....
Precision Optics Div Penna Optical Co Reading ....
Raytheon Co, Microwave & Power Tube Div Waltham ... M
Reuter-Stokes Electronic Components Inc Cleveland ....
Royal Worcester Industrial Ceramics Inc Charlotte ....
Schjeldahl Co, G T Northfield .... M
Silicone Seals Inc Chicago ....
Spectra-Mat Inc Watsonville ....
Sphere Co Inc Little Falls ....
Statham Instruments Inc Oxnard ....
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim
Thermal American Fused Quartz Co Montville ....
20th Century Electronics Ltd New Addington Croydon Cr 90 BG .... Eng
Varian Palo Alto ....
Veritron West Inc Chatsworth ....
Vitta Corp Wilton C

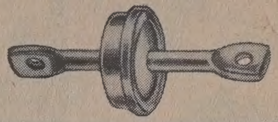
SEALS, HERMETIC—METAL-TO-GLAS

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE ....
BENDIX CORP MICROWAVE DEVICES DIV FRANKLIN IN ADV PG
CARR FASTENER CO DIV UNITED-CARR INC CAMBRIDGE MASS .... ADV PGS 250,
ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS & PHAR IND CORP MURRAY HILL N J .... ADV PG
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV
GRANVILLE-PHILIPS CO BOULDER C
NIPPON ELECTRIC CO LTD TOKYO .... JA
Accratronics Seals Corp Burbank ....
Airpax Electronics Inc, Cambridge Div Cambridge ....
Airpax Electronics Inc Seminole Div Fort Lauderdale ....
Aremco Products Inc Briarcliff Manor ....
Astro Seal Inc S El Monte ....
Bendix Corp Electrical Components Div Sidney ....
Carr Fastener Co Div United-Carr Inc Cambridge .... M
Castall Research Lab Inc Brockton .... M
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon ....
Corning Glass Works Corning ....
Crystal Components Gr Saegertown Div GTI Corp Saegertown ....
Culbertson Products Inc Bernardsville ....
Dage Electric Co Inc Franklin ....
Detoronics Corp S El Monte ....
Device Seals Inc Sun Valley ....
Electrical Industries, Div Philips Elctns & Pharm Ind Corp Murray Hill ....
Electronic Parts Mfg Co Inc Union City ....
Electron Technology Inc Kearny ....
Electrovac Vienna .... Aus
Fansteel Inc North Chicago ....
Ferranti, Ltd Lancashire .... Eng
Fish-Schurman Corp New Rochelle ....
Fredericks Co Huntingdon Valley ....
Fusite Corp Cincinnati ....
General Electric Co, ECSO Schenectady ....
Glasseal Products Co Inc Linden ....
Granville-Philips Co Boulder ....
Greenfield Components Corp Greenfield .... M
GTI Corp Meadville ....
GTI Corp, Dix Engineering Div Costa Mesa ....
Gulton Industries, Glass Technology Div Newport Beach ..
Gulton Industries Inc Controls & Instru Grp Costa Mesa ..
Hermaseal Co Inc Elkhart ....
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead ..
Hermetite Corp Avon .... M
H J Electronic Seal Co South Norwalk C
Indium Corp of America Utica ....
Isochem Resins Co Lincoln ....
Latronics Corp Latrobe ....
Litton Industries, Electron Tube Div San Carlos ....
Livingston Electronic Div Jettron Prods Inc Hanover ....
Loctite Corp Newington C
Mason-Renshaw Industries Carpinteria ....

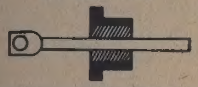
Glass-to-metal PRECISION HERMETIC SEALS

BENDIX glass-to-metal seals represent the highest standards of excellence in design, materials and workmanship. All assemblies meet or exceed MS requirements for shock, immersion, corrosion resistance, pressure and dimensional integrity. They are unsurpassed for dependable performance in any application for which they are designed. BENDIX hermetic seals are available in standard configurations and finishes for most applications. Custom designing to your individual requirements is our special skill.

SINGLE ELECTRODE TYPES

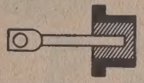


FLATTENED & PIERCED STRAIGHT WIRE (FP-SW) TYPE



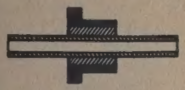
Bendix No.	Eyelet Details		
	Length	Flange Dia.	Barrel O. D.
20079-1	.075	.135	.112
20079-2	.125	.375	.280
20079-3	.125	.375	.280
20079-4	.145	.500	.380
20079-5	.145	.500	.380

STAND OFF-FLATTENED & PIERCED (SO-FP) TYPE

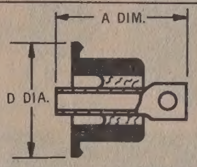


Bendix No.	Eyelet Details		
	Length	Flange Dia.	Barrel O. D.
20101-1	.125	.250	.200

HOLLOW TUBE (HT) TYPE

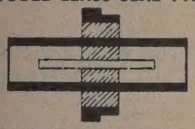


Bendix No.	Eyelet Details		
	Length	Flange Dia.	Barrel O. D.
20085-1	.125	.250	.200
20085-2	.125	.250	.200
20085-3	.125	.250	.200
20085-4	.125	.375	.280
20085-5	.060	.175	.125



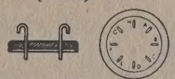
Bendix No.	Body	A Dim.	D Diam.
25073-1	21289-2	.458	.600
25073-2	21289-2	.618	.600

DOUBLE GLASS SEAL TYPE



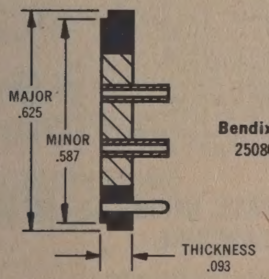
Bendix No.	Eyelet Details			
	Outer Eyelet		Inner Eyelet	
	Length	Barrel O. D.	Length	Barrel O. D.
20162-1	.093	.375	.407	.240
20162-2	.093	.375	.407	.240

5 PIN COMPRESSION SEAL HEADER CANE STRAIGHT WIRE (C-SW) TYPE

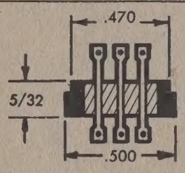


Bendix No.	Plate Detail		
	Major Dia.	Minor Dia.	Plate Thick.
20105-2	.800	.770	.145

MULTIPLE ELECTRODE TYPES

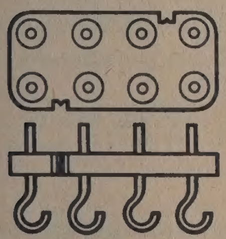


Bendix No.
25080-1

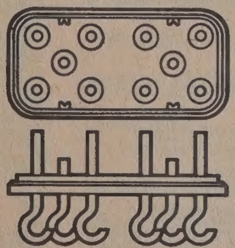


Bendix No. 20498-	1	2	3	4	5
No. of Contacts	2	3	4	5	7

HERMETICALLY SEALED MULTIPLE ELECTRODE HEADERS

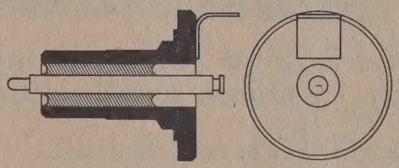


BENDIX NO. 20441

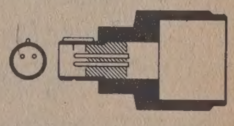


BENDIX NO. 20546

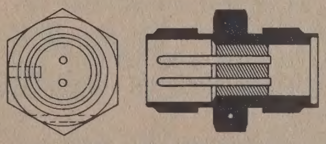
IGNITORS AND SPECIALS



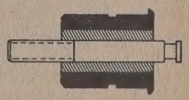
BENDIX NO. 20157



BENDIX NO. 20317



BENDIX NO. 20271



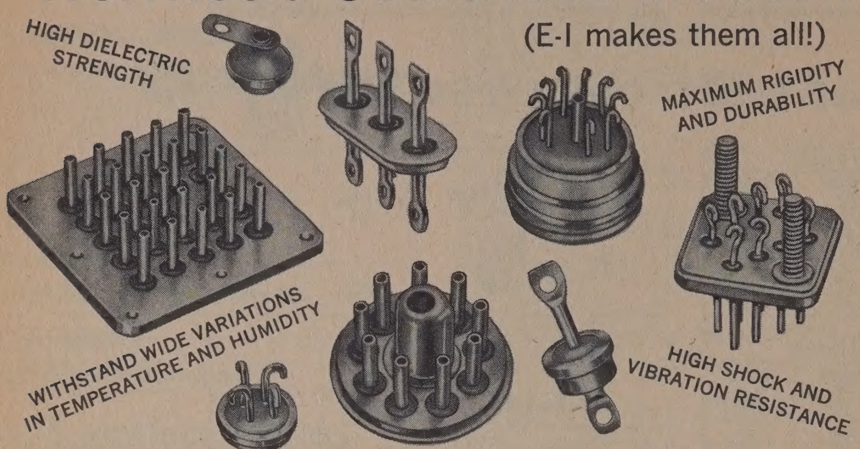
BENDIX NO. 20319

This is a partial listing only. For information and specifications on the BENDIX complete line of hermetic seals, call your representative or write direct to Microwave Devices Division, The Bendix Corporation, Hurricane Road, Franklin, Indiana 46131. Phone (317) 736-6136.

Bendix Electronics

Diversified Glass-to-Metal
Hermetic Seals like these...

(E-I makes them all!)


HIGH DIELECTRIC STRENGTH
MAXIMUM RIGIDITY AND DURABILITY
WITHSTAND WIDE VARIATIONS IN TEMPERATURE AND HUMIDITY
HIGH SHOCK AND VIBRATION RESISTANCE

Require Highly Specialized
Engineering Capabilities...
(E-I has the know-how!)

Specify E-I Sealed Terminations for Unusual Service Applications!

How does E. I. produce a quality line of hermetic seals? The answer is simple. A stringent program of testing and control! Above is shown an optical comparator being utilized to measure wire terminals for use in a hermetic seal. Testing in this manner assures that the finished hermetic seal will comply with all your requirements.

Available in thousands of standard types, E-I seals can be produced in 'specials' to meet particular component or equipment requirements.

Technical literature edited for the engineer/designer/specifier, and containing complete data and information, is available on request.

Sealed Terminations Multiple Headers
Transistor and Diode Bases
Semiconductor Bases
Compression-type Threaded End Seals
Plug-in Connectors
Vibrator Plug-in Connectors
High Voltage Glass-bonded Ceramic Seals
Hermetically-sealed Relay Headers
Special Application Custom Seals
Custom Sealing to Specifications

Electrical Industries
A Division of Philips Electronics and Pharmaceutical Industries Corp.
Murray Hill, N. J. 07971 — Tel. (201) 464-3200

Patented in U.S.A., No. 3,035,372; in Canada, No. 523,390; in United Kingdom, 734,583; other patents pending.

Metalized Ceramics Corp Providence ....
Microdot, Inc South Pasadena ....
Micro Parts Inc Los Angeles ....
Mitronics Inc Murray Hill ....
Networks Electronic Corp Chatsworth ....
Nippon Electric Co Ltd Tokyo .... Ja
Northeast Electronics Corp Milford C
Owens-Illinois Consumer & Tech Products Div Toledo ....
Precision Optics Div Penna Optical Co Reading ....
Sealtron Corp Cincinnati ....
Silver Glo Picture Tubes Ltd Edmonton ....
Standard Telephones & Cables Ltd London WC 2 .... Eng
Statham Instruments Inc Oxnard ....
Stettner-Trush Inc Cazenovia ....
Syncor Products Co, Inc Malden .... N
T & E Industries, Inc Hillside ....
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim .
Texas Instruments Incorporated Dallas ....
Thermal Controls Inc Belleville ....
20th Century Electronics Ltd
  New Addington Croydon Cr 90 BG .... Eng
Ultra-Violet Products Inc San Gabriel ....
Uniform Tubes Inc Collegeville ....
United-Carr Inc Boston .... N
Veritron West Inc Chatsworth ....
Vitta Corp Wilton C
Warren Components Corp Warren ....
Wilmad Glass Co Inc Buena ....

SEALS, HERMETIC—METAL-TO-META

Advanced Products Co North Haven C
Alberox Corp New Bedford .... M
Alpha Metals Inc Jersey City ....
Anchor Alloys Inc Brooklyn ....
Anchor Metal Co, Inc Div Brooklyn ....
Associate General Labs Inc Brookfield ....
Castall Research Lab Inc Brockton .... M
Ceramaseal Inc, Sub Lapp Insulator Co Inc
  New Lebanon Center ....
Ceramics International Corp Mahwah ....
Conax Corp Buffalo ....
Denton Vacuum Inc Cherry Hill ....
Eimac Div, Varian Associates San Carlos ....
Fansteel Inc North Chicago ....
Greenfield Components Corp Greenfield .... M
GTI Corp Meadville ....
GTI Corp, Dix Engineering Div Costa Mesa ....
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead . .
Hermetite Corp Avon .... M
Indium Corp of America Utica ....
Isochem Resins Co Lincoln ....
Latronics Corp Latrobe ....
Litton Industries, Electron Tube Div San Carlos ....
Livingston Electronic Div Jettron Prods Inc Hanover ....
Loctite Corp Newington C
Mitronics Inc Murray Hill ....
Northeast Electronics Corp Milford C
Norton Co Chemical Process Prods Div Orrville C
Reeve Electronics Inc Chicago ....
Roosevelt Metal Co Inc Brooklyn ....
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim .
Texas Instruments Incorporated Dallas ....
United Aircraft Products Inc Dayton C
United American Metals Div Brooklyn ....
Vitta Corp Wilton C

SEALS, HERMETIC—METAL-TO-SAPPHIRE

Alberox Corp New Bedford .... M
Ceramaseal Inc, Sub Lapp Insulator Co Inc
  New Lebanon Center ....
Ceramics International Corp Mahwah ....
Eimac Div, Varian Associates San Carlos ....
Fansteel Inc North Chicago ....
Glass Beads Co Latrobe ....
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead . .
Latronics Corp Latrobe ....
Litton Industries, Electron Tube Div San Carlos ....
Loctite Corp Newington C
Meller Co, Adolf Providence ....
National Beryllia Corp Haskell ....
Norton Co Chemical Process Prods Div Orrville C
Relay & Control Corp Long Island City ....
Varian Palo Alto ....
Veritron West Inc Chatsworth ....

SEALS, HERMETIC—SAPPHIRE-TO-GLASS

Fansteel Inc North Chicago ....
Fredericks Co Huntingdon Valley ....
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead . . .
Latronics Corp Latrobe ....
Litton Industries, Electron Tube Div San Carlos ....
Meller Co, Adolf Providence ....
Metal Ceram Inc Mount Vernon ....
National Beryllia Corp Haskell ....
Precision Optics Div Penna Optical Co Reading ....
Semi-Alloys Inc Mt Vernon ....
Syncor Products Co, Inc Malden .... M
Ultra-Violet Products Inc San Gabriel ....
Veritron West Inc Chatsworth ....

SEALS—MECHANICAL

GRAPHITE METALLIZING CORP YONKERS N Y . . ADV PG
Abesto Corp Bloomfield ....
Abscoa Industries Inglewood ....

scope Engineering Inc Los Angeles . . . . Cal
ınce Carbon Products, Inc San Francisco . . . . Cal
l-Hexseal Corp Englewood . . . . N J
Seal Engineering Co Santa Fe Springs . . . . Cal
ner Engineering Co Fort Washington . . . . Pa
ab A Unit of Bailey Meter Co Daytona Beach . . . . Fla
lix Corp Rubber Prods Plant Toledo . . . . Ohio
all Research Lab Inc Brockton . . . . Mass
nplast Inc Wayne . . . . N J
nerics, Inc Arlington . . . . Mass
ıx Corp Buffalo . . . . N Y
lab Div, Statics-Dynamics Inc Los Osos . . . . Cal
Pro Rubber Inc Van Nuys . . . . Cal
n Corp Bristol . . . . R I
rson Plastics Corp Bronx . . . . New York
Pro Inc Div Felt Products Mfg Co Skokie Ill
ers Co Millbury . . . . Mass
hite Metallizing Corp Yonkers . . . . N Y
H Screw Products Mfg Co Ashton . . . . R I
hear Corp Torrance . . . . Cal
strial Electronic Rubber Co Twinsburg . . . . Ohio
lating Shapes Inc Bronx . . . . N Y
fott Div Singer-General Precision Inc Little Falls . . . . . NJ
onics Corp Latrobe . . . . Pa
on-Renshaw Industries Carpinteria . . . . Cal
hanical Rubber Products Co, Inc Warwick . . . . NY
al Bellows Corp Sharon . . . . Mass
al Ceram Inc Mount Vernon . . . . N Y
odot Inc. Troy . . . . Mich
or Rubber Co Inc Bloomfield . . . . N J
i-Flex Seals Inc Bronx . . . . N Y
onal Beryllia Corp Haskell . . . . N J
Carbon Co Cleveland . . . . Ohio
ker Seal Co Culver City . . . . Cal
Fibre & Specialty Co Philadelphia . . . . Pa
mer Corp Reading . . . . Pa
Marys Carbon Co St Marys . . . . Pa
ol Inc Providence . . . . R I
i-Alloys Inc Mt Vernon . . . . N Y
otronics Inc Buffalo . . . . N Y
mban & Co, W S Los Angeles . . . . Cal
ndard Polymer Inc Van Nuys . . . . Cal
Seal Corp Wilmington . . . . Cal
n Carbide Corp, Carbon Products Div New York . . . . . N Y
ed Aircraft Products Inc Dayton . . . . Ohio

ARCHLIGHT SEE SURPLUS QUIPMENT

ISMOGRAPHS

ACO INC ITHACA . . . . N Y
a Metric Inc Pasadena . . . . Cal
tro-Technical Labs Div Mandrel Indus Inc Houston . . . Tex
dstone Corp Hardco Scientific Div Cincinnati . . . . Ohio
Space Corp Houston . . . . Tex
co Inc Ithaca . . . . N Y
rix Instrument Co Houston . . . . Tex
Electric Industry Co Ltd Tokyo . . . . Japan
kland Labs Inc Blauvelt . . . . N Y
as Instruments Incorporated Dallas . . . . Tex
as Instruments Inc Indl Prods Div Houston . . . . Tex

LECTIVE CALLING SYSTEMS

***ee* Communication Systems**

LENIUM

to Chemical Co, Inc Flushing . . . . NY
na Components Corp Venice . . . . Cal
erican Smelting & Refining Co New York . . . . N Y
hor Alloys Inc Brooklyn . . . . N Y
hor Metal Co, Inc Div Brooklyn . . . . N Y
mergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
orp Carle Place . . . . N Y
mont Smelting & Refng Wks Inc Sales Eng Ctr
oslyn Heights . . . . NY
nol Corp Newton . . . . Mass
m Metallurgical Chemical Co Philadelphia . . . . Pa
ac Inc Butler . . . . Wis
ro Corp New York . . . . NY
ro Sales Corp New York . . . . NY
Chemical Corp New York . . . . N Y
tern Delta Corp Fair Lawn . . . . N J
ctronic Space Products Inc Los Angeles . . . . Cal
eral Instrument Corp, Semiconductor Prods Grp
icksville . . . . N Y
eral Instrument Europe SPA Milano . . . . Italy
en Electric Corp Fairlawn . . . . NJ
akawa Electric Co Ltd Osaka . . . . Japan
mes Co, Carl E Los Angeles . . . . Cal
erman Industrial Products Ltd Garden City . . . . NY
ernational Rectifier Semiconductor Div El Segundo . . . . Cal
vecki Berylco Industries Inc New York . . . . N Y
h Light Labs Ltd Colnbrook, Bucks . . . . England
al Ceram Inc Mount Vernon . . . . N Y
C Electronics Canoga Park . . . . Cal
nm Rectifier Co, Inc Bronx . . . . N Y
sevelt Metal Co Inc Brooklyn . . . . N Y
ni-Alloys Inc Mt Vernon . . . . N Y
ni-Elements Inc Saxonburg . . . . Pa
nikron International Inc Scarsdale . . . . N Y
ed American Metals Div Brooklyn . . . . N Y
ed Mineral & Chemical Corp New York . . . . N Y
-Lac-Oid Chemical Co Elizabeth . . . . N J

LENIUM CELLS

***ee* Cells—Photoelectric**

SELENIUM RECTIFIERS

***See* Rectifiers**

SELSYNS

***See* Synchros**

SEMICONDUCTOR INTERMETALLIC MATERIALS

***See* Crystals—Semiconductor; Intermetallics**

SEMICONDUCTOR BOATS & CRUCIBLES

***See* Boats**

SEMICONDUCTOR CRYSTALS

***See* Crystals—Semiconductor**

SEMICONDUCTOR DOPES

***See* Alloys—Semiconductor**

SEMICONDUCTOR PRODUCTION MACHINES

***See* Machines—Semiconductor Crystal Production**

SEMICONDUCTORS

***See* Specific Type**

SENSORS

***See* Detectors**

SEQUENCE TIMERS

***See* Timers—Electronic**

SERVICES

***See* Antenna Tower; Brazing; Calibration; Circuits—Printed Wiring; Computing; Electroforming; Encapsulation; Engraving & Profiling; Etching; Fungiproofing; Heat-Treating; Hydroform Fabrication; Laboratories— Testing; Lapping & Honing; Metalizing; Packaging; Plastic Molding; Plating; Sealing—Hermetic; Shipping; Silk-Screen Processing; Soldering; Tinning; Welding; Wire-Marking; For Machining Services**

***See* Metal Parts Listings**

SERVO ANALYZERS

***See* Analyzers—Servo**

SERVO MOTORS

***See* Motors**

SERVOS—ACTUATORS

BOWMAR INSTRUMENT CORP FORT WAYNE . . . . IND
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
DREXEL HILL . . . . PA
IMC MAGNETICS CORP EASTERN DIV WESTBURY . . . . . N Y
IMC MAGNETICS CORP WESTERN DIV MAYWOOD . . . . CAL
Adel Div De Laval Turbine Calif Inc Burbank . . . . Cal
Advance Gear & Machine corp Los Angeles . . . . Cal
Aeroflex Labs, Inc Plainview . . . . N Y
American Electronics, Inc Fullerton . . . . Cal
American Precision Industries Inc East Aurora . . . . NY
Automation Development Co Culver City . . . . Cal
Aviation Electric Ltd St Laurent, Montreal . . . . Que
Barber-Colman Co, EMP Div Rockford Ill
Bendix Corp Electrodynamics Div North Hollywood . . . . Cal
Bendix Corp Navigation & Control Div Teterboro, ... N J
Bowmar Instrument Corp Fort Wayne . . . . Ind
Cadillac Gage Co Warren . . . . Mich
Carbonara Inc, Victor E Port Washington . . . . N Y
Cedar Div Control Data Corp Minneapolis . . . . Minn
Clary Corp San Gabriel . . . . Cal
Clifton Div Litton Industries Litton Prec Prods Inc
Drexel Hill . . . . Pa
Compudyne Corp Hatboro . . . . Pa
Consolidated Controls Corp El Segundo . . . . Cal
Consolidated Controls Corp Bethel . . . . Conn
Control Systems Research Inc Pittsburgh . . . . Pa
Control Technology Co Inc Long Island City . . . . N Y
Curry Engineering Co N Hollywood . . . . Cal
Farrand Controls Inc Valhalla . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Gap Instrument Corp Westbury . . . . N Y
General Design Inc Sun Valley . . . . Cal
Hartman Systems Co Inc Huntington Station . . . . N Y
Honeywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
IMC Magnetics Corp Eastern Div Westbury . . . . N Y
IMC Magnetics Corp Western Div Maywood . . . . Cal
Industrial Control Co Farmingdale . . . . N Y
Instru-Lec Corp Mt Vernon . . . . N Y
Jordan Controls Inc Milwaukee . . . . Wis
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kollsman Motor Corp Dublin . . . . Pa
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lamb Electric Div Ametek Inc Kent . . . . Ohio
Lear Siegler Inc Santa Monica . . . . Cal
Lear Siegler Inc, Power Equipment Div Cleveland . . . . Ohio
LTV Electrosystems Inc, Garland Div Dallas . . . . Tex
Lunkenheimer Co Div Conval Corp Cincinnati . . . . Ohio
Magnetic Technology Inc Canoga Park . . . . Cal
McMaster Products Corp Chicago Ill
Muirhead Instruments Inc Mountainside . . . . N J
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell . N J
Pegasus Labs Inc Berkley . . . . Mich
Photocircuits Corp Glen Cove . . . . N Y
Precision Mechanisms Corp Westbury . . . . N Y
Reflex Controls Corp Huntington Station . . . . NY
Rotating Components Div Instrument Sys Corp Bay Shore . N Y
Seneca Falls Machine Co Seneca Falls . . . . N Y
Servo Development Corp Hicksville . . . . NY
Servo Labs Inc Van Nuys . . . . Cal
Servonetics Inc Northridge . . . . Cal
SieBelAir Co Los Angeles . . . . Cal
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
Sunbeam Electronics Fort Lauderdale . . . . Fla
Superior Mfg & Instrument Co Long Island City . . . . N Y
Teledyne Electronics Div dba Mechatrol Div Burlington . . . N J
Tensitron Inc Harvard . . . . Mass
Thomson-CSF 78 Versailles . . . . France
United Systems Corp Dayton . . . . Ohio
Uriel Corp Ronkonkoma . . . . NY
Vactric Control Equipment Ltd Morden . . . . England
Vapor Corp Chicago Ill
Vibrac Corp Chelmsford . . . . Mass
Western Gear Corp Electro Products Div Pasadena . . . . . . Cal
Weston Hydraulics Van Nuys . . . . Cal
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa
Yaskawa Electric Mfg Co Ltd Tokyo . . . . Japan

SERVOS—AMPLIFIERS

AIRPAX ELECTRONICS INC SEMINOLE DIV
FORT LAUDERDALE . . . . FLA
ANALOG DEVICES INC CAMBRIDGE . . . . MASS
BOWMAR INSTRUMENT CORP FORT WAYNE . . . . IND
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
DREXEL HILL . . . . PA
MELCOR ELECTRONICS CORP FARMINGDALE . . . . N Y
SCIENTIFIC-ATLANTA INC ATLANTA . . . . GA
TABER INSTRUMENTS A TELEDYNE CO
NORTH TONAWANDA . . . . N Y
TRANSFORMER ELECTRONICS CO BOULDER
COLO . . . . ADV PGS 2nd Cover & Facing Page
Adel Div De Laval Turbine Calif Inc Burbank . . . . Cal
Aerospace Avionics Inc Bohemia . . . . NY
Aetna Electronics Corp North Branch . . . . N J
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ . . . . . U K
Airpax Electronics Inc, Cambridge Div Cambridge . . . . Md
Airpax Electronics Inc Seminole Div Fort Lauderdale . . . . . Fla
Allen Aircraft Radio Inc Elk Grove Village Ill
Allied Research Assoc Inc Eng Sys Div Concord . . . . Mass
Amtron Inc Sub Republic Corp Midlothian Ill
Analog Devices Inc Cambridge . . . . Mass
Applied Control Co Cedar Grove . . . . NJ
Applied Devices Corp College Point . . . . n y
Audn Corp Hamburg . . . . N Y
Automation Development Co Culver City . . . . Cal
Aviation Instrument Mfg Corp Houston . . . . Tex
Beckman Instruments Intl SA 1207 Geneva . . . . . Switzerland
Bell Aerosystems Co Buffalo . . . . N Y
Bowmar Instrument Corp Fort Wayne . . . . Ind
Bulova Watch Co Inc Elctns Div Servo Products Woodside . NY
Burr-Brown Research Corp Tucson . . . . Ariz
Canadian Marconi Co Montreal 16 . . . . Quebec
Canoga Industries Los Angeles . . . . Cal
Carco Electronics Menlo Park . . . . Cal
Celtic Industries Inc Van Nuys . . . . Cal
Clifton Div Litton Industries Litton Prec Prods Inc
Drexel Hill . . . . Pa
Coast Electronics Inc Manhattan Beach . . . . Cal
Compudyne Corp Hatboro . . . . Pa
Control Systems Research Inc Pittsburgh . . . . Pa
Control Technology Co Inc Long Island City . . . . N Y
Curry Engineering Co N Hollywood . . . . Cal
Dynamic Precision Controls Corp Hagerstown . . . . Ind
Electro Development Corp Lynnwood . . . . Wash
EMI Electronics Ltd Hayes . . . . Middlesex Eng
Ensco Medical Div Fluidics Prod & Sls Inc Salt Lake City . Utah
Exactel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
Farrand Controls Inc Valhalla . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Floyd Drives Co Denver . . . . Colo
Gap Instrument Corp Westbury . . . . N Y
Gaylord Rives Co Div Amer Elctns Inc Pasadena . . . . Cal
Goerz Optical Co Inc Inwood . . . . N Y
Hartman Systems Co Inc Huntington Station . . . . N Y
Honeywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
Industrial Control Co Farmingdale . . . . N Y
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh . . . . . . Pa
Instrumentation Lab Inc Lexington . . . . Mass
Jordan Controls Inc Milwaukee . . . . Wis
Julie Research Labs, Inc New York . . . . N Y
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Keltron Corp Waltham . . . . Mass
Kollsman Motor Corp Dublin . . . . Pa
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lamb Electric Div Ametek Inc Kent . . . . Ohio

Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Power Equipment Div Cleveland .... Ohio
Leeds & Northrup Co North Wales .... Pa
Lundy Electronics & Systems Inc Glen Head .... N Y
Magnetico Inc East Northport .... N Y
Mayberry Electronics Co Inglewood .... Cal
MB Electronics A Textron Co New Haven .... Conn
McFadden Electronics Co South Gate .... Cal
Measurement Systems Inc Norwalk .... Conn
Melcor Electronics Corp Farmingdale .... N Y
Micro Metrics Inc Paterson .... N J
Moog Inc, Industrial Div East Aurora .... N Y
M Ten Bosch, Inc Pleasantville .... N Y
Muirhead Instruments Inc Mountainside .... N J
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell . N J
Norbatrol Electronics Corp Murrysville .... Pa
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Pegasus Labs Inc Berkley .... Mich
Photocircuits Corp Glen Cove .... N Y
Printed Motors Inc Glen Cove .... N Y
Prototype Transformer Corp East Orange .... NJ
Radix Electronics Corp Anaheim .... Cal
Reflectone. Inc, Englewood Cliffs .... N J
Reflex Controls Corp Huntington Station .... NY
Robertson Instrument Co Azusa .... Cal
Saturn Electronics Corp Garland .... Tex
Schaevitz Engineering Pennsauken .... N J
Scientific-Atlanta Inc Atlanta .... Ga
Seneca Falls Machine Co Seneca Falls .... N Y
Servo Development Corp Hicksville .... NY
Servonetics Inc Northridge .... Cal
Singer Co, Diehl Div Somerville .... N J
Solar Electronics Co Hollywood .... Cal
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ariz
Strandberg Engineering Labs Inc Greensboro .... N C
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Sunbeam Electronics Fort Lauderdale .... Fla
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Superior Mfg & Instrument Co Long Island City .... N Y
Sweo Associates Inc Redwood City .... Cal
Taber Instruments A Teledyne Co North Tonawanda .... N Y
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Teledyne Electronics Div dba Mechatrol Div Burlington .... N J
Telephonics Div, Instrument Systems Corp Huntington .... NY
Tensitron Inc Harvard .... Mass
Thomson-CSF 78 Versailles .... France
Transformer Electronics Co Boulder .... Colo
United Control Corp Redmond .... Wash
United Systems Corp Dayton .... Ohio
Vapor Corp Chicago Ill
Westamp Inc Santa Monica .... Cal
Weston-Transicoil, Weston Instruments Inc Worcester .... Pa
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan

SERVOS—COMPUTER

BOWMAR INSTRUMENT CORP FORT WAYNE .... IND
COMPUTER INSTRUMENTS CORP HEMPSTEAD .... N Y
Analog General Corp Oceanside .... N Y
Applied Devices Corp College Point .... n y
Audn Corp Hamburg .... N Y
Automation Development Co Culver City .... Cal
Bowmar Instrument Corp Fort Wayne .... Ind
Burr-Brown Research Corp Tucson .... Ariz
Canoga Industries Los Angeles .... Cal
Carbonara Inc, Victor E Port Washington .... N Y
Compudyne Corp Hatboro .... Pa
Computer Central Detroit .... Mich
Computer Instruments Corp Hempstead .... N Y
Control Systems Research Inc Pittsburgh .... Pa
Control Technology Co Inc Long Island City .... N Y
Curry Engineering Co N Hollywood .... Cal
EMI Electronics Ltd Hayes .... Middlesex Eng
Gap Instrument Corp Westbury .... N Y
Hartman Systems Co Inc Huntington Station .... N Y
H H Controls Co Inc Arlington .... Mass
Industrial Control Co Farmingdale .... N Y
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Keltron Corp Waltham .... Mass
Kollsman Motor Corp Dublin .... Pa
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lamb Electric Div Ametek Inc Kent .... Ohio
Lear Siegler Inc Santa Monica .... Cal
Magnetic Technology Inc Canoga Park .... Cal
McFadden Electronics Co South Gate .... Cal
McMaster Products Corp Chicago Ill
Micro Metrics Inc Paterson .... N J
M Ten Bosch, Inc Pleasantville .... N Y
Orbit Instrument Corp Syosset .... N Y
Precision Mechanisms Corp Westbury .... N Y
Printed Motors Inc Glen Cove .... N Y
Reeves Instrument Div, DCA Garden City .... N Y
Reflex Controls Corp Huntington Station .... NY
Saturn Electronics Corp Garland .... Tex
Sequential Electronic Systems Inc Elmsford .... N Y
Servo Development Corp Hicksville .... NY
Servo Labs Inc Van Nuys .... Cal
Servonetics Inc Northridge .... Cal
Superior Mfg & Instrument Co Long Island City .... N Y
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Teledyne Systems Control Sys A Teledyne Co El Segundo .. Cal
Thomson-CSF 78 Versailles .... France
Uriel Corp Ronkonkoma .... NY
Vernitron Corp Precision Comp Group Farmingdale .... N Y
Weston-Transicoil, Weston Instruments Inc Worcester .... Pa
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan

SERVOS—CONTROL

ANALOG DEVICES INC CAMBRIDGE .... MASS
B & B MOTOR & CONTROL CORP NEW YORK .... N Y
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON .... CAL
BOWMAR INSTRUMENT CORP FORT WAYNE .... IND
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL .... PA
COMPUTER INSTRUMENTS CORP HEMPSTEAD .... N Y
DATA TECHNOLOGY, INC WATERTOWN .... MASS
IMC MAGNETICS CORP EASTERN DIV WESTBURY .... N Y
IMC MAGNETICS CORP WESTERN DIV MAYWOOD .... CAL
SCIENTIFIC-ATLANTA INC ATLANTA .... GA
SUPERIOR ELECTRIC CO THE BRISTOL .... CONN
THETA INSTRUMENT CORP FAIRFIELD .... N J
Adel Div De Laval Turbine Calif Inc Burbank .... Cal
Advance Instrument Corp Belmar .... N J
Aeroflex Labs, Inc Plainview .... N Y
Aerometrics Div Aerojet-General Corp San Ramon .... Cal
Airmec-AEI Ltd Buckinghamshire .... England
American Aerospace Controls Inc Farmingdale .... N Y
American Electronics, Inc Fullerton .... Cal
Amtron Inc Sub Republic Corp Midlothian Ill
Analog Devices Inc Cambridge .... Mass
Analog General Corp Oceanside .... N Y
Andrew Corp Orland Park Ill
Applied Control Co Cedar Grove .... NJ
Applied Devices Corp College Point .... n y
Audn Corp Hamburg .... N Y
Automation Development Co Culver City .... Cal
Aviation Electric Ltd St Laurent, Montreal .... Que
Barber-Colman Co, EMP Div Rockford Ill
B & B Motor & Control Corp New York .... N Y
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Bendix Corp Electrodynamics Div North Hollywood .... Cal
Bowmar Instrument Corp Fort Wayne .... Ind
Canoga Industries Los Angeles .... Cal
Carbonara Inc, Victor E Port Washington .... N Y
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill .... Pa
Coast Electronics Inc Manhattan Beach .... Cal
Compudyne Corp Hatboro .... Pa
Computer Central Detroit .... Mich
Computer Instruments Corp Hempstead .... N Y
Control Systems Research Inc Pittsburgh .... Pa
Control Technology Co Inc Long Island City .... N Y
Curry Engineering Co N Hollywood .... Cal
Data Technology, Inc Watertown .... Mass
Decker Corp Bala Cynwyd .... Pa
Dynalectron Corp Aerospace Prods Div San Leandro .... Cal
Dynamic Precision Controls Corp Hagerstown .... Ind
EMI Electronics Ltd Hayes .... Middlesex Eng
Exactel Instrument Co Div Statham Instrs Inc Oxnard .... Cal
Farrand Controls Inc Valhalla .... N Y
Ferranti, Ltd Lancashire .... England
Floyd Drives Co Denver .... Colo
Foxboro Co Foxboro .... Mass
Fujitsu Ltd Tokyo .... Japan
Gap Instrument Corp Westbury .... N Y
Gaylord Rives Co Div Amer Elctns Inc Pasadena .... Cal
General Design Inc Sun Valley .... Cal
Geo Space Systems Inc St Petersburg .... Fla
Goerz Optical Co Inc Inwood .... N Y
Harowe Servo Controls Inc West Chester .... Pa
Hartman Systems Co Inc Huntington Station .... N Y
H H Controls Co Inc Arlington .... Mass
IMC Magnetics Corp Eastern Div Westbury .... N Y
IMC Magnetics Corp Western Div Maywood .... Cal
Industrial Control Co Farmingdale .... N Y
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh .... Pa
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Keltron Corp Waltham .... Mass
Kollsman Motor Corp Dublin .... Pa
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Lamb Electric Div Ametek Inc Kent .... Ohio
Lear Siegler Inc Santa Monica .... Cal
Luft Instruments Inc Lincoln .... Mass
Lundy Electronics & Systems Inc Glen Head .... N Y
Magnetic Technology Inc Canoga Park .... Cal
Mast Development Co Davenport .... Iowa
MB Electronics A Textron Co New Haven .... Conn
McFadden Electronics Co South Gate .... Cal
McMaster Products Corp Chicago Ill
Measurement Systems Inc Norwalk .... Conn
Micro Metrics Inc Paterson .... N J
Moog Inc, Industrial Div East Aurora .... N Y
M Ten Bosch, Inc Pleasantville .... N Y
Muirhead Instruments Inc Mountainside .... N J
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell . N J
Omega-t Systems Inc Richardson .... Tex
Orbit Instrument Corp Syosset .... N Y
Pegasus Labs Inc Berkley .... Mich
Photocircuits Corp Glen Cove .... N Y
Precision Mechanisms Corp Westbury .... N Y
Printed Motors Inc Glen Cove .... N Y
Pyro-Serv Instruments, Inc North Arlington .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Reflectone. Inc, Englewood Cliffs .... N J
Reflex Controls Corp Huntington Station .... NY
Robertson Instrument Co Azusa .... Cal
Rotating Components Div Instrument Sys Corp Bay Shore . N Y
Saturn Electronics Corp Garland .... Tex
Scientific-Atlanta Inc Atlanta .... Ga
Sequential Electronic Systems Inc Elmsford .... N Y
Servo Development Corp Hicksville .... NY
Servo Labs Inc Van Nuys .... Cal
Servonetics Inc Northridge .... Cal
Servo-Tek Products Co Hawthorne .... N J
SieBelAir Co Los Angeles .... Cal
Solar Electronics Co Hollywood .... Cal
Spectral Dynamics Corp of San Diego San Diego .... Cal
Strandberg Engineering Labs Inc Greensboro .... N C
Summit Engineering Corp Bozeman .... Mont
Sunbeam Electronics Fort Lauderdale .... Fla
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Superior Electric Co The Bristol .... Conn
Superior Mfg & Instrument Co Long Island City .... N Y
Sweo Associates Inc Redwood City .... Cal
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Teledyne Electronics Div dba Mechatrol Div Burlington .... N J
Teledyne Systems Control Sys A Teledyne Co El Segundo .. Cal
Tensitron Inc Harvard .... Mass
Theta Instrument Corp Fairfield .... N J
Thomson-CSF 78 Versailles .... Fra
Uriel Corp Ronkonkoma ....
Vapor Corp Chicago ....
Vega Servo-Control Inc Troy .... M
Vernitron Corp Precision Comp Group Farmingdale ....
Wer Industrial Corp Grand Island ....
Weston Hydraulics Van Nuys ....
Weston-Transicoil, Weston Instruments Inc Worcester ....
Yaskawa Electric Mfg Co Ltd Tokyo .... Ja

SERVOS—MECHANISMS

BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON ....
BOWMAR INSTRUMENT CORP FORT WAYNE ....
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS IN DREXEL HILL PA .... ADV PG
COMPUTER INSTRUMENTS CORP HEMPSTEAD ....
LINAIR DESIGN CORP LINDEN ....
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW ....
SCIENTIFIC-ATLANTA INC ATLANTA ....
THETA INSTRUMENT CORP FAIRFIELD ....
Adel Div De Laval Turbine Calif Inc Burbank ....
Advance Gear & Machine corp Los Angeles ....
Advance Instrument Corp Belmar ....
Aeroflex Labs, Inc Plainview ....
Alcatel Paris 8eme .... Fra
American Aerospace Controls Inc Farmingdale ....
American Precision Industries Inc East Aurora ....
Analog General Corp Oceanside ....
Applied Devices Corp College Point ....
Automation Development Co Culver City ....
Beckman Instruments Inc Fullerton, ...
Beckman Instruments Inc, Helipot Div Fullerton ....
Beckman Instruments Intl SA 1207 Geneva .... Switzerl
Bendix Corp Electrodynamics Div North Hollywood ....
Bowmar Instrument Corp Fort Wayne ....
Bristol Div, American Chain & Cable Co Waterbury C
Canoga Industries Los Angeles ....
Carbonara Inc, Victor E Port Washington ....
Carco Electronics Menlo Park ....
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....
Computer Instruments Corp Hempstead ....
Control Systems Research Inc Pittsburgh ....
Control Technology Co Inc Long Island City ....
Curry Engineering Co N Hollywood ....
Decker Corp Bala Cynwyd ....
Dynamic Gear Co Inc Amityville ....
Electric Tachometer Corp Philadelphia ....
Essex Engineering Co Inc Essex C
Esterline Angus Div Esterline Corp Indianapolis ....
Exactel Instrument Co Div Statham Instrs Inc Oxnard ....
Farrand Controls Inc Valhalla ....
Ferranti, Ltd Lancashire .... Engl
Floyd Drives Co Denver ....
Gap Instrument Corp Westbury ....

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in SERVO PACKAGES

Clifton designs and manufactures a wide variet of electromechanical and electronic package to stringent specifications. Some typical exam ples are: Tacan Range and Bearing Coupler Antenna Control Repeaters (electromechanic or solid state), Automatic Stabilization Actua tors and Servo Repeaters. For aircraft an ground support equipment, Clifton servo pac ages are proving their reliability and accurac

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ral Design Inc Sun Valley	Cal
Space Systems Inc St Petersburg	Fla
z Optical Co Inc Inwood	N Y
we Servo Controls Inc West Chester	Pa
man Systems Co Inc Huntington Station	N Y
ywell Inc Apparatus Controls Div Minneapolis	Minn
strial Control Co Farmingdale	N Y
d Controls Inc Sub Kollmorgen Corp Pittsburgh	Pa
u-Lec Corp Mt Vernon	N Y
Aerospace, Optical Div Fort Wayne	Ind
an Controls Inc Milwaukee	Wis
fott Div Singer-General Precision Inc Little Falls	NJ
on Corp Waltham	Mass
tic Instrument Co Div Nortek Inc Brooklyn	N Y
man Motor Corp Dublin	Pa
b Electric Div Ametek Inc Kent	Ohio
Siegler Inc Santa Monica	Cal
Siegler Inc, Power Equipment Div Cleveland	Ohio
r Design Corp Linden	N J
netic Technology Inc Canoga Park	Cal
rey Instrument Corp Chicago	Ill
laster Products Corp Chicago	Ill
ally Bros Machine & Gear Inc Minneapolis	Minn
surement Systems Inc Norwalk	Conn
o Metrics Inc Paterson	N J
g Inc, Industrial Div East Aurora	N Y
en Bosch, Inc Pleasantville	N Y
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Controls Inc Sub Simmonds Prec Prods Inc Caldwell	N J
h Atlantic Industries Inc Plainview	N Y
hern Precision Labs Inc Fairfield	N J
ear Research Instruments Berkeley	Cal
Mfg Corp South Hackensack	N J
ga-t Systems Inc Richardson	Tex
Instrument Corp Syosset	N Y
asus Labs Inc Berkley	Mich
ocircuits Corp Glen Cove	N Y
et Instrument Div T A Edison Ft Wayne	Ind
ision Mechanisms Corp Westbury	N Y
ted Motors Inc Glen Cove	N Y
es Instrument Div, DCA Garden City	N Y
ex Controls Corp Huntington Station	NY
ertson Instrument Co Azusa	Cal
ting Components Div Instrument Sys Corp Bay Shore	N Y
ntific-Atlanta Inc Atlanta	Ga
eca Falls Machine Co Seneca Falls	N Y
uential Electronic Systems Inc Elmsford	N Y
o Development Corp Hicksville	NY
o Labs Inc Van Nuys	Cal
onetics Inc Northridge	Cal
elAir Co Los Angeles	Cal
beam Electronics Fort Lauderdale	Fla
erior Mfg & Instrument Co Long Island City	N Y
or Instrument Process Con Div Sybron Corp ochester	N Y
dyne Electronics Div dba Mechatrol Div Burlington	N J
dyne Systems Control Sys A Teledyne Co El Segundo	Cal
phonics Div, Instrument Systems Corp Huntington	NY
sitron Inc Harvard	Mass
ta Instrument Corp Fairfield	N J
mson-CSF 78 Versailles	France
tric Control Equipment Ltd Morden	England
itron Corp Precision Comp Group Farmingdale	N Y
ac Corp Chelmsford	Mass
Industrial Corp Grand Island	N Y
tern Gear Corp Electro Products Div Pasadena	Cal
ton Hydraulics Van Nuys	Cal
ton-Transicoil, Weston Instruments Inc Worcester	Pa
kawa Electric Mfg Co Ltd Tokyo	Japan

RVOS—REPEATER

WMAR INSTRUMENT CORP FORT WAYNE	**IND**
TON DIV LITTON INDUSTRIES LITTON PREC PRODS INC REXEL HILL	**PA**
A TECHNOLOGY, INC WATERTOWN	**MASS**
AIR DESIGN CORP LINDEN	**N J**
TH ATLANTIC INDUSTRIES INC PLAINVIEW	**N Y**
ENTIFIC-ATLANTA INC ATLANTA	**GA**
TA INSTRUMENT CORP FAIRFIELD	**N J**
ance Instrument Corp Belmar	N J
n Aircraft Radio Inc Elk Grove Village	Ill
log General Corp Oceanside	N Y
lied Devices Corp College Point	n y
omation Development Co Culver City	Cal
mar Instrument Corp Fort Wayne	Ind
oga Industries Los Angeles	Cal
bonara Inc, Victor E Port Washington	N Y
ton Div Litton Industries Litton Prec Prods Inc rexel Hill	Pa
trol Systems Research Inc Pittsburgh	Pa
trol Technology Co Inc Long Island City	N Y
ry Engineering Co N Hollywood	Cal
a Technology, Inc Watertown	Mass
ctric Tachometer Corp Philadelphia	Pa
ex Engineering Co Inc Essex	Conn
rand Controls Inc Valhalla	N Y
ranti, Ltd Lancashire	England
Instrument Corp Westbury	N Y
tman Systems Co Inc Huntington Station	N Y
Mfg Corp South Hackensack	N J
ustrial Control Co Farmingdale	N Y
rfott Div Singer-General Precision Inc Little Falls	NJ
tron Corp Waltham	Mass
sman Motor Corp Dublin	Pa
air Design Corp Linden	N J
Master Products Corp Chicago	Ill
ncor Div LTV Electrosystems Inc Huntington	Ind
ro Metrics Inc Paterson	N J
en Bosch, Inc Pleasantville	N Y
th Atlantic Industries Inc Plainview	N Y
thern Precision Labs Inc Fairfield	N J
it Instrument Corp Syosset	N Y
cision Mechanisms Corp Westbury	N Y
lex Controls Corp Huntington Station	NY
entific-Atlanta Inc Atlanta	Ga
vo Development Corp Hicksville	NY
Servonetics Inc Northridge	Cal
Sunbeam Electronics Fort Lauderdale	Fla
Superior Mfg & Instrument Co Long Island City	N Y
Teledyne Systems Control Sys A Teledyne Co El Segundo	Cal
Theta Instrument Corp Fairfield	N J
Thomson-CSF 78 Versailles	France
Weston-Transicoil, Weston Instruments Inc Worcester	Pa

SERVOS—SYSTEMS

***See Also* Synchros**

B & B MOTOR & CONTROL CORP NEW YORK	**N Y**
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON CAL	**ADV PG 565**
BOWMAR INSTRUMENT CORP FORT WAYNE	**IND**
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL	**PA**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
DATA TECHNOLOGY, INC WATERTOWN	**MASS**
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW	**N Y**
SCIENTIFIC-ATLANTA INC ATLANTA	**GA**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
Adel Div De Laval Turbine Calif Inc Burbank	Cal
Advance Instrument Corp Belmar	N J
Aeroflex Labs, Inc Plainview	N Y
Aerospace Avionics Inc Bohemia	NY
Allen Aircraft Radio Inc Elk Grove Village	Ill
American Electronics, Inc Fullerton	Cal
Analog General Corp Oceanside	N Y
Applied Devices Corp College Point	n y
Astrodata Inc Anaheim	Cal
Automation Development Co Culver City	Cal
Aviation Electric Ltd St Laurent, Montreal	Que
Barber-Colman Co, EMP Div Rockford	Ill
B & B Motor & Control Corp New York	N Y
Beckman Instruments Inc, Helipot Div Fullerton	Cal
Bendix Corp, Flight & Engine Instr Div South Montrose	Pa
Bendix Corp Navigation & Control Div Teterboro,	N J
Bowmar Instrument Corp Fort Wayne	Ind
Bulova Watch Co Inc Elctns Div Servo Products Woodside	NY
Cadillac Gage Co Warren	Mich
Canoga Industries Los Angeles	Cal
Carbonara Inc, Victor E Port Washington	N Y
Carco Electronics Menlo Park	Cal
Cedar Div Control Data Corp Minneapolis	Minn
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill	Pa
Compudyne Corp Hatboro	Pa
Computer Instruments Corp Hempstead	N Y
Consolidated Airborne Systems Carle Place	N Y
Consolidated Controls Corp Bethel	Conn
Control Systems Research Inc Pittsburgh	Pa
Control Technology Co Inc Long Island City	N Y
Curry Engineering Co N Hollywood	Cal
Dalto Electronics Corp Norwood	N J
Data Technology, Inc Watertown	Mass
Decker Corp Bala Cynwyd	Pa
Dynalectron Corp Aerospace Prods Div San Leandro	Cal
Dynasciences Corp Blue Bell	Pa
Electric Tachometer Corp Philadelphia	Pa
EMI Electronics Ltd Hayes	Middlesex Eng
EMR-Hatboro Div Weston Insts Inc Hatboro	Pa
Epsco Inc Westwood	Mass
Exactel Instrument Co Div Statham Instrs Inc Oxnard	Cal
Farrand Controls Inc Valhalla	N Y
Ferranti, Ltd Lancashire	England
Gap Instrument Corp Westbury	N Y
General Electric Co Ordnance Systems Pittsfield	Mass
Geo Space Systems Inc St Petersburg	Fla
Goodyear Aerospace Corp Akron	Ohio
Harowe Servo Controls Inc West Chester	Pa
Hartman Systems Co Inc Huntington Station	N Y
Hi-Altitude Instrument Co, Inc. Denver	Colo
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Inca Engineering Corp San Gabriel	Cal
Industrial Control Co Farmingdale	N Y
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh	Pa
Instru-Lec Corp Mt Vernon	N Y
ITT Aerospace, Optical Div Fort Wayne	Ind
Jordan Controls Inc Milwaukee	Wis
Kearfott Div Singer-General Precision Inc Little Falls	NJ
Keltron Corp Waltham	Mass
Kinetic Instrument Co Div Nortek Inc Brooklyn	N Y
Kollsman Instrument Corp Syosset	N Y
Kollsman Motor Corp Dublin	Pa
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Power Equipment Div Cleveland	Ohio
Leeds & Northrup Co North Wales	Pa
Litton Industries, Guidance & Controls Sys Div Woodland Hills	Cal
Louis Allis Co Div Litton Industries Milwaukee	Wisc
McFadden Electronics Co South Gate	Cal
McMaster Products Corp Chicago	Ill
Measurement Systems Inc Norwalk	Conn
Metric Systems Corp Fort Walton Beach	Fla
Micro Metrics Inc Paterson	N J
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Moog Inc, Industrial Div East Aurora	N Y
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Muirhead Instruments Inc Mountainside	N J
Nash Controls Inc Sub Simmonds Prec Prods Inc Caldwell	N J
North Atlantic Industries Inc Plainview	N Y
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Nuclear Research Instruments Berkeley	Cal
Occo Mfg Corp South Hackensack	N J
Omega Industries Inc Newport Beach	Cal
Omega-t Systems Inc Richardson	Tex
Orbit Instrument Corp Syosset	N Y
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
Peerless Instrument Co Inc Elmhurst	NY
Photocircuits Corp Glen Cove	N Y
Power Concepts Corp Binghamton	N Y
Precision Mechanisms Corp Westbury	N Y
Reeves Instrument Div, DCA Garden City	N Y
Reflex Controls Corp Huntington Station	NY
Sciaky Bros Inc Chicago	Ill
Scientific-Atlanta Inc Atlanta	Ga
Seneca Falls Machine Co Seneca Falls	N Y
Sequential Electronic Systems Inc Elmsford	N Y
Servo Development Corp Hicksville	NY
Servonetics Inc Northridge	Cal
Siemon Mfg Co Wayne	Ill
Singer Co, Diehl Div Somerville	N J
Solar Electronics Co Hollywood	Cal
Spectral Dynamics Corp of San Diego San Diego	Cal
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia	Pa
Summit Engineering Corp Bozeman	Mont
Sunbeam Electronics Fort Lauderdale	Fla
Sunshine Scientific Instruments Inc Philadelphia	Pa
Superior Mfg & Instrument Co Long Island City	N Y
Sweo Associates Inc Redwood City	Cal
Symbolic Displays Inc Orange	Cal
Teledyne Electronics Div dba Mechatrol Div Burlington	N J
Teledyne Systems Control Sys A Teledyne Co El Segundo	Cal
Tensitron Inc Harvard	Mass
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Thomson-CSF 78 Versailles	France
United Systems Corp Dayton	Ohio
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Helipot has a complete line of industrial servo system components. They include motor-pots, power supplies, amplifiers, command pots and turns-counting dials. With these components you can build a *complete* servo system for as little as $169.95. For complete information contact the Helipot representative nearest you. He's listed in EBG's Manufacturers' Index.

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SERVO TESTERS

***See* Testers—Servo**

SHAFT COUPLINGS

***See* Couplings—Shaft**

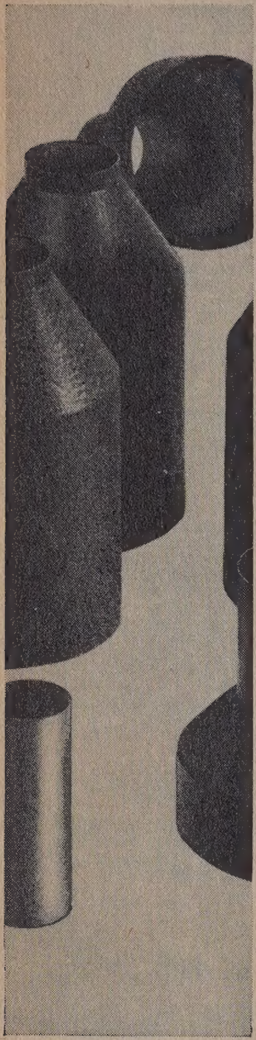
SHAFT POSITION ENCODERS

***See* Encoders**

SHAFTS—FLEXIBLE

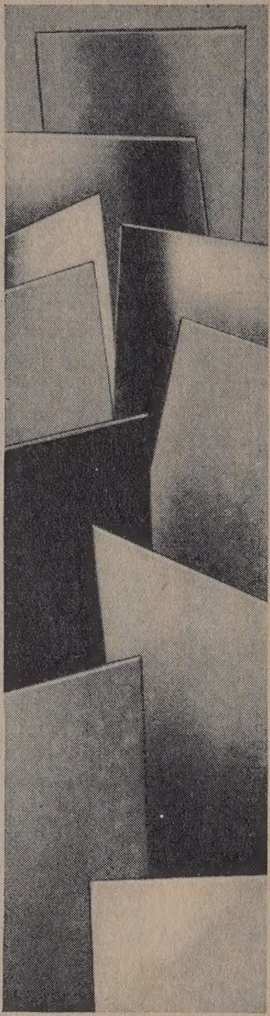
SECS, INC LONG ISLAND CITY	**N Y**
Anchor Plastics Co Inc Long Island City	N Y
Aviation Electric Ltd St Laurent, Montreal	Que
Avionics, Inc South Bend	Ind
Bendix Corp Fluid Power Div Utica	N Y

The Six MSD's



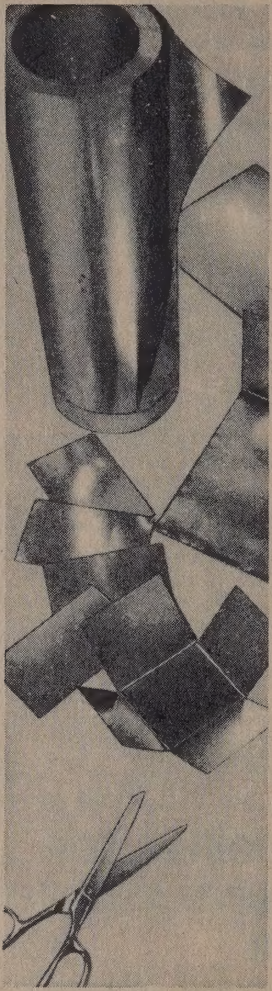
1 FABRICATION

MSD's Netic and Co-Netic Magnetic Shields can be fabricated in any size, shape and quantity, from a miniature tube to a shielded room.



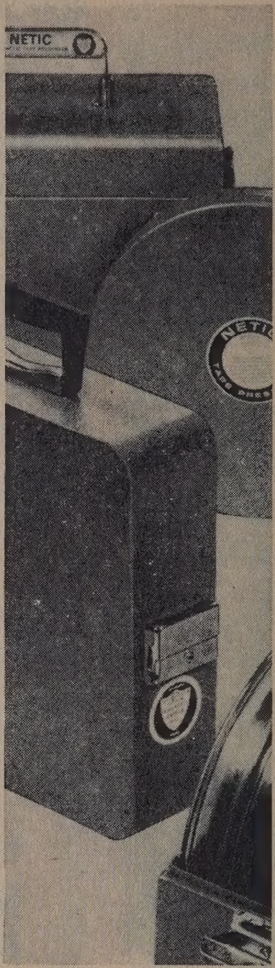
2 SHEET STOCK

For fabrication in your plant or ours. Low cost shielding solutions are provided by fully hydrogen annealed Perfection Annealed stock which normally requires no further heat treatment.



3 FOIL

MSD Netic and Co-Netic Foils are ideal for prototype evaluation and production applications. Available in both plain and adhesive backing, they can be easily shaped in minutes to fit your needs.



4 TAPE PRESERVER CONTAINERS

Used world-wide to protect against loss of valuable tape data. Round and rectangular portable units include the new, smartly designed "Executive." Stacked, sectionalized units for permanent storage are also available.

5 TECHNICAL ASSISTANCE

The concentration of design experience and engineering knowledge that has provided over 80% of the magnetic shield designs now in use is yours to assist you in solving an engineering, R&D or production problem. Phone 312, 766-7800

Netic and Co-Netic are not affected by ordinary shock, have minimal retentivity and do not require periodic annealing

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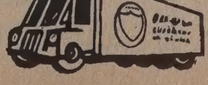
6 FAST, CONVENIENT DELIVERY is the SIXTH MSD.

Some items from stock. Fabricated items 3-4 weeks.



dom Electric Co Inc Bethel	Conn
Siegler Inc Santa Monica	Cal
Inc Long Island City	N Y
n Inc, Herman H Brooklyn	N Y
dard Precision Div ECI an NCR sub Wichita	Kan
ing Instrument Div, Designatronics Inc Mineola	N Y
Mfg Co Binghamton	N Y
e S S Div, Pennwalt Corp New York	N Y

AKE TABLES

ee Vibrators (Shake Tables)

EET METAL

ee Metal Desired

ELLS

ee Cans; Cases

ELTERS—ELECTRONIC EQUIPMENT, IR TRANSPORTABLE

air Structures Inc Buffalo	NY
e Industries Inc Gardena	Cal
sler Corp, Space Div, Huntsville Oper Huntsville	Ala
Systems Corp Lawrence	Mass
iss-Wright Corp Electronics Div E Paterson	N J
els Inc, C R Daniels	Md
elly Mfg Co Waltham	Mass
tronics Oper Elctns Div Gen Dynamics Corp Orlando	Fla
r-Oilfield Inc Houston	Tex
tro Mechanical Corp Sayre	Pa
trom Co Passaic	N J
ral Dynamics, Electronics Div Rochester	N Y
sman Inc Philadelphia	Pa
lyear Aerospace Corp Akron	Ohio
e & Co Inc, Walter Belleville	N J
roMagnetics Inc Los Angeles	Cal
o-Ford Corp Washington	D C
t Electronic Development Inc Sun Valley	Cal
Dynamics Div UOP Mineola	N Y
ctone. Inc, Englewood Cliffs	N J
Communications Inc Rochester	N Y
eldahl Co, G T Northfield	Minn
nical Materiel Corp Mamaroneck	N Y
es Industries Inc Camden	N J
Mfg Co Burbank	Cal

IELDED CABLES

ee Cables—Shielded

IELDED ENCLOSURES & SCREEN OOMS

ee Chambers—Environmental

IELDED WIRE

ee Wire

IELDING, ELECTROSTATIC—METAL HEET OR SCREEN

UN TOOL & INSTRUMENT CO INC, H HAWTHORNE	**N J**
TRUMENT SPECIALTIES CO INC LITTLE FALLS J	**ADV PG 567**
Shielded Products Corp Huntingdon Valley	Pa
eson Colloids Co Port Huron	Mich
raft & Electronic Specialties, Inc Plainfield	Ind
Star Products Inc Defiance	Ohio
neal Mfg Corp Philadelphia	Pa
urn Mfg Co Middletown	Conn
un Tool & Instrument Co Inc, H Hawthorne	N J
Pro Rubber Inc Van Nuys	Cal
Research Corp Cocoa Beach	Fla
rson & Cuming Inc Canton	Mass
es Engineering Co Gardena	Cal
rument Specialties Co Inc Little Falls	N J
Labs, Inc San Diego	Cal
troMagnetics Inc Los Angeles	Cal
gnetic Metals Co Camden	N J
al Ceram Inc Mount Vernon	N Y
ex Corp Edison	N J
Company St Paul	Minn
gan Adhesives Co Stow	Ohio
ec Corp Los Angeles	Cal
Proof Corp Norwalk	Conn
sevelt Metal Co Inc Brooklyn	N Y
sell Industries Inc Lynbrook	N Y
econ Inc Rochester	N Y

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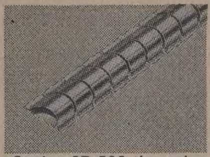
Your marketplace for products

Super sticky fingers®

Attaches faster, shields better, than anything else!



Series 97-500 the original Super Sticky Fingers® with superior shielding effectiveness

Double & single width series Super Sticky Fingers. Ideal for panel divider bar cabinets

In addition to the superior shielding for plane and magnetic waves, Super Sticky Fingers series 97-500 is available with optional Magnefil® for optimum effectiveness at the magnetic wave frequencies.

- Made of Beryllium Copper for superior spring and shielding charactaristics!
- Pressure-sensitive backing eliminates old-fashioned soldering and fasteners. Bond actually grows stronger with age!
- RFI/EMI shielding effectiveness greater than 108 dB at 10 GHz plane wave and 70 dB at 200 kHz magnetic!
- Unaffected by temperatures from —50F to 225F.

INSTRUMENT SPECIALTIES CO., INC.
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TWX—710-988-5732

Technical Wire Products Inc Cranford	N J
Topatron Inc Costa Mesa	Cal
Vacuum Metallizing Van Nuys	Cal

SHIELDING, MAGNETIC—CANS OR HOUSINGS

ARNOLD ENGINEERING CO MARENGO ILL	**ADV PG 196**
ELDRE COMPONENTS INC ROCHESTER	**N Y**
KINETRON CORP ASBURY PARK	**NJ**
MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL	**ADV PG 566**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
Ainslie Corp Braintree	Mass
Allegheny Ludlum Steel Corp Pittsburgh	Pa
All Star Products Inc Defiance	Ohio
Amuneal Mfg Corp Philadelphia	Pa
Arnold Engineering Co Marengo	Ill
Arnold Engineering Co Pacific Div Fullerton	Cal
Cambridge Thermionic Corp Cambridge	Mass
Da/Pro Rubber Inc Van Nuys	Cal
Eldre Components Inc Rochester	N Y
Electro-Mechanics Co Austin	Tex
Estes Engineering Co Gardena	Cal
Eyelematic Mfg Co Inc Watertown	Conn
Flexible Metal Hose Mfg Co CostaMesa	Cal
Inter-Technical Group Inc Irvington-on-Hudson	N Y
Kinetron Corp Asbury Park	NJ
LectroMagnetics Inc Los Angeles	Cal
Magnetic Metals Co Camden	N J
Magnetic Shield Div, Perfection Mica Co Bensenville	Ill
Metox Paris 20	France
Millen Mfg Co Inc, James Malden	Mass
National Moldite Co Inc Newark	N J
Paul & Beekman Inc Philadelphia	Pa
Pomona Electronics Co Inc Pomona	Cal
Primec Corp Los Angeles	Cal
Richards Metal Products Inc Wolcott	Conn
Russell Industries Inc Lynbrook	N Y
Staver Co Inc Bay Shore	N Y
Tavco, Inc Santa Monica	Cal
Technical Wire Products Inc Cranford	N J
United Transformer Co Div TRW Inc New York	N Y
Victor Metal Products Corp Harrisonburg	Va
Zero Mfg Co Burbank	Cal

SHIELDING, MAGNETIC—FERRITE

INDIANA GENERAL CORP ELECTRONICS DIV/FERRITES KEASBEY	**N J**
MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL	**ADV PG 566**
SIEMENS AMERICA INC NEW YORK	**N Y**
Applied Magnetics Corp Drum & Disc Head Div Goleta	Cal
B & B Electronics Corp Gardena	Cal
Cambridge Thermionic Corp Cambridge	Mass
Ceramic Magnetics Inc Fairfield	N J
Custom Components Inc Caldwell	N J
Ferricore Div Natl Moldite Co Inc Newark	N J
Indiana General Corp Electronics Div/Ferrites Keasbey	N J
Magnetic Shield Div, Perfection Mica Co Bensenville	Ill
National Moldite Co Inc Newark	N J
Siemens America Inc New York	N Y
Technical Wire Products Inc Cranford	N J

SHIELDING, MAGNETIC—SHEETS OR STRIPS

ARNOLD ENGINEERING CO MARENGO ILL	**ADV PG 196**
MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL	**ADV PG 566**
SUMITOMO SPECIAL METALS CO LTD OSAKA	**JAPAN**
Allegheny Ludlum Steel Corp Pittsburgh	Pa
All Star Products Inc Defiance	Ohio
American Silver Co Div Flushing	N Y
Amuneal Mfg Corp Philadelphia	Pa
Arnold Engineering Co Marengo	Ill
Arnold Engineering Co Pacific Div Fullerton	Cal
Dbm Research Corp Cocoa Beach	Fla
Emerson & Cuming Inc Canton	Mass
Flexible Metal Hose Mfg Co CostaMesa	Cal
G-L Industries Inc, G-L Electronics Div Westville	N J
Inter-Technical Group Inc Irvington-on-Hudson	N Y
Lash Labs, Inc San Diego	Cal
Magnetic Metals Co Camden	N J
Magnetic Shield Div, Perfection Mica Co Bensenville	Ill
Metal Ceram Inc Mount Vernon	N Y
Millen Mfg Co Inc, James Malden	Mass
Morgan Adhesives Co Stow	Ohio
National Moldite Co Inc Newark	N J
Primec Corp Los Angeles	Cal
Rodney Metals A Teledyne Co New Bedford	Mass
Russell Industries Inc Lynbrook	N Y
Sumitomo Special Metals Co Ltd Osaka	Japan
Tapecon Inc Rochester	N Y
Technical Wire Products Inc Cranford	N J
Texas Instruments Incorporated Dallas	Tex
Vacuum Barrier Corp Woburn	Mass
Westinghouse Elec. Corp., Specialty Metals Div Blairsville	Pa
Zippertubing Co Los Angeles	Cal

Who Do You Call?

Find his name and telephone number in EBG's Manufacturer's index (green pages).

SHIELDING—NUCLEAR RADIATION

NATIONAL LEAD CO NEW YORK	**N Y**
Beckman Instruments Inc Fullerton,	Cal
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights	NY
Brooks & Perkins Inc Detroit	Mich
Chemtree Corp Central Valley	N Y
Corning Glass Works Corning	N Y
Dbm Research Corp Cocoa Beach	Fla
Division Lead Co Summit	Ill
Emerson & Cuming Inc Canton	Mass
High Voltage Engineering Corp Burlington	Mass
Indium Corp of America Utica	N Y
Isotopes A Teledyne Co Westwood	N J
Kennametal Inc Latrobe	Pa
Kewaunee Scientific Equipment Adrian	Mich
LectroMagnetics Inc Los Angeles	Cal
Lockheed-Georgia Co Marietta	Ga
National Lead Co New York	N Y
Norton Co Metals Div Newton	Mass
Nuclear-Chicago Des Plaines	Ill
Nuclear Enterprises Ltd Edinburgh	Scotland
Nuclear Equipment Chemical Corp Farmingdale	N Y
Nuclear Materials & Equipment Corp Apollo	Pa
Nuclear Measurements Corp Indianapolis	Ind
Nuclear Supplies Encino	Cal
Nuclear Technology Corp White Plains	N Y
Permali Inc Mt Pleasant	Pa
Poco Graphite, Inc Garland	Tex
Ray Proof Corp Norwalk	Conn
RIL Electronics Inc Southampton	Pa
Rodney Metals A Teledyne Co New Bedford	Mass
Roosevelt Metal Co Inc Brooklyn	N Y
Tracerlab-The Instrument Div of ICN Oakland	Cal
TRW Systems Group Redondo Beach	Cal
US Nuclear Corp Div Icn Irvine	Cal
Victoreen Instrument Div Cleveland	Ohio
Westinghouse Electric Corp, Industrial Micarta Div Hampton	S C

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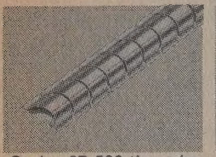
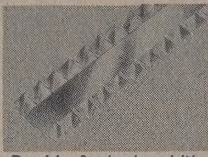
Sticky Fingers®

Attaches faster,
shields better,
than anything else!



Series 97-500 the original Super Sticky Fingers® with superior shielding effectiveness



Double & single width series Super Sticky Fingers. Ideal for panel divider bar cabinets

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- Unaffected by temperatures from —50F to 225F.

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SHIELDING—RFI-EMI

BRAUN TOOL & INSTRUMENT CO INC, H HAWTHORNE .... N J
INSTRUMENT SPECIALTIES CO INC LITTLE FALLS N J .... ADV PG 568
Acheson Colloids Co Port Huron .... Mich
Ark Electronics Corp Willow Grove .... Pa
Braun Tool & Instrument Co Inc, H Hawthorne .... N J
Canoga Industries Los Angeles .... Cal
Chomerics, Inc Arlington .... Mass
Custom Materials Inc Chelmsford .... Mass
Electro-Mechanics Co Austin .... Tex
Emerson & Cuming Inc Canton .... Mass
Estes Engineering Co Gardena .... Cal
Flexible Metal Hose Mfg Co CostaMesa .... Cal
Instrument Specialties Co Inc Little Falls .... N J
LectroMagnetics Inc Los Angeles .... Cal
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge .... Pa
Lindgren & Associates Inc, Erik A Chicago Ill
Metex Corp Edison .... N J
Primec Corp Los Angeles .... Cal
Ray Proof Corp Norwalk .... Conn
Robison Electronics Inc Gardena .... Cal
Russell Industries Inc Lynbrook .... N Y
Spectrum Control Inc Fairview .... Pa
Tapecon Inc Rochester .... N Y

SHIELDING, WIRE—BRAIDED (INCL. IGNITION)

DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL
MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL .... ADV PG 566
Aircraft & Electronic Specialties, Inc Plainfield .... Ind
Birnbach Co Inc Freeport .... N Y
Breeze Corps Inc Union .... N J
Carol Cable Co Pawtucket .... R I
Co-Operative Industries Inc Chester .... N J
Daburn Electronics & Cable Corp Bronx .... N Y
Dearborn Wire & Cable Co Chicago Ill
Estes Engineering Co Gardena .... Cal
Flexible Metal Hose Mfg Co CostaMesa .... Cal
General Cable Corp New York .... N Y
Magnetic Shield Div, Perfection Mica Co Bensenville Ill
Montgomery Co Windsor Locks .... Conn
Pacific Automation Products Inc Glendale .... Cal
Primec Corp Los Angeles .... Cal
Ray Proof Corp Norwalk .... Conn
Ross Matthews Corp Fall River .... Mass
Technical Wire Products Inc Cranford .... N J
Thermax Wire Corp Flushing .... N Y

SHIELDING—WOVEN WIRE

CHESTER CABLE CO DIV TENNESSEE CORP CHESTER .... N Y
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL
Aircraft & Electronic Specialties, Inc Plainfield .... Ind
Auburn Mfg Co Middletown .... Conn
B & B Electronics Corp Gardena .... Cal
Birnbach Co Inc Freeport .... N Y
Brookfield Wire Co Inc Brookfield .... Mass
Chester Cable Co Div Tennessee Corp Chester .... N Y
Chomerics, Inc Arlington .... Mass
Daburn Electronics & Cable Corp Bronx .... N Y
Dearborn Wire & Cable Co Chicago Ill
Estes Engineering Co Gardena .... Cal
General Cable Corp New York .... N Y
Metex Corp Edison .... N J
Primec Corp Los Angeles .... Cal
Ray Proof Corp Norwalk .... Conn
Ross Matthews Corp Fall River .... Mass
Spectrum Control Inc Fairview .... Pa
Technical Wire Products Inc Cranford .... N J
Thermax Wire Corp Flushing .... N Y
Unique Wire Weaving Co Inc Hillside .... N J
Wire Cloth Manufacturers Inc Parsippany .... N J
Zippertubing Co Los Angeles .... Cal

SHIELDS—LAMPS, PANEL, PILOT AND DIAL

Aerolite Electronics Corp Union City .... N J
Amatom Electronic Hardware New Rochelle .... N Y
Clevepak Corp New York .... NY
Drake Mfg Co Harwood Heights Ill
Livingston Electronic Div Jettron Prods Inc Hanover .... N J
Metex Corp Edison .... N J
Precision Paper Tube Co Wheeling Ill
Primec Corp Los Angeles .... Cal
Staver Co Inc Bay Shore .... N Y
Technical Wire Products Inc Cranford .... N J
Vemaline Products Co, Inc Wycoff .... N J

SHIELDS, TUBE—CATHODE RAY TUBE, INSULATING

ARNOLD ENGINEERING CO MARENGO ILL .... ADV PG 196
ELDRE COMPONENTS INC ROCHESTER .... N Y
Amuneal Mfg Corp Philadelphia .... Pa
Arnold Engineering Co Marengo Ill
Clevepak Corp New York .... NY
Eldre Components Inc Rochester .... N Y
Eyelematic Mfg Co Inc Watertown .... Conn
Fansteel Inc North Chicago Ill
Lash Labs, Inc San Diego .... Cal
Measurement Control Devices Inc Philadelphia .... Pa
Metal Ceram Inc Mount Vernon .... N Y
Paul & Beekman Inc Philadelphia .... Pa
Primec Corp Los Angeles .... Cal
Russell Industries Inc Lynbrook .... N Y

SHIELDS, TUBE—CATHODE RAY TUBE, MAGNETIC

ELDRE COMPONENTS INC ROCHESTER .... N Y
MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL .... ADV PG 566
Ainslie Corp Braintree .... Mass
Allegheny Ludlum Steel Corp Pittsburgh .... Pa
Amuneal Mfg Corp Philadelphia .... Pa
Arnold Engineering Co Pacific Div Fullerton .... Cal
CELCO Mahwah .... N J
Eldre Components Inc Rochester .... N Y
Eyelematic Mfg Co Inc Watertown .... Conn
Fansteel Inc North Chicago Ill
Inter-Technical Group Inc Irvington-on-Hudson .... N Y
Lash Labs, Inc San Diego .... Cal
Litton Industries, Electron Tube Div San Carlos .... Cal
Magnetic Metals Co Camden .... N J
Magnetic Shield Div, Perfection Mica Co Bensenville Ill
Measurement Control Devices Inc Philadelphia .... Pa
Millen Mfg Co Inc, James Malden .... Mass
Paul & Beekman Inc Philadelphia .... Pa
Primec Corp Los Angeles .... Cal
Russell Industries Inc Lynbrook .... N Y

SHIELDS, TUBE—ELECTROSTATIC

BRAUN TOOL & INSTRUMENT CO INC, H HAWTHORNE .... N J
ELDRE COMPONENTS INC ROCHESTER .... N Y
MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL .... ADV PG 566
Acheson Colloids Co Port Huron .... Mich
Aircraft & Electronic Specialties, Inc Plainfield .... Ind
Amuneal Mfg Corp Philadelphia .... Pa
Braun Tool & Instrument Co Inc, H Hawthorne .... N J
Eldre Components Inc Rochester .... N Y
Eyelematic Mfg Co Inc Watertown .... Conn
International Electronic Research Corp Burbank .... Cal
Lash Labs, Inc San Diego .... Cal
Litton Industries, Electron Tube Div San Carlos .... Cal
Magnetic Shield Div, Perfection Mica Co Bensenville Ill
Metal Ceram Inc Mount Vernon .... N Y
Methode Electronics Inc Chicago Ill
Millen Mfg Co Inc, James Malden .... Mass
Paul & Beekman Inc Philadelphia .... Pa
Primec Corp Los Angeles .... Cal
Russell Industries Inc Lynbrook .... N Y
Semi-Alloys Inc Mt Vernon .... N Y

Staver Co Inc Bay Shore ....
Technical Wire Products Inc Cranford ....
Victor Metal Products Corp Harrisonburg ....

SHIELDS, TUBE—HEAT-DISSIPATING

ELDRE COMPONENTS INC ROCHESTER ....
Acheson Colloids Co Port Huron .... M
Atlee Corp Winchester .... M
Birtcher Corp, Industrial Div Monterey Park ....
Eby Co Hugh H Philadelphia ....
Eldre Components Inc Rochester ....
Eyelematic Mfg Co Inc Watertown C
Fansteel Inc North Chicago ....
Impectron Inc New York ....
International Electronic Research Corp Burbank ....
Methode Electronics Inc Chicago ....
Paul & Beekman Inc Philadelphia ....
Technical Wire Products Inc Cranford ....
Vemaline Products Co, Inc Wycoff ....
Victor Metal Products Corp Harrisonburg ....
Waterbury Pressed Metal Co Waterbury C

SHIFTERS, PHASE—A-F

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS IN DREXEL HILL ....
NIPPON ELECTRIC CO LTD TOKYO .... JAP
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW ....
NORTH HILLS ELECTRONICS INC GLEN COVE ....
THETA INSTRUMENT CORP FAIRFIELD ....
Aetna Electronics Corp North Branch ....
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ....
Allied Research Assoc Inc Eng Sys Div Concord .... M
Andersen Laboratories, Inc Bloomfield C
Arco Electronics Div. Loral Corp. Great Neck ....
Aritech Corp Brighton .... M
Beckwith Electric Co Inc Mt Prospect ....
Chadwick Helmuth Co Inc Monrovia ....
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....
Control Science Corp Alexandria ....
Dytronics Co Inc Columbus C
Grason Stadler Co Inc West Concord .... M
Industrial Test Equipment Co Port Washington ....
ITT Aerospace, Optical Div Fort Wayne ....
Knopp Inc Oakland ....
Micro Metrics Inc Paterson ....
Microwave Development Labs Inc Needham Heights .... M
Millen Mfg Co Inc, James Malden .... M
Nilsen Mfg Co Haines City ....
Nippon Electric Co Ltd Tokyo .... Ja
North Atlantic Industries Inc Plainview ....
North Hills Electronics Inc Glen Cove ....
Princeton Applied Research Corp Princeton ....
Reeves Instrument Div, DCA Garden City ....
Seg Electronics Corp Brooklyn ....
States Co Hartford C
Theta Instrument Corp Fairfield ....
VP Co Pasadena ....
Weston-Transicoil, Weston Instruments Inc Worcester ....

SHIFTERS, PHASE—MICROWAVE

ALUMINUM DESIGN CORP BROOKFIELD ....
HEWLETT-PACKARD PALO ALTO C
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ....
NIPPON ELECTRIC CO LTD TOKYO .... JAP
SCIENTIFIC-ATLANTA INC ATLANTA ....
SYSTRON-DONNER CORP CONCORD C
WEINSCHEL ENGINEERING CO INC GAITHERSBURG ....
Addington Labs Inc Santa Clara ....
Advanced Microwave Labs Sunnyvale ....
Aircom Inc Union ....
Airtec Inc Roselle ....
Airtron, Div of Litton Industries, Inc Morris Plains ....
Alford Mfg Co Winchester .... M
Alpha Industries Inc Newton Upper Falls .... M
Aluminum Design Corp Brookfield ....
Amperex Electronic Corp, Professional Tube Div Hicksville ....
Anaren Microwave Inc Syracuse ....
Andersen Laboratories, Inc Bloomfield C
Applied Microwave Lab, Inc Andover .... M
Arra, Inc Bay Shore ....
Astrolab Inc Linden ....
Automatic Metal Products Corp Brooklyn ....
Bendix Corp Electrodynamics Div North Hollywood ....
Bishop Instruments Inc. Portland ....
Core-Tronics, Inc Orange ....
Diamond Antenna & Microwave Corp Winchester .... M
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck ....
Eastern Microwave Corp Winchester .... M
Electronic Resources Inc Tasker Indus Los Angeles ....
E & M Labs Westlake Village ....
Ferrotec Inc Newton .... M
Frequency Engineering Labs Farmingdale ....
General Dynamics, Electronics Div Rochester ....
General Instrument Corp Electronics Sys Div. Hicksville ....
General Microwave Corp Farmingdale ....
Gombos Microwave Inc Clifton ....
Guide Industries Inc Sun Valley ....
Herley Industries, Inc Syosset ....
Hewlett-Packard Palo Alto ....
ITT Aerospace, Optical Div Fort Wayne ....
LDV Electro Science Industries Syracuse ....
Loral Electronic Systems, Div Loral Corp New York ....
MCS Corp Monrovia ....
Melabs Palo Alto ....
Meridian Metalcraft Inc Whittier ....
Merrimac Research & Development Inc West Caldwell, ...
Microlab/F X R Livingston ....
Micromega Div Bunker-Ramo Corp Venice ....

ɔnetics Div Teledyne Systems Co San Diego ....Cal
) State Electronics Oper Raytheon Co Murray Hill ...N J
ɔwave Associates Inc Burlington ....Mass
ɔwave Cavity Labs Div KMS Indus Inc La Grange Ill
ɔwave Development Labs Inc Needham Heights ....Mass
a Microwave Corp Plainview ....N Y
) Microwave Co Waltham ....Mass
ɔn Electric Co Ltd Tokyo ....Japan
lectronics of America, Inc Fort Lauderdale ....Fla
ja Laboratories Inc Rowley ....Mass
ɔ-Ford Corp Washington ....D C
:hester Instrument Corp Port Chester ....N Y
) Corp of America, Electronic Components Harrison ..N J
ɛc Div Emerson Electric Co Calabasas ....Cal
ɪeon Co, Microwave & Power Tube Div Waltham ...Mass
Electronics Inc Port Chester ....N Y
ɪtific-Atlanta Inc Atlanta ....Ga
o Systems Inc Farmingdale ....N Y
a Research Corp Buffalo ....N Y
ma Engineering & Rsch Inc Santa Rosa ....Cal
ry Microwave Electronics Div Clearwater ....Fla
ron-Donner Corp Concord ....Cal
Wave Inc Princeton ....N J
r Microwave Inc Wakefield ....Mass
mon Microwave Corp Middlesex ....N J
eline Inc West Caldwell ....N J
schel Engineering Co Inc Gaithersburg ....Md
ern Microwave Labs Inc Los Gatos ....Cal
eler Laboratories Inc Great Neck ....N Y
on Co Palo Alto ....Cal

IFTERS, PHASE—R-F

ON ELECTRIC CO LTD TOKYO ....JAPAN
NTIFIC-ATLANTA INC ATLANTA ....GA
TRON-DONNER CORP CONCORD ....CAL
NSCHEL ENGINEERING CO INC GAITHERSBURG ....MD
space Research, Inc Boston ....Mass
d Mfg Co Winchester ....Mass
ersen Laboratories, Inc Bloomfield ....Conn
c-Waltham, Div Adams-Russell Waltham ....Mass
ied Microwave Lab, Inc Andover ....Mass
ch Corp Brighton ....Mass
matic Metal Products Corp Brooklyn ....N Y
tion Electric Ltd St Laurent, Montreal ....Que
glas Microwave Co Div Struthers Electronics Corp
amaroneck ....N Y
onics Co Inc Columbus ....Ohio
otec Inc Newton ....Mass
eral Dynamics, Electronics Div Rochester ....N Y
eral Instrument Corp Electronics Sys Div. Hicksville ...N Y
eral Microwave Corp Farmingdale ....N Y
bos Microwave Inc Clifton ....N J
ey Industries, Inc Syosset ....N Y
Aerospace, Optical Div Fort Wayne ....Ind
l Electronic Systems, Div Loral Corp New York ......NY
dian Metalcraft Inc Whittier ....Cal
rimac Research & Development Inc West Caldwell, ...N J
onetics Div Teledyne Systems Co San Diego ....Cal
o State Electronics Oper Raytheon Co Murray Hill ....N J
owave Associates Inc Burlington ....Mass
owave Development Labs Inc Needham Heights ....Mass
en Mfg Co Haines City ....Fla
on Electric Co Ltd Tokyo ....Japan
en Research Elctn Prods Gr Ovitron Corp Westbury ..N Y
co-Ford Corp Washington ....D C
chester Instrument Corp Port Chester ....N Y
ation Systems Inc McLean ....Va
ec Div Emerson Electric Co Calabasas ....Cal
es Instrument Div, DCA Garden City ....N Y
Electronics Inc Port Chester ....N Y
ntific-Atlanta Inc Atlanta ....Ga
Electronics Corp Brooklyn ....NY
ron-Donner Corp Concord ....Cal
/ Systems Group Redondo Beach ....Cal
Co Pasadena ....Cal
nschel Engineering Co Inc Gaithersburg ....Md
tern Microwave Labs Inc Los Gatos ....Cal
ron Co Palo Alto ....Cal

IFT REGISTERS

See **Registers—Shift**

IPPING SERVICES

) Mayflower Transit Co, Inc Indianapolis ....Ind
ns Moving & Storage Co Los Angeles 15 ....Cal
a Air Lines Atlanta ....Ga
tia Switch Inc New York ....N Y
tic Systems Inc Concord ....Mass
A Express New York ....N Y
sair New York ....N Y
ed Air Lines Chicago Ill
ed Packaging Corp Georgetown ....Mass
ed Van Lines Inc Fenton ....Mo

OCK MOUNTS

See **Mounts—Vibration & Shock**

OCK RECORDERS

See **Seismographs**

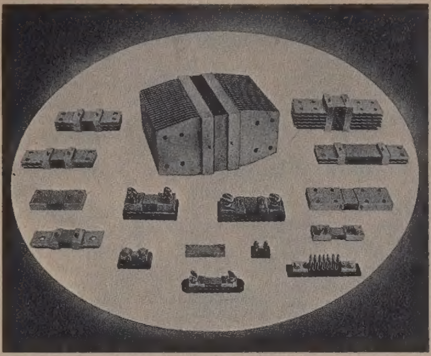
OCK-TESTING MACHINES

See **Machines—Shock-Testing**

ORT-WAVE CONVERTERS

See **Converters—Signal**

D. C. AMMETER
SHUNTS



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EMPRO MFG COINC INDIANAPOLIS IND .....ADV PG 569
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y ....ADV PG 7
HEWLETT-PACKARD PALO ALTO ....CAL
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ...OHIO
MODUTEC INC NORWALK ....CONN
PARKER INSTRUMENT CORP STAMFORD ....CONN
TECHNICAL APPARATUS BUILDERS DIV POWER
ALTERNATING DIRECT CORP BROOKLYN ....N Y
A & M Instruments Inc Great Neck ....N Y
Angstrohm Precision, Inc Van Nuys ....Cal
Beede Electrical Instrument Co, Inc Penacook ....N H
Bitronics Inc Bethlehem ....Pa
Canadian Research Institute Don Mills ....Ont
C-F Electronics Inc Van Nuys ....Cal
Dale Electronics Inc Columbus ....Neb
Daytron Inc Mountain View ....Cal
Dowa Trading Co Ltd Kobe ....Japan
E I L Instrument Div Unitec Industries Timonium ....Md
Empro Mfg CoInc Indianapolis ....Ind
En-Cer Inc South Holland Ill
Esterline Angus Div Esterline Corp Indianapolis ....Ind
Ferranti, Ltd Lancashire ....England
Fuji Electric Co Ltd Tokyo ....Japan
General Electric Co, ECSO Schenectady ....N Y
Hallmark Standards Inc Mount Vernon ....N Y
Hewlett-Packard Palo Alto ....Cal
Hickok Electrical Instrument Co Cleveland ....Ohio
Impectron Inc New York ....N Y
Instrument & Accessories Co Inc Sayville ....N Y
Janco Corp Burbank ....Cal
Jordan Electric Co Van Nuys ....Cal
Julie Research Labs, Inc New York ....N Y
Mastercraft Instrument Co Dubuque ....Iowa
Metermaster, Inc Los Angeles ....Cal
Modutec Inc Norwalk ....Conn
Nelson Electronic Labs Inc Plano ....Tex
Parker Instrument Corp Stamford ....Conn
Ram Meter Inc Ferndale ....Mich
Ramm Rectifier Co, Inc Bronx ....N Y
Ramyr Mfg Co Buena Park ....Cal
Ross Engineering Corp Saratoga ....Cal
Seastrom Mfg Co Inc Glendale ....Cal
Singer Co Instrumentation Div Bridgeport ....Conn
Sprague Electric Co North Adams ....Mass
Sunshine Scientific Instruments Inc Philadelphia ....Pa
Technical Apparatus Builders Div Power Alternating Direct
Corp Brooklyn ....N Y
Tel-Labs Inc Manchester ....N H
Triplett Electrical Instrument Co Bluffton ....Ohio
Wac Line Div Simmonds Precision Prods Dayton ....Ohio
Westinghouse Electric Corp, Relay & Instr Div Newark ...N J
Weston Instruments Div Weston Instr Inc Newark ....N J

SIGNAL CONVERTERS

See **Converters—Signal**

SIGNAL GENERATORS

See **Generators—Signal**

SIGNAL LAMPS

See **Lamps**

SIGNAL TRACERS

See **Testers—Signal-Tracing**

SILICA—FUSED

See **Quartz—Fused**

SILICON

CGS UNITS INC ROCHESTER ....N Y
Abesto Corp Bloomfield ....N J
Aceto Chemical Co, Inc Flushing ....NY
Anchor Alloys Inc Brooklyn ....N Y
Anchor Metal Co, Inc Div Brooklyn ....N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
Corp Carle Place ....N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr
Roslyn Heights ....NY
Bram Metallurgical Chemical Co Philadelphia ....Pa
Cerac Inc Butler ....Wis
CGS Units Inc Rochester ....N Y
Chisso Corp Silicon Div Tokyo ....Japan
Dowa Trading Co Ltd Kobe ....Japan
Dow Corning Corp Midland ....Mich
Electronic Space Products Inc Los Angeles ....Cal
General Diode Corp Framingham ....Mass
Geoscience Instruments Corp Mt Vernon ....N Y
Glidden Metals, SCM Corp Cleveland ....Ohio
Interman Industrial Products Ltd Garden City ....NY
International Rectifier Semiconductor Div El Segundo ....Cal
KEV Electronics Corp Wilmington ....Mass
Koch Light Labs Ltd Colnbrook, Bucks ....England
Laser Optics Inc Danbury ....Conn
Mackay Inc, A D New York ....N Y
Metal Ceram Inc Mount Vernon ....N Y
Monsanto Co St Peters ....Mo
NPC Electronics Canoga Park ....Cal
Optical Products A Teledyne Co Monrovia ....Cal
Roosevelt Metal Co Inc Brooklyn ....N Y
Semi-Alloys Inc Mt Vernon ....N Y
Semiconductor Specialties Corp Fair Lawn ....NJ
Semi-Elements Inc Saxonburg ....Pa
Semimetals Inc Westbury ....N Y
Semimetals Inc, Western Div Mountain View ....Cal
Spectrum Systems, Inc Waltham ....Mass
Texas Instruments Incorporated Dallas ....Tex
Union Carbide Corp, Mining & Metals Div New York ....N Y
United American Metals Div Brooklyn ....N Y
United Mineral & Chemical Corp New York ....N Y
Var-Lac-Oid Chemical Co Elizabeth ....N J
Ventron Electronics Corp, Controls/Matls Div Bradford ...Pa
Wacker Chemical Corp New York ....N Y

SILICON CARBIDE

Aceto Chemical Co, Inc Flushing ....NY
Anchor Alloys Inc Brooklyn ....N Y
Anchor Metal Co, Inc Div Brooklyn ....N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
Corp Carle Place ....N Y
Babcock & Wilcox Co Refractories Div Augusta ....Ga
Bram Metallurgical Chemical Co Philadelphia ....Pa
Carborundum Co Electrical & Elctns Br Niagara Falls ....NY
Cerac Inc Butler ....Wis
City Chemical Corp New York ....N Y
Electronic Space Products Inc Los Angeles ....Cal
Kawecki Berylco Industries Inc New York ....N Y
Koch Light Labs Ltd Colnbrook, Bucks ....England
Mackay Inc, A D New York ....N Y
MDC Industries Philadelphia ....Pa
3M Company St Paul ....Minn
Norton Co Worcester ....Mass
Pyco Inc Penndel ....Pa
Roosevelt Metal Co Inc Brooklyn ....N Y
Semi-Elements Inc Saxonburg ....Pa
Texas Instruments Incorporated Dallas ....Tex
United American Metals Div Brooklyn ....N Y
United Mineral & Chemical Corp New York ....N Y
Universal Shellac & Supply Co Inc Brooklyn ....N Y
Var-Lac-Oid Chemical Co Elizabeth ....N J
Ventron Electronics Corp, Controls/Matls Div Bradford ...Pa
Wacker Chemical Corp New York ....N Y
White Cross Labs New York ....NY

SILICON CRYSTALS

See **Crystals—Semiconductor**

SILICON DIODES

See **Diodes—Crystal**

SILICONE ADHESIVES

See **Adhesives**

SILICONE LAMINATES

See **Laminates—Copper-Clad**

SILICONE RUBBER

See **Rubber**

SILICONES

See Also **Laminates; Plastics; Rubber**

ELECTRICAL INSULATION CO INC COPIAGUE .... N Y
ICA LABORATORIES INC FORT LEE .... NJ
Abesto Corp Bloomfield .... N J
Aceto Chemical Co, Inc Flushing .... NY
Allaco Products Braintree .... Mass
Auburn Mfg Co Middletown .... Conn
Bacon Industries, Inc Watertown .... Mass
Barco Chemical Products Co Chicago Ill
Beemer Engineering Co Fort Washington .... Pa
Bel-Ray Co, Inc Farmingdale .... N J
Camie Co Inc St Louis .... Mo
Cerac Inc Butler .... Wis
Connecticut Hard Rubber Co New Haven .... Conn
Da/Pro Rubber Inc Van Nuys .... Cal
Dbm Research Corp Cocoa Beach .... Fla
Devcon Corp Danvers .... Mass
Dowa Trading Co Ltd Kobe .... Japan
Dow Corning Corp Midland .... Mich
Electrical Insulation Co Inc Copiague .... N Y
Emerson & Cuming Inc Canton .... Mass
Emerson Plastics Corp Bronx .... New York
Fel Pro Inc Div Felt Products Mfg Co Skokie Ill
General Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
General Electric Co Silicone Prods Dept Waterford ...... N Y
Hardman Incorporated Belleville .... N J
Hastings Plastics Inc Santa Monica .... Cal
ICA Laboratories Inc Fort Lee .... NJ
Industrial Electronic Rubber Co Twinsburg .... Ohio
Insulating Shapes Inc Bronx .... N Y
Isochem Resins Co Lincoln .... RI
Mechanical Rubber Products Co, Inc Warwick .... NY
Minor Rubber Co Inc Bloomfield .... N J
Moxness Products Inc Racine .... Wis
Multi-Flex Seals Inc Bronx .... N Y
Nye, Inc, William F New Bedford .... Mass
Polysciences Inc Warrington .... Pa
Port Plastics Inc Montebello .... Cal
Products Research & Chemical Corp Burbank .... Cal
Roberts & Associates Inc, E V Culver City .... Cal
Smooth-On Inc Gillette .... N J
Stauffer Wacker Silicone Corp New York .... N Y
Synthane-Taylor Corp Valley Forge .... Pa
Technical Wire Products Inc Cranford .... N J
Tra-Con, Inc Medford .... Mass
Transene Co Inc Rowley .... Mass
United Mineral & Chemical Corp New York .... N Y

SILICON RECTIFIERS

See **Rectifiers**

SILICON TRANSISTORS

See **Transistors**

SILK SCREEN INKS

See **Inks**

SILK SCREEN PRINTERS

See **Machines—Printed-Circuit Production**

SILK-SCREEN PROCESSING SERVICES

WIRE CLOTH ENTERPRISES INC PITTSBURGH .... PA
Advanced Space Age Products Inc Alexandria .... Va
Aeromarine Electronics, Inc San Diego .... Cal
Affiliated Manufacturers Inc Whitehouse .... N J
American Electronic Labs Inc Lansdale .... Pa
Apahouser Corp of N E Boston .... Mass
Aremco Products Inc Briarcliff Manor .... N Y
Avionics Ltd Niagara-on-the-Lake .... Ont
Brown Engineering-A Teledyne Co Huntsville .... Ala
Burtek Inc Tulsa .... Okla
Canrad Precision Industries Inc New York .... N Y
Devco Engineering Inc Fairfield (Caldwell) .... N J
Dinsmore Instrument Co Flint .... Mich
Display Devices Inc Santa Monica .... Cal
Dry Screen Process Inc Pittsburgh .... Pa
Dura Plastics of N Y Inc Westport .... Conn
Electro-Sonics, Inc Spofford .... N H
Eljay Corp Columbia .... Md
Elzee Metal Products Co Inc Brooklyn .... N Y
Ever Ready Label Corp Belleville .... N J
Feay Co, Neal Goleta .... Cal
Film Components Div Reon Resister Corp Yonkers .... N Y
General Research Inc Sparta .... Mich
Gentape Corp Bloomfield .... N J
Hampden Mfg Co Inc Thompsonville .... Conn
Harva Co Inc Schoharie .... N Y
Industrial Engravers Inc Jamaica .... N Y
Infra-Red Systems Inc Riverdale .... N J
Keil Engineering Products Inc St Louis .... Mo
Lake Engineering Co Ltd Scarborough .... Ont
Lambert Co, Inc Boston .... Mass
Lansky Die Cutting Corp Long Island City .... N Y
Leed Insulator Corp Los Angeles .... Cal
Livingston Electronic Div Jettron Prods Inc Hanover ..... N J
Mann Co, Henry Cornwell Heights .... Pa
Markon Mfg Inc Englewood .... Colo
Metal Etching Corp Freeport .... N Y
Mid-West Metal Products Inc Kansas City .... Kans
Mitronics Inc Murray Hill .... N J
Motson Co, J Frank Flourtown .... Pa
Muckle Mfg Co Owatonna .... Minn
Nameplate Inc Gardena .... Cal
National Tel-Tronics Corp Yonkers .... N Y
Naz-Dar Co Chicago Ill
Northwoods Electronics Corp West Chicago Ill
Nucleonic Industries Tucson .... Ariz
Panelgraphic Corp Caldwell .... N J
Photo Chemical Products Inc Santa Monica .... Cal
Precision Crafts La Cresenta .... Cal
Printloid Inc Long Island City .... N Y
Seastrom Mfg Co Inc Glendale .... Cal
Seton Name Plate Corp New Haven .... Conn
Stafford Mfg Co Inc Brooklyn .... N Y
Strandberg Engineering Labs Inc Greensboro .... N C
Tadco Mfg Inc Gloucester .... Mass
Tri-Tronics Lab Inc Euless .... Tex
Universal Circuits Inc Minneapolis .... Minn
Waber Electronics Inc Philadelphia .... Pa
Wire Cloth Enterprises Inc Pittsburgh .... Pa
Zero Mfg Co Burbank .... Cal

SILK SCREENS

See **Screens**

SILVER

NEY CO, J M BLOOMFIELD .... CONN
WALL CO, A T WARWICK .... RI
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Alpha Metals Inc Jersey City .... NJ
American Chemical & Refining Co Waterbury .... Conn
American Metal Climax Inc New York .... N Y
American Silver Co Div Flushing .... N Y
American Smelting & Refining Co New York .... N Y
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights .... NY
Bemol Corp Newton .... Mass
Brainin Corp Mt Vernon .... NY
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Cerro Corp New York .... NY
Cerro Sales Corp New York .... NY
Cominco American Inc Electronic Matls Div Spokane ... Wash
Cox Mfg Co San Antonio .... Tex
Eastern Smelting & Refining Corp Lynn .... Mass
Electro Science Labs Inc Philadelphia .... Pa
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark .... N J
Gardiner Solder Co Chicago Ill
General Findings Co Industrial Div Attleboro .... Mass
Hamilton Precision Metals Div Hamilton Watch Co Lancaster .... Pa
Handy & Harman New York .... N Y
Improved Seamless Wire Co Providence .... R I
Indium Corp of America Utica .... N Y
Isochem Resins Co Lincoln .... RI
Johnson Matthey & Mallory Ltd Toronto 15 .... Ont
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks .... England
Leach & Garner Co, Industrial Div Attleboro .... Mass
Materials Research Corp Orangeburg .... N Y
Metal Ceram Inc Mount Vernon .... N Y
Metaplast Electrochemicals Corp Bronx .... N Y
Metz Refining Co South Plainfield .... N J
Montgomery Co Windsor Locks .... Conn
Ney Co, J M Bloomfield .... Conn
NPC Electronics Canoga Park .... Cal
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
Simmons Refining Corp Chicago Ill
Uniform Tubes Inc Collegeville .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
United Refining & Smelting Co Franklin Park Ill
Var-Lac-Oid Chemical Co Elizabeth .... N J
Ventron Electronics Corp, Controls/Matls Div Bradford ... Pa
Vitta Corp Wilton .... Conn
Wall Co, A T Warwick .... RI
Western Gold & Platinum Co Belmont .... Cal
Wilkinson Co Westlake Village .... Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo . N Y

SILVER-CELL BATTERIES

See **Batteries**

SILVER PLATING

See **Plating Services**

SILVER PREFORMS

See **Preforms**

SILVER SOLDER

See **Solder**

SIMULATORS—FLIGHT

LINAIR DESIGN CORP LINDEN ....
AAI Corp Baltimore ....
Burtek Inc Tulsa ....
Cae Industries Ltd, Elctns Div Montreal 3 ....
Carco Electronics Menlo Park ....
Conductron-Missouri St Charles ....
Control Data Corp Melville Space & Def Sys Div Melville ..
Curtiss-Wright Corp Electronics Div E Paterson ....
Dalto Electronics Corp Norwood ....
Dynasciences Corp Blue Bell ....
Farrand Optical Co Inc Bronx ....
Ferranti, Ltd Lancashire .... Eng
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ..
Goodyear Aerospace Corp Akron ....
Hartman Systems Co Inc Huntington Station ....
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh ....
Kollsman Instrument Corp Syosset ....
Linair Design Corp Linden ....
Ling Electronics Div LTV Altec Inc Anaheim ....
Link Div Singer Co Binghamton ....
McFadden Electronics Co South Gate ....
Photomechanisms Div Inc Huntington Station ....
Reflectone. Inc, Englewood Cliffs ....
Sylvania Electronic Systems Waltham ....
Zeltex Inc Sub Redcor Corp Concord ....

SIMULATORS—NUCLEAR REACTOR

Autodynamics Inc Brick Town ....
Curtiss-Wright Corp Electronics Div E Paterson ....
Eimac Div, Varian Associates San Carlos ....
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ..
Link Div Singer Co Binghamton ....
Lockheed-Georgia Co Marietta ....
Nuclear Equipment Chemical Corp Farmingdale ....

SIMULATORS—PROCESS CONTROL

DATATROL CORP CLEMONTON NJ .... ADV PG
Autodynamics Inc Brick Town ....
Compudyne Corp Hatboro ....
Control Logic Inc Natick ....
Curtiss-Wright Corp Electronics Div E Paterson ....
Datatrol Corp Clemonton ....
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ..
Honeywell Inc, Computer Control Div Framingham .....
Honeywell Industrial Div Fort Washington ....
Lear Siegler Inc Santa Monica ....
Lear Siegler Inc, Electronic Instrumentation Div Anaheim
Link Div Singer Co Binghamton ....
Milgo Electronic Corp Miami ....
MTI- Mechanical Technology Inc Latham ....
Ovitron Corp Industrial Syst Div Cheshire ....
Reeves Instrument Div, DCA Garden City ....
Signet Controls Inc Tulsa ....
Sunshine Scientific Instruments Inc Philadelphia ....
Zonic Technical Labs Cincinnati ....

SIMULATORS—RADAR

NIPPON ELECTRIC CO LTD TOKYO .... JA
SYSTRON-DONNER CORP CONCORD ....
VEGA PRECISION LABS VIENNA ....
AAI Corp Baltimore ....
Aerospace Research, Inc Boston ....
Applied Devices Corp College Point ....
Applied Microwave Lab, Inc Andover ....
Canoga Industries Los Angeles ....
Cardion Electronics Div Gen Signal Corp Woodbury ....
Conductron-Missouri St Charles ....
Control Science Corp Alexandria ....
Curtiss-Wright Corp Electronics Div E Paterson ....
Data-Design Labs Cucamonga ....
Decitron Electronics Corp Brooklyn ....
Dero Research & Devel Corp Huntington ....
Dewey Corp, G C New York ....
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Paramus ....
Ferranti, Ltd Lancashire .... En
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ..
General Atronics Corp, Military Elctns Div Philadelphia ..
General Dynamics, Electronics Div Rochester ....
Geo Space Systems Inc St Petersburg ....
Goodyear Aerospace Corp Akron ....
Hartman Systems Co Inc Huntington Station ....
ITT Gilfillan Inc Van Nuys ....
Link Div Singer Co Binghamton ....
Measurement Technology Corp Canoga Park ....
Metric Systems Corp Fort Walton Beach ....
Nippon Electric Co Ltd Tokyo .... J
Rantec Div Emerson Electric Co Calabasas ....
Raytheon Co, Government Marketing Lexington ....
RCA, Defense Electronic Products Moorestown ....
Reeves Instrument Div, DCA Garden City ....
Reflectone. Inc, Englewood Cliffs ....
Sanders Associates, Inc Nashua ....
Solartron Electronic Group Ltd Farnbrough .... En
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....
Sperry Microwave Electronics Div Clearwater ....
Sylvania Electronic Systems Waltham ....
Symetrics Engineering Corp Satellite Beach ....
Systems Research Labs Inc Dayton ....
Systron-Donner Corp Concord ....
Tasker Industries Los Angeles ....
Tasker Industries, Radar Div Van Nuys ....
Vega Precision Labs Vienna ....
Vitro Labs Div Sub Automation Ind Inc Silver Spring ....
Wiltron Co Palo Alto ....

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industry source of
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specs.

Electronics Buyers' Guide

SIMULATORS-RESOLVER—SYNCHRO

See **Resolver-Synchro Simulators & Bridges**

SIMULATORS—SPACE

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
AAI Corp Baltimore	Md
Advanced Kinetics, Inc Costa Mesa	Cal
Aero Vac Corp Troy	N Y
Anzac-Waltham, Div Adams-Russell Waltham	Mass
Associated Testing Labs, Inc Wayne	N J
Bell Aerosystems Co Buffalo	N Y
Canoga Industries Los Angeles	Cal
CHA Industries, Div Carl Herrmann Assoc Menlo Park	Cal
Conductron-Missouri St Charles	Mo
Curtiss-Wright Corp Electronics Div E Paterson	N J
CVI Corp Columbus	Ohio
Dalto Electronics Corp Norwood	N J
General Atronics Corp, Military Elctns Div Philadelphia	Pa
Goerz Optical Co Inc Inwood	N Y
Goodyear Aerospace Corp Akron	Ohio
High Vacuum Equipment Corp Hingham	Mass
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside	Cal
Kollsman Instrument Corp Syosset	N Y
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Link Div Singer Co Binghamton	N Y
Lockheed-Georgia Co Marietta	Ga
Nippon Electric Co Ltd Tokyo	Japan
Nuclide Corp, AGV Div Acton	Mass
Reflectone. Inc, Englewood Cliffs	N J
Spitz Labs Inc Yorklyn	Del
Strong Electric Corp Toledo	Ohio
Tenney Engineering Inc Union	N J
Tenvac, Inc Pembroke	Mass
Ultek Div Perkin-Elmer Palo Alto	Cal
Ulvac Corp Tokyo	Japan
Vactronic Lab Equipment Inc East Northport	N Y
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Westinghouse Electric Corp, Aerospace Div Baltimore	Md

SINGLE-SIDEBAND CONVERTERS

See **Converters—Signal**

SINGLE-SIDEBAND GENERATORS

See **Generators—Signal**

SINGLE-SIDEBAND RECEIVERS

See **Receivers—Radio Communication**

SINGLE-SIDEBAND SYSTEMS

See **Communication Systems**

SINGLE-SIDEBAND TRANSMITTERS

See **Transmitters—Radio Communication**

SLEEVING—COTTON, ASBESTOS & SILK

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Dearborn Wire & Cable Co Chicago	Ill
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
Porter H K Co Inc, Thermoid Div Pittsburgh	Pa
Suflex Corp Woodside	N Y

SLEEVING—GLASS YARN

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
B & C Insulation Products, Inc Iselin	N J
Bentley-Harris Mfg Co Conshohocken	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Plastics Corp Bloomfield	N J
Markel & Sons Inc L Frank Norristown	Pa
Syncor Products Co, Inc Malden	Mass
Varflex Corp Rome	N Y

SLEEVING—INSIDE COATED, SATURATED

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
B & C Insulation Products, Inc Iselin	N J
Bentley-Harris Mfg Co Conshohocken	Pa
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Chomerics, Inc Arlington	Mass
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Plastics Corp Bloomfield	N J
Markel & Sons Inc L Frank Norristown	Pa
Varflex Corp Rome	N Y

Check the top of
the pages for
alphabetical listing
of product categories

SLEEVING—SATURATED

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
B & C Insulation Products, Inc Iselin	N J
Bentley-Harris Mfg Co Conshohocken	Pa
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
General Plastics Corp Bloomfield	N J
Markel & Sons Inc L Frank Norristown	Pa
Natvar Corp Woodbridge	N J
Port Plastics Inc Montebello	Cal
Varflex Corp Rome	N Y

SLEEVING—SILICONE TREATED

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
B & C Insulation Products, Inc Iselin	N J
Bentley-Harris Mfg Co Conshohocken	Pa
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Franklin Fibre-Lamitex Corp Wilmington	Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles	Cal
Markel & Sons Inc L Frank Norristown	Pa
Natvar Corp Woodbridge	N J
Port Plastics Inc Montebello	Cal
Suflex Corp Woodside	N Y
Superior Continental Corp Hickory	N C
Varflex Corp Rome	N Y
Westline Products Los Angeles	Cal

SLIDES—CHASSIS

BORG-WARNER CORP, INGERSOLL PRODUCTS DIV (EMCOR) CHICAGO	**ILL**
CHASSIS-TRAK INC INDIANAPOLIS IND	**ADV PG 572**
Amco Engineering Co Chicago	Ill
Barnes Engineering Co Santa Ana	Cal
Borg-Warner Corp, Ingersoll Products Div (EMCOR) Chicago	Ill
Boston Precision Parts Co Inc Hyde Park	Mass
Chassis-Trak Inc Indianapolis	Ind
Eugene Engineering Co Inc Rockland	Mass
G C Electronics Div, Hydrometals Inc Rockford	Ill
Grant Pulley & Hardware Corp West Nyack	N Y
Jonathan Mfg Co Fullerton	Cal
Premier Metal Products Co Bronx	N Y
Standard Precision Inc Accuride Div Santa Fe Springs	Cal
Stantron Div Wyco Metal Products North Hollywood	Cal
Taffet Electronics Inc Woodside	N Y
Watson Mfg Co Inc Jamestown	N Y
Wyco Metal Products North Hollywood	Cal
Zero Mfg Co Burbank	Cal

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chassis Trak inc.

ENGINEERING FACTS AND FIGURES

Construction—Chassis-Trak Slides are made of hard, cold-rolled steel for maximum strength and wearing qualities and are cadmium-plated for extra corrosion resistance. Smooth operation is achieved by means of Poxylube 75 dry film lubricant which becomes increasingly slick with use. This permanent formulation is dust-repellent and withstands pressure loading of more than 50,000 psi at 25 ft./min. Finish has passed JAN 100-hour salt spray test and is approved for military use.

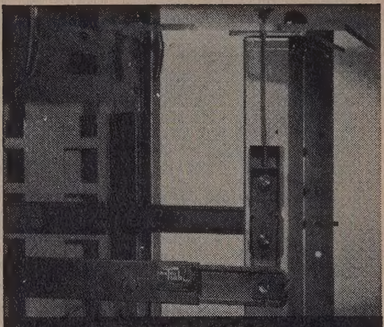
Installation—"Pencil thin" Chassis-Trak design permits installation of standard 17" chassis in standard 19" panel racks without modification. Standard slides bolt to front rail and rear of cabinet. On most models, a prefabricated gusset assembly can be furnished for use where load does not exceed 100 lbs. Gusset automatically aligns slides and permits mounting at front rail only. Templates, rear mounting brackets and all hardware furnished together with complete assembly instructions.

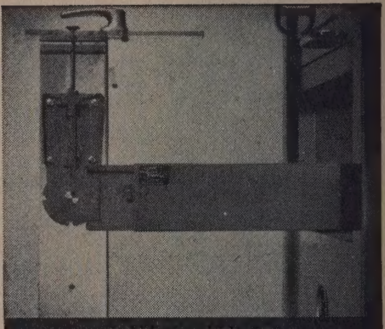
Operation—Chassis-Trak Slides are available in non-tilt, tilt, and tilt-detent models. Slides with "B" in the model designation tilt upward only; "D" models tilt and lock in seven different service postions. Choice of solid bearing or roller bearing operation. Roller bearings are recommended for equipment requiring frequent service. Chassis of any length can be fully extended without disconnecting rear cables. Pushbutton spring mechanism releases chassis for convenient slip-out, slip-in servicing.

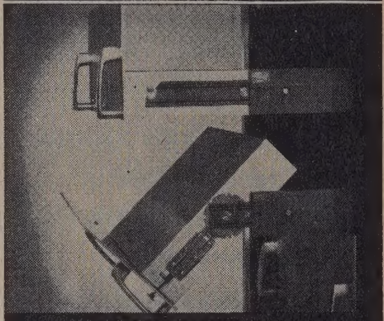
For additional engineering information, accessories hardware catalog, and prices, write:

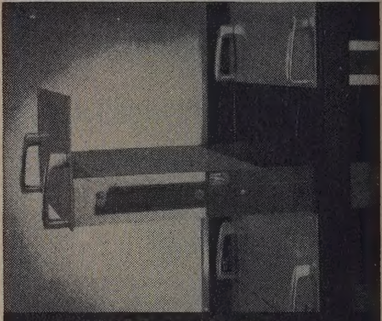
chassis Trak inc.

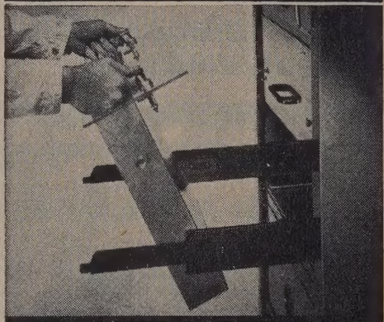
525 SOUTH WEBSTER AVENUE
INDIANAPOLIS, INDIANA 46219

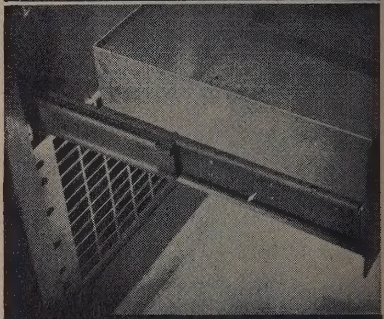

C-300 to 50 lbs.


C-230 to 100 lbs.


D-600 to 125 lbs.


CTB to 175 lbs.


CTHRD to 275 lbs.


CB to 1000 lbs.

ROLLER BEARING SLIDES	Model	SLIDE LENGTH								LBS. MAX. LOAD
		10	12	14	16	18	20	22	24	
Basic	CTRB	X	X	X	X	X	X	X	X	175
Detent	CTRD		X	X	X	X	X	X	X	175
Cradle Track	CTEZ			X	X	X	X	X	X	125
Heavy Duty Basic	CTHRB			X	X	X	X	X	X	275
Heavy Duty Detent	CTHRD			X	X	X	X	X	X	275
Lightweight	C-357		X	X	X	X	X	X	X	150
Circulating Ball	CB	16" to 60"								1000

SOLID BEARING SLIDES	Model	SLIDE LENGTH								LBS. MAX. LOAD
		10	12	14	16	18	20	22	24	
Basic	CTB	X	X	X	X	X	X	X	X	175
Detent	CTD		X	X	X	X	X	X	X	175
Lightweight	CTL			X	X	X	X	X	X	100
Heavy Duty Basic	CTHB			X	X	X	X	X	X	250
Heavy Duty Detent	CTHD			X	X	X	X	X	X	250
1¾ Inch	C-300	X	X	X	X	X	X	X	X	50
Light-Duty	C-300	X	X	X	X	X	X	X	X	50
Aluminum	D-600	X	X	X	X	X	X	X	X	125
Utility	C-230		X	X	X	X	X	X	X	100

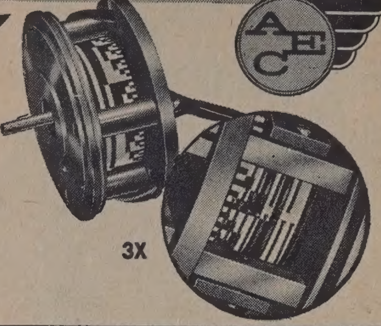
AIRFLYTE ELECTRONICS CO.

ANALOG-DIGITAL CONVERTER

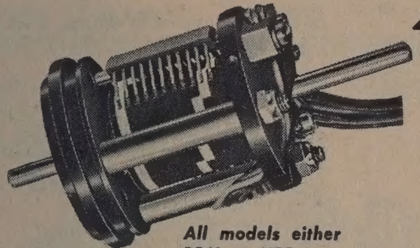
128-count per revolution, true binary readout.

Non-ambiguity thru V-scan brushes. Drum construction features rhodium plate or solid gold segments embedded in epoxy and diamond turned to 6-micro-inch stepless finish. Brushes are compatible spring-temper, precious metal 3-strand brooms. Uniform wear and life expectancy is far in excess of conventional printed circuit disc commutators. Available in synchro mount case with O. D. of 2 inches.

OTHER CODES AVAILABLE: GRAY, BINARY DECIMAL, ETC.



ROTARY SELECTOR SWITCH



All models either BBM or MBB.

FOR TELEMETRY, SAMPLING, SCANNING AND PULSING.

Exclusive drum construction features rhodium plate or solid gold segments embedded in epoxy and diamond turned to 6-micro-inch stepless finish. Brushes are compatible spring-temper, precious metal 3-strand brooms.

Low noise-to signal ratio, low contact resistance and close angular tolerances over life span of operation. Life expectancy in excess of 2×10^7 cycles. Designed to meet MIL-E-5272A and MIL-E-5400.

AVAILABLE:

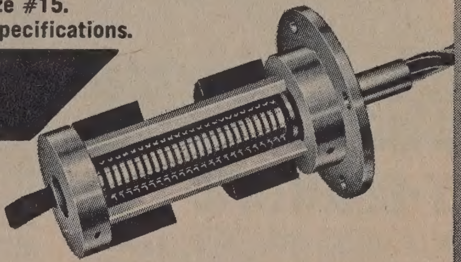
- **8-, 10-, 12-position in size #10 can.**
- **14-, 16-, 18-, 24-position in size #15.**
- **Special models to customers specifications.**

24-CIRCUIT SLIP RING AND BRUSH BLOCK ASSEMBLY

A 24-circuit bearing-mounted enclosed slip-ring and brush-block assembly (capsule-type) offered from stock.

Coin gold rings with a 4 micro-inch finish engaged by spring-temper, highly polished round wire spring-temper hairpin type brushes. 1" O. D. over cover. High speed factory run-in to have a noise-to-signal ratio of 100:1 max. Meets MIL-E-5272B and MIL-5400-C.

For use in gyro gimbal, strain gage, and guidance applications, this unit saves the customer many hours of tedious assembly time and guarantees successful operation prior to being installed in equipment. Life expectancy is in excess of 120,000,000 revolutions.



Special designs available for high current, high vacuum and multi-circuits up to 100 rings.

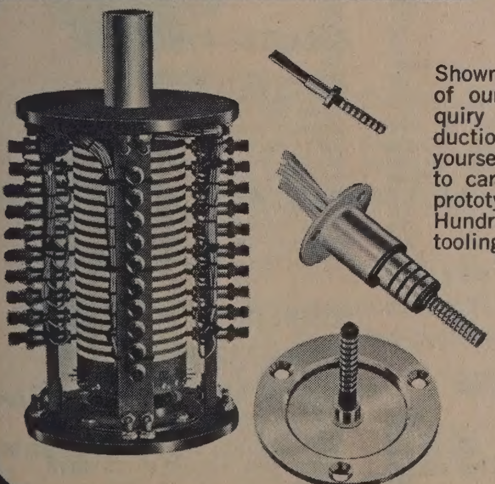
AIRFLYTE manufactures a complete line of slip-ring assemblies, brush-block assemblies for synchros, resolvers, gyros and commutation devices for all applications.

airflyte ELECTRONICS CO.

56 Hook Road/Bayonne, New Jersey 07002
(201) 436-2230; TWX-710-729-4489

SLIP RING ASSEMBLIES

BRUSH BLOCK ASSEMBLIES



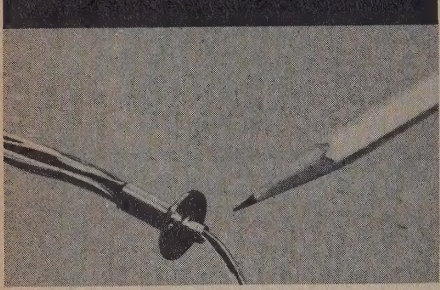
Shown here are just a few examples of our products. We invite your inquiry on the development and production to your specifications. Avail yourself of our engineering facilities to carry-through from design . . . to prototype . . . to mass production. Hundreds of stock molds eliminate tooling in most cases.

Write for literature and prices.

airflyte ELECTRONICS CO.

56 Hook Road/Bayonne, New Jersey 07002
(201) 436-2230; TWX-710-729-4489

Total Slip-Ring Capability at Poly-Scientific



Our standard slip-rings include miniatures, micro-miniatures, separates, low-cost units, large units, multi-circuit units, hi-rel units. Our state-of-the-art types include hard vacuum separates and capsules (non-outgassing), ceramics / metallic, ultra high temperature resistant, radiation resistant units. In short, solutions to all the really tough slip-ring problems.

We're eager to serve you!

For further information call your Local Poly-Scientific Sales Office or (703) 552-3011, Blacksburg, Va.

POLY-SCIENTIFIC
DIVISION OF LITTON INDUSTRIES

SLIP-RING ASSEMBLIES

See Also Commutators

AIRFLYTE ELECTRONICS CO BAYONNE N J . . . ADV PG 573
GRAPHITE METALLIZING CORP YONKERS N Y . . ADV PG 65
NEY CO, J M BLOOMFIELD . . . . CONN
POLY SCIENTIFIC DIV LITTON INDUSTRIES BLACKSBURG VA . . . . ADV PG 574
WALL CO, A T WARWICK . . . . RI
Airflyte Electronics Co Bayonne . . . . N J
American Circuit-Tronics Corp Royal Oak . . . . Mich
Avionics, Inc South Bend . . . . Ind
Bean Inc, William T Detroit . . . . Mich
Breeze Corps Inc Union . . . . N J
Collectron Corp New York . . . . N Y
Consolidated Controls Corp El Segundo . . . . Cal
Consolidated Controls Corp Bethel . . . . Conn
Electro Miniatures Corp South Hackensack . . . . N J
Electronic Specialty Co Portland Elctns Div Portland . . . . . Ore
Electro-Tec Corp, Virginia Operation Blacksburg . . . . Va
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark . . . . N J
Fabricast Inc South El Monte . . . . Cal
Franklin Fibre-Lamitex Corp Wilmington . . . . Del
Graphite Metallizing Corp Yonkers . . . . N Y
Himmelstein & Co, S Elk Grove Village Ill
Hydro Products Div Dillingham Corp San Diego . . . . Cal
Instru-Lec Corp Mt Vernon . . . . N Y
Kendick Mfg Co Inc Fort Wayne . . . . Ind
Kidde & Co Inc, Walter Belleville . . . . N J
Larson Aero Development Concord . . . . Cal
Lebow Associates Inc Troy . . . . Mich
Lehigh Valley Electronics Inc Fogelsville . . . . Pa
Maurey Instrument Corp Chicago Ill
Meridian Lab Inc Madison . . . . Wis
Metal Ceram Inc Mount Vernon . . . . N Y
Michigan Scientific Corp Milford . . . . Mich
Midwest Molding & Mfg Co Gurnee Ill
Mycalex Corp of Amer Sub Spaulding Fibre Co Inc Clifton . N J
Ney Co, J M Bloomfield . . . . Conn
Northern Precision Labs Inc Fairfield . . . . N J
Occo Mfg Corp South Hackensack . . . . N J
Omega Industries Inc Newport Beach . . . . Cal
Poly Scientific Div Litton Industries Blacksburg . . . . VA
Rostone Corp Lafayette . . . . Ind
Schaevitz Engineering Pennsauken . . . . N J
Semi-Alloys Inc Mt Vernon . . . . N Y
Superior Carbon Products Inc Cleveland . . . . Ohio
Toledo Commutator Co Owosso . . . . Mich
Wall Co, A T Warwick . . . . RI
Washington Scientific Industries Inc Minnetonka . . . . Minn
Wendon Co Inc Stamford . . . . Conn

SLOTTED SECTIONS—MICROWAVE

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS . . . . ADV PG 372
HEWLETT-PACKARD PALO ALTO . . . . CAL
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SYSTRON-DONNER CORP CONCORD . . . . CAL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD . . . . ADV PG 49
Aircom Inc Union . . . . N H
Alford Mfg Co Winchester . . . . Mass
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Cardwell Condenser Corp Lindenhurst . . . . N Y
Control Data Corp. Boston Sp & Def Sys Div East Boston . . . . Mass
Gombos Microwave Inc Clifton . . . . N J
Herley Industries, Inc Syosset . . . . N Y
Hewlett-Packard Palo Alto . . . . Cal
Lieco Inc West Babylon . . . . N Y
Maury Microwave Corp Cucamonga . . . . Cal
MCS Corp Monrovia . . . . Cal
Microwave Associates Inc Burlington . . . . Mass
Narda Microwave Corp Plainview . . . . N Y
Nichols Products Co, Inc Moorestown . . . . N J
Nippon Electric Co Ltd Tokyo . . . . Japan
Omega Laboratories Inc Rowley . . . . Mass
Omni Spectra Inc Farmington . . . . Mich
PRD Electronics Inc, Sub H-I Corp Westbury . . . . N Y
R F Systems Inc Cohasset . . . . Mass
RLC Electronics Inc Port Chester . . . . N Y
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst . . . . NY
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck . . . . N Y
Systron-Donner Corp Concord . . . . Cal
Victor Microwave Inc Wakefield . . . . Mass
Weinschel Engineering Co Inc Gaithersburg . . . . Md
Wiltron Co Palo Alto . . . . Cal

SOCKETS—CRYSTAL

ACCURATE ELECTRONICS CORP ELYRIA . . . . OHIO
AUGAT, INC ATTLEBORO MASS . . . . ADV PG 575
BARNES CORP LANSDOWNE PA . . . . ADV PG 576
CINCH MFG CO ELK GROVE VILLAGE ILL . ADV PGS 162,163
MITSUMI ELECTRIC CO LTD TOKYO . . . . JAPAN
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
Accurate Electronics Corp Elyria . . . . Ohio
Augat, Inc Attleboro . . . . Mass
Barnes Corp Lansdowne . . . . Pa
Chemelec Products, Inc Cherry Hill . . . . N J
Cinch Mfg Co Elk Grove Village Ill
Connector Corp Chicago Ill
Don Mar Products Inc Denver . . . . Colo
Dowa Trading Co Ltd Kobe . . . . Japan
Eby Co Hugh H Philadelphia . . . . Pa
G C Electronics Div, Hydrometals Inc Rockford Ill
Industrial Electronic Hardware Corp New York . . . . N Y
Javex Electronics Cherry Valley . . . . Cal
Jettron Products Inc Hanover . . . . N J
Loranger Mfg Corp Warren . . . . Pa
Methode Electronics Inc Chicago Ill
Metox Paris 20 . . . . France
Millen Mfg Co Inc, James Malden . . . . Mass
Mitsumi Electric Co Ltd Tokyo . . . . Japan
Mosley Electronics Inc Bridgeton . . . . Mo
National Radio Co Inc Melrose . . . . Mass
Norrich Plastics Corp Roosevelt . . . . N Y
Permonite Mfg Co Chicago Ill
Robinson-Nugent Inc New Albany . . . . Ind
Ross Co, Milton Southampton . . . . Pa
Rye Industries, Inc Mamaroneck . . . . N Y
SAE Advanced Packaging Inc Santa Ana . . . . Cal
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Smith Inc, Herman H Brooklyn . . . . N Y
United Mineral & Chemical Corp New York . . . . N Y
Waldom Electronics Inc Chicago Ill
Westcott Electronics Clifton . . . . NJ

SOCKETS—DIODE

ACCURATE ELECTRONICS CORP ELYRIA . . . . OHIO
BARNES CORP LANSDOWNE PA . . . . ADV PG 576
CINCH MFG CO ELK GROVE VILLAGE ILL . ADV PGS 162,163
Accurate Electronics Corp Elyria . . . . Ohio
Azimuth Electronics Denville . . . . N J
Barnes Corp Lansdowne . . . . Pa
Cinch Mfg Co Elk Grove Village Ill
Dowa Trading Co Ltd Kobe . . . . Japan
Eimac Div, Varian Associates San Carlos . . . . Cal
Impectron Inc New York . . . . N Y
Jettron Products Inc Hanover . . . . N J
Loranger Mfg Corp Warren . . . . Pa
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Methode Electronics Inc Chicago Ill
Metox Paris 20 . . . . France
Permonite Mfg Co Chicago Ill
Robinson-Nugent Inc New Albany . . . . Ind
Ross Co, Milton Southampton . . . . Pa
Rye Industries, Inc Mamaroneck . . . . N Y
SAE Advanced Packaging Inc Santa Ana . . . . Cal
Smith Inc, Herman H Brooklyn . . . . N Y
Textool Products Inc Irving . . . . Tex
U S Terminals Inc Cincinnati . . . . Ohio

SOCKETS—INTEGRATED CIRCUITS

ACCURATE ELECTRONICS CORP ELYRIA . . . . OHIO
AUGAT, INC ATTLEBORO MASS . . . . ADV PG 575
BARNES CORP LANSDOWNE PA . . . . ADV PG 576
CINCH MFG CO ELK GROVE VILLAGE ILL . ADV PGS 162,163
ELCO CORP WILLOW GROVE . . . . PA
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JAPAN
Accurate Electronics Corp Elyria . . . . Ohio
AMP Incorporated Harrisburg . . . . Pa
Augat, Inc Attleboro . . . . Mass
Azimuth Electronics Denville . . . . N J
Barnes Corp Lansdowne . . . .
Cambridge Thermionic Corp Cambridge . . . . M
Chemelec Products, Inc Cherry Hill . . . .
Cinch Mfg Co Elk Grove Village . . . .
Connector Corp Chicago . . . .
Control Logic Inc Natick . . . . M
Dowa Trading Co Ltd Kobe . . . . Ja
Drake Mfg Co Harwood Heights . . . .
Elco Corp Willow Grove . . . .
Ferranti, Ltd Lancashire . . . . Engl
Gibson-Egan CO Arcadia . . . .
IFE Div Plastic Mold & Engrg Co E Providence . . . .
Jettron Products Inc Hanover . . . .
Loranger Mfg Corp Warren . . . .
Metox Paris 20 . . . . Fra
Pylon Co, Inc Attleboro . . . . M
Robinson-Nugent Inc New Albany . . . .
Ross Co, Milton Southampton . . . .
SAE Advanced Packaging Inc Santa Ana . . . .
Scanbe Mfg Corp El Monte . . . .
Showa Musen Kogyo Co Ltd Tokyo . . . . Ja
Tekna Products Co Rochester . . . .
Texas Instruments Incorporated Dallas . . . .
Textool Products Inc Irving . . . .
Vector Electronic Co Inc Sylmar . . . .

SOCKETS—LAMP-DIAL, PANEL & PILOT

AUGAT, INC ATTLEBORO MASS . . . . ADV PG
BARNES CORP LANSDOWNE PA . . . . ADV PG
CHICAGO SWITCH INC CHICAGO . . . .
CIRCON COMPONENT CORP GOLETA CAL . . . . . ADV PG
FEDERAL SCREW PRODUCTS INC CHICAGO . . . .
KORRY MFG CO SEATTLE . . . . W
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JA
Adronics Inc, Elrob Mfg Corp Verona . . . .
Aerolite Electronics Corp Union City . . . .
Aeronautical Electric Co Chicago . . . .
Alden Products Co, Inc Brockton . . . . M
Aristo-Craft Distinctive Miniatures New York . . . .
Augat, Inc Attleboro . . . . M
Barnes Corp Lansdowne . . . .
Cambridge Thermionic Corp Cambridge . . . . M
Chicago Switch Inc Chicago . . . .
Christiana Industries Corp Chicago, ...
Circon Component Corp Goleta . . . .
Cole-Hersee Co S Boston . . . . M
Control Switch Div Controls Co of America Folcroft . . . . .
Dialight Corp Brooklyn . . . .
Dinsmore Instrument Co Flint . . . . M
Dowa Trading Co Ltd Kobe . . . . Ja
Drake Mfg Co Harwood Heights . . . .
Eagle Electric Mfg Co Inc Long Island City . . . .
Federal Screw Products Inc Chicago . . . .
Grimes Mfg Co Urbana . . . .
Industrial Devices Inc Edgewater . . . .
International Electro Exchange Corp Minneapolis . . . . . M
Johnson Co, E F Waseca . . . . M
Korry Mfg Co Seattle . . . . W
Lake Engineering Co Ltd Scarborough . . . .
Leviton Mfg Co Inc Brooklyn . . . .
Metox Paris 20 . . . . Fr
Microdot Inc. Troy . . . . M
Molex Products Co Downers Grove . . . .
Morse Co, Frank W Boston . . . . M
Pass & Seymour Syracuse . . . .
Permonite Mfg Co Chicago . . . .
Rye Industries, Inc Mamaroneck . . . .
SAE Advanced Packaging Inc Santa Ana . . . .
Shigoto Industries Ltd New York . . . .
Showa Musen Kogyo Co Ltd Tokyo . . . . Ja
Sloan Co Sun Valley . . . .
Smith Inc, Herman H Brooklyn . . . .
Stromberg-Carlson Sub Gen Dynamics Rochester . . . . . .
Sylvania Electric Prods Inc Lamp Div Danvers . . . . M
Trimm Inc Libertyville . . . .
Ucinite Co Div United-Carr Newtonville . . . . M
United-Carr Inc Boston . . . . M
Vemaline Products Co, Inc Wycoff . . . .
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe . . . . .

SOCKETS—PENCIL TUBE

BARNES CORP LANSDOWNE PA . . . . ADV PG
GRAYHILL INC LA GRANGE . . . .
Barnes Corp Lansdowne . . . .
Chemelec Products, Inc Cherry Hill . . . .
Dowa Trading Co Ltd Kobe . . . . Ja
Eby Co Hugh H Philadelphia . . . .
Grayhill Inc La Grange . . . .
Jettron Products Inc Hanover . . . .
Loranger Mfg Corp Warren . . . .
Metox Paris 20 . . . . Fr
Robinson-Nugent Inc New Albany . . . .
SAE Advanced Packaging Inc Santa Ana . . . .

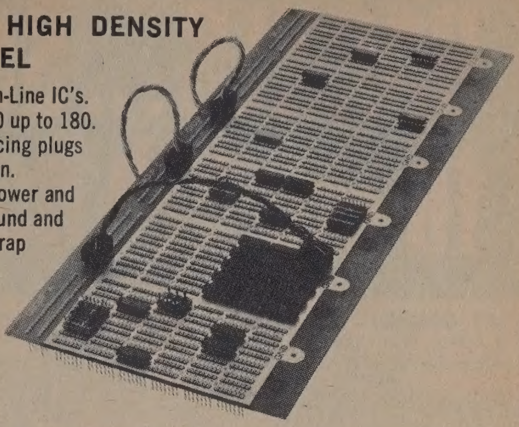
SOCKETS—PRINTED CIRCUIT

ACCURATE ELECTRONICS CORP ELYRIA . . . .
AUGAT, INC ATTLEBORO MASS . . . . ADV PG
BARNES CORP LANSDOWNE PA . . . . ADV PG
CINCH MFG CO ELK GROVE VILLAGE ILL . ADV PGS 162,
CIRCON COMPONENT CORP GOLETA CAL . . . . . ADV PG
GRAYHILL INC LA GRANGE . . . .
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK .
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JA
Accurate Electronics Corp Elyria . . . .
Aikow Shoji Kaisha Ltd Osaka . . . . J
AMP Incorporated Harrisburg . . . .
Armel Electronics, Inc North Bergen . . . .
Augat, Inc Attleboro . . . .
Auto-Swage Products, Inc Shelton . . . .

Plug into AUGAT

Where new concepts in IC handling originate

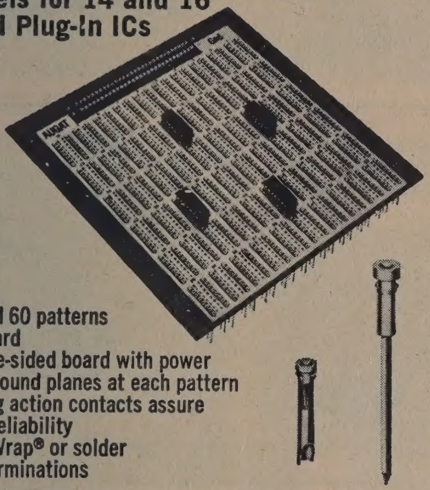
MODULAR TYPE HIGH DENSITY PACKAGING PANEL



for 14 and 16 Lead Dual-in-Line IC's.
Patterns in multiples of 30 up to 180.
Pattern accepts 3 inter-facing plugs for input-output connection.
Double sided board with power and ground planes. Accepts round and flat lead packages. Wire-Wrap termination sufficient for 3 levels of 30 gauge wire.

HIGH DENSITY PACKAGING PANEL

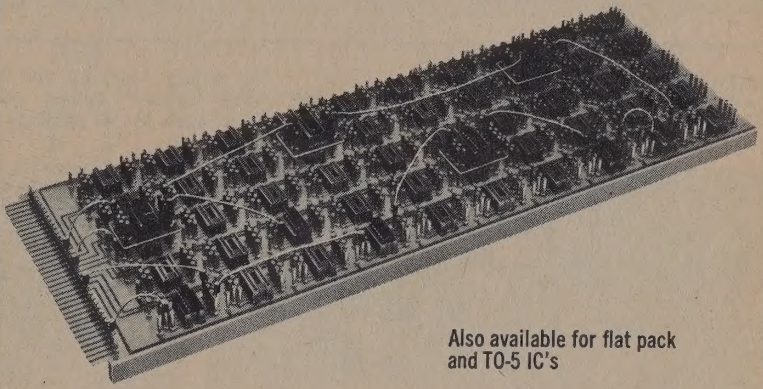
Panels for 14 and 16 Lead Plug-In ICs



30 and 60 patterns standard
Double-sided board with power and ground planes at each pattern
Wiping action contacts assure high reliability
Wire-Wrap® or solder pot terminations

BREADBOARD AND TEST PANELS

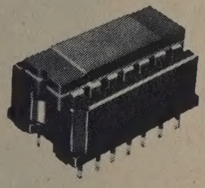
10, 25 & 50 patterns standard. Eliminates soldering or welding IC leads. Also solderless jumper interconnections.



Also available for flat pack and TO-5 IC's

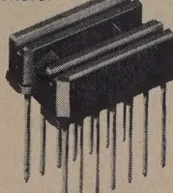
LOW PROFILE SOCKETS Available for 14 & 16 lead packages, accepts all packages with round or flat leads. Inner rail design. In diallyl phthalate or black phenolic with gold or tin plated contacts.

PC Style. Directly interchangeable! Exclusive socket configuration identical to IC package. Saves time, simplifies mounting on PC board.



Has wiping type beryllium copper contacts

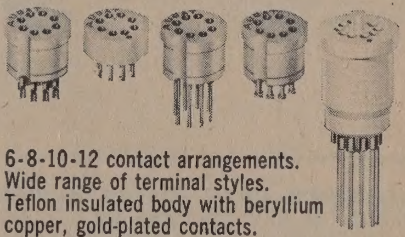
Wire-Wrap Style permits fast, easy mounting on boards. For .036 diameter holes. Retention and alignment assured without cement or special fasteners.



Contacts individually replaceable without removal of entire socket. Wire-wrap terminals — .025″ square tails. Sufficient length for 3 levels of 30 gauge wire.

TO-5 CASE SIZE TEST AND PACKAGING SOCKETS

Positive retention — high contact reliability. Test sockets permit easy, fast insertion and withdrawal.



6-8-10-12 contact arrangements.
Wide range of terminal styles.
Teflon insulated body with beryllium copper, gold-plated contacts.

Large selection of Module and Transistor Sockets also available.

®Trademark Gardner-Denver Co.

Our flexible designs permit fast, easy modifications to suit particular requirements without premium charges or extended deliveries.

For fast, economical service on your I C Handling Problems, request Catalog 364.

Other AUGAT Products:

- Transistor Sockets
- Crystal Sockets
- Relay Sockets
- Lead Sockets
- Test Jacks
- Heat Sinks
- Component Holders
- Clamps
- Battery Holders

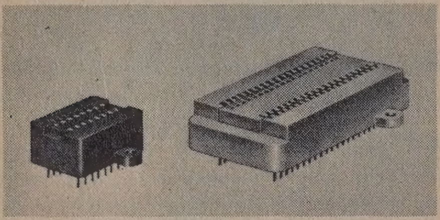
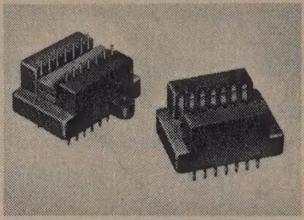
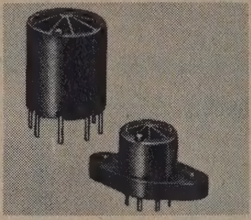
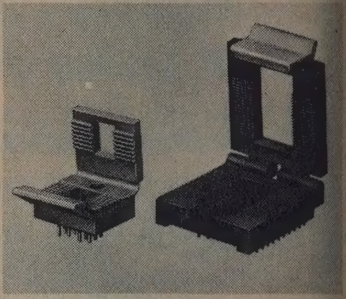
AUGAT INC. 35 PERRY AVE., ATTLEBORO, MASS. 02703

BARNES . . . Sockets to the Nth Degree!

BARNES has an UNLIMITED selection of sockets, carriers and contactors for IC's, LSI and MSI, Transistors and OP Amps . . . PLUS breadboards and handling equipment!

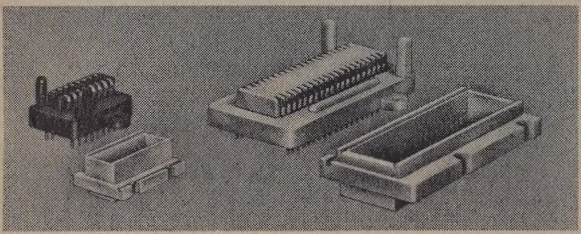
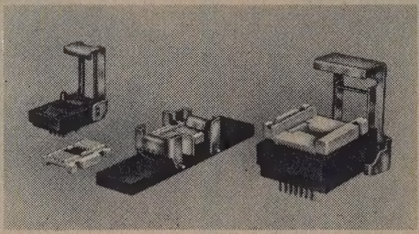
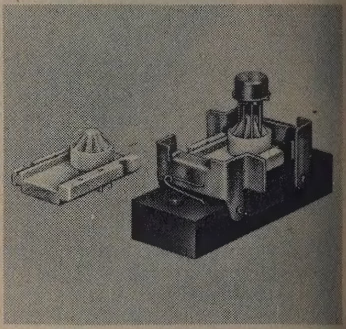
TEST SOCKETS

For DIP's, Flat Packs and TO's—all sizes and pin configurations. Used for testing, aging, burn-in and breadboarding. Features include wide operating temperature ranges, long life, and positive device retention with no lead deformation.

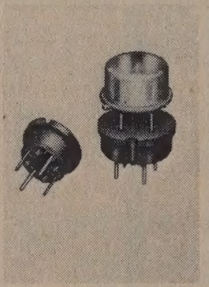
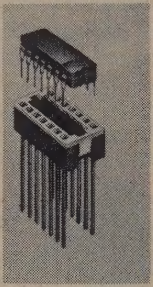
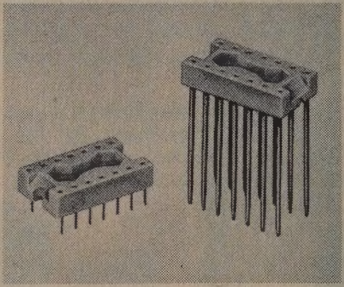
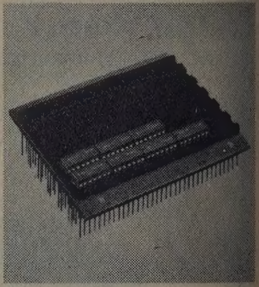
CARRIERS AND CONTACTORS

For DIP's, Flat Packs and TO's—all sizes and pin configurations. Designed for device protection during testing, handling and shipment. Features include uniform outline geometry, and positive polarization for all package sizes and types.

PRODUCTION MOUNTING AND PACKAGING

Sockets accept 14 and 16 lead DIP devices or 3 and 4 lead transistors and feature low height profile for maximum packaging density. DIP sockets are available premounted on Packaging Panels.

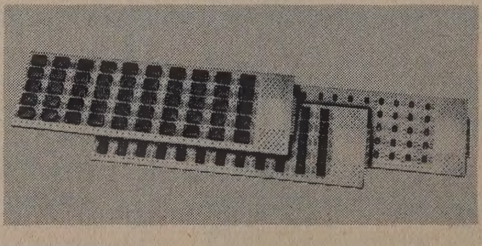
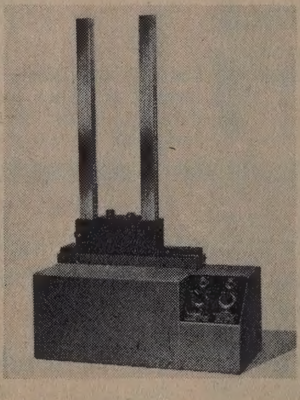
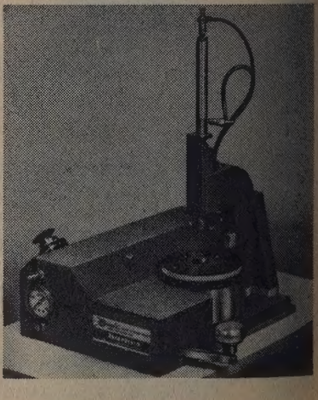





BREADBOARDS AND HANDLING EQUIPMENT

Breadboards for DIP's, Flat Packs and TO's. For high temperature circuit design, environmental testing, aging and burn-in. Available with 5 to 65 device positions per board with card receptacle edge connector.

Fluidic Automatic Test Handlers for DIP's, Flat Packs and TO's feature manual, bowl or magazine loading. Handler generates no electrical interference with IC tester.

Oriole Lead Straightener/Carrier Loaders for straightening leads and inserting TO-5 and TO-18 devices into Barnes carriers in one continuous operation.

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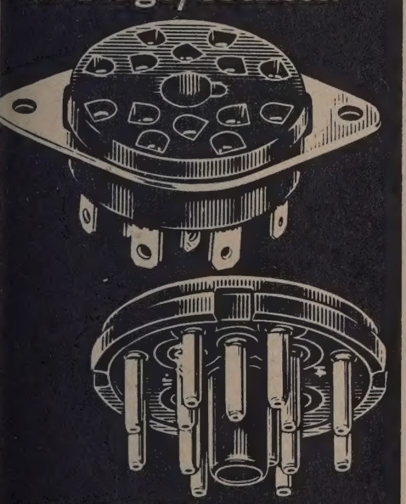

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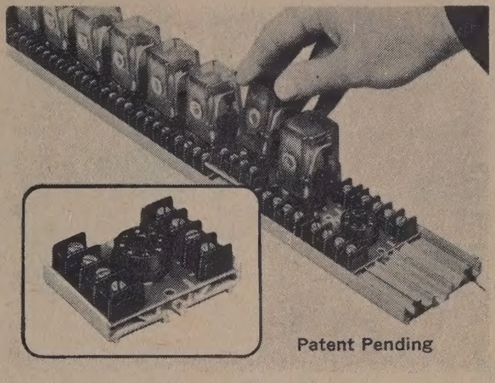

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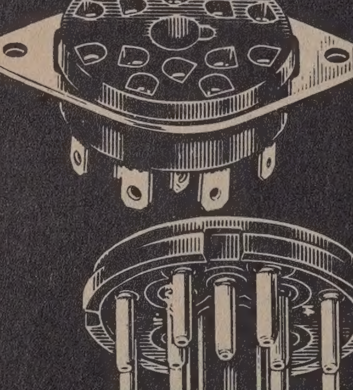

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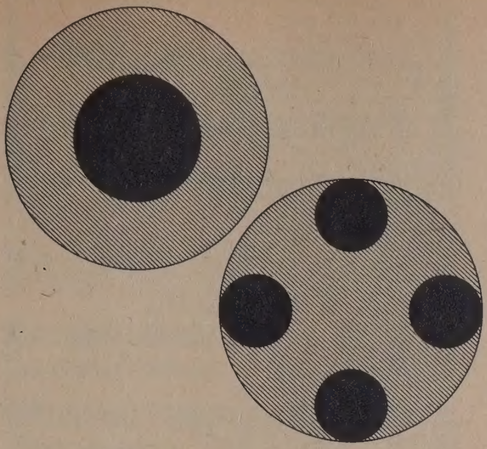

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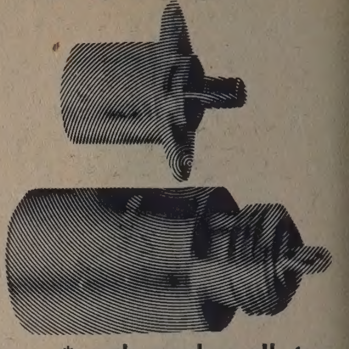

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Synchro-Start Products Inc Skokie	
Tokyo Electric Co Ltd Tokyo	J
Transco Motor Mfg Inc Arcadia	
U S Electronics Corp Lyndhurst	
Vanguard Relay Corp Lindenhurst	

SOLENOIDS—LINEAR, SUBMINIATUR

AMERICAN PRECISION INDUSTRIES, E/M DIV. EAST AURORA	
CAPTOR CORP TIPP CITY	
DALE ELECTRONICS INC, SIOUX DIV YANKTON S DAK	**ADV P**
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA	
GUARDIAN ELECTRIC MFG CO CHICAGO	
IMC MAGNETICS CORP WESTERN DIV MAYWOOD	
American Precision Industries, E/M Div. East Aurora	
American Precision Industries Inc East Aurora	
American Zettler, Inc Costa Mesa	
Amk Electronics Co Inc Edison	
A P W Co Inc Rockaway	
Artisan Electronics Corp Parsippany	
Assembly-Overland Div Rucker Co Los Angeles	
Bradford Components Inc Salamanca	
Brys Instrument Corp Brooklyn	
Captor Corp Tipp City	
Chet Engineering Co Sepulveda	
Coil Co of America Inc Northvale	
Component Specialties Corp Temple City	
Dale Electronics Inc, Sioux Div Yankton	
Delevan Electronics Div Amer Prec Indus Inc East Aurora	
Device Seals Inc Sun Valley	

eyer Industries Chicago	Ill
roid Corp Union	N J
ro-Mechanisms Inc Monrovia	Cal
ro-Pacific Inc Goleta	Cal
ro Winders Co Inc Covina	Cal
ral Relay Corp Dover	N J
dian Electric Mfg Co Chicago	Ill
han Co, T J Chicago	Ill
Magnetics Corp Western Div Maywood	Cal
urope Inc Components Gp Brussels 1	Belgium
ke, H, Elektrotechnische Fabrik Gmbh Holstein	Germany
x Div Ledex Inc Dayton	Ohio
ty Controls Div Liberty Leasing Co Inc. Shorewood	Ill
Co Inc, G W Clifton Springs	N Y
onics Inc Wantagh	NY
lectric Products Corp Asbury Park	N J
or Laboratories Inc, E V Port Washington	N Y
ey Co Ltd Ilford Essex	England
k Corp, Joseph Boston	Mass
sion Coil Mfg Co Santa Monica	Cal
on Corp Brookfield	Ill
er Industries Harbor City	Cal
ngineering Inc Gardena	Cal
misawa Electric Co, Ltd Tokyo	Japan
sco Motor Mfg Inc Arcadia	Cal
lectronics Corp Lyndhurst	N J

LENOIDS—ROTARY

TON DIV LITTON INDUSTRIES LITTON PREC PRODS INC EXEL HILL	**PA**
H CORP SOUTH PASADENA	**CAL**
MFG CO, DIV OAK ELECTRO/NETICS CORP YSTAL LAKE ILL	**ADV PG 581**
d Instrument Corp Westbury	N Y
n Electronics Co Canaan	Conn
Instrument Corp Brooklyn	N Y
on Div Litton Industries Litton Prec Prods Inc exel Hill	Pa
ce Seals Inc Sun Valley	Cal
n Coil Co Inc Caledonia	N Y
tro Winders Co Inc Covina	Cal
Magnetics Corp Ariz Div Tempe	Ariz
ke, H, Elektrotechnische Fabrik Gmbh Holstein	Germany
h Corp South Pasadena	Cal
x Div Ledex Inc Dayton	Ohio
Co Inc, G W Clifton Springs	N Y
netic Technology Inc Canoga Park	Cal
o Parts Inc Los Angeles	Cal
owave Associates Inc Burlington	Mass
Mfg Co, Div Oak Electro/Netics Corp Crystal Lake	Ill
sey Co Ltd Ilford Essex	England

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Plessey Electronics Corp Farmingdale	N Y
Transco Motor Mfg Inc Arcadia	Cal
Western Gear Corp Electro Products Div Pasadena	Cal

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***See* Commutators**

SOLID-STATE FLASHERS

***See* Flashers—Solid-State**

SOLID-STATE INVERTERS

***See* Inverters**

SOLID-STATE MODULES

***See* Modules—Active**

SOLID-STATE RELAYS

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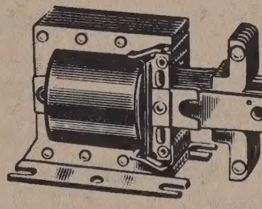
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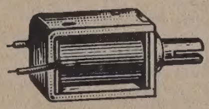
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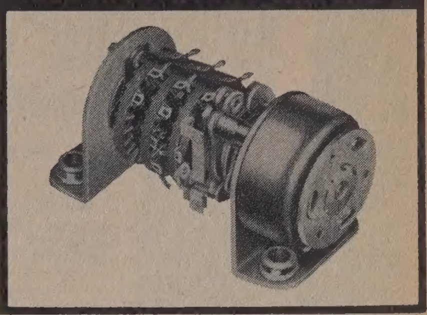

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Alpha Metals Inc Jersey City	NJ
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Bel-Ray Co, Inc Farmingdale	N J
Brulin & Co Inc Indianapolis	Ind
Caig Labs Inc Westbury	N Y
Camie Co Inc St Louis	Mo
Chemclean Corp College Point	N Y
Chemtronics Inc Brooklyn	NY
City Chemical Corp New York	N Y
Clarkson Labs Inc Camden	NJ
Cobehn Inc Fairfield	N J
Communications Technology Corp Los Angeles	Cal
Conap Inc Allegany	N Y
Conversion Chemical Corp Rockville	Conn
Corco Chemical Corp Fairless Hills	Pa
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Dow Chemical Co Midland	Mich
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Electrofilm, Inc North Hollywood	Cal
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Enthone Inc New Haven	Conn
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Humble Oil & Refining Co Houston	Tex
Hunt Chemical Corp, Philip A Palisades Park	N J
ICA Laboratories Inc Fort Lee	NJ
Janel Inc Stirling	N J
Kester Solder Co Chicago	Ill
Koppers Co Inc Pittsburgh	Pa
London Chemical Co Inc Bensenville	Ill
Mallinckrodt Chemical Works St Louis	Mo
Mann Co, Henry Cornwell Heights	Pa
Miller-Stephenson Chemical Co Inc Danbury	Conn
Nitine Inc Clifton	NJ
Oakite Products Inc Berkeley Heights	N J
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Blackstone Ultrasonics Inc Sheffield .... Pa
Brulin & Co Inc Indianapolis .... Ind
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Clarkson Labs Inc Camden .... NJ
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Cramco Solder Alloys Scarborough .... Ont
CRC Chemicals Dresher .... Pa
Crest Ultrasonics Corp Trenton .... N J
DoAll Co Des Plaines Ill
Dow Chemical Co Midland .... Mich
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Dynaloy, Inc Hanover .... N J
Eastern Specialty Co Philadelphia .... Pa
Etchomatic Inc Waltham .... Mass
Fidelity Chemical Products Corp Newark .... N J
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Janel Inc Stirling .... N J
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Nuclear Equipment Chemical Corp Farmingdale .... N Y
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Octagon Process Inc Edgewater .... NJ
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Polysciences Inc Warrington .... Pa
Pro-Chem Inc Cleveland .... Ohio
Produits Chimiques Pechiney St Gobain
 92 Neuilly Iseine .... France
Techni-Tool Inc Philadelphia .... Pa

Transene Co Inc Rowley .... Mass
Ultrasonic Appliances of America Inc Lindenhurst .... N Y
Ultra Sonic Cleaner Mfg Co N Amityville .... N Y
Universal Shellac & Supply Co Inc Brooklyn .... N Y
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Wye Industries Inc Boston .... Mass

SONAR—DOMES

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Goodyear Aerospace Corp Akron .... Ohio
Insulating Shapes Inc Bronx .... N Y
Plessey Co Ltd Ilford Essex .... England
Sperry Gyroscope Div Sperry Rand Corp Great Neck .... N Y
Straza Industries Div Ametek Inc El Cajon .... Cal

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Acoustica Associates Inc Los Angeles .... Cal
Alcatel Paris 8eme .... France
Aquadyne Inc East Falmouth .... Mass
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Bendix Corp Electrodynamics Div North Hollywood .... Cal
Bin-Dicator Ultrasonics Div. Detroit .... Mich
Burnett Electronics Lab Inc San Diego .... Cal
Channel Industries Inc Santa Barbara .... Cal
Chesapeake Instrument Corp Shadyside .... Md
Columbia Research Labs Inc Woodlyn .... Pa
Control Data Corp Melville Space & Def Sys Div Melville .... N Y
Edo Western Corp Salt Lake City .... Utah
E G & G Inc, Systems Group Bedford .... Mass
Electra Scientific Div Gulton Indus Inc Fullerton .... Cal
Electronic Research Associates Inc Cedar Grove .... N J
Electronics Communications Div Atlantic Research Corp
 Alexandria .... Va
EMI Electronics Canada Ltd Dartmouth .... N S Can
Empire Scientific Corp Garden City .... N Y
General Atronics Corp, Military Elctns Div Philadelphia .... Pa
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp, Harris ASW Div Westwood .... Mass
Gulton Industries Inc Metuchen .... N J
International Transducer Corp Goleta .... Cal
Ithaco Inc Ithaca .... N Y
Karlson Research & Mfg Div KRC Corp Hempstead .... NY
Linden Labs Inc State College .... Pa
Massa Div Dynamics Corp of America Hingham .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Ocean Sonics Inc El Segundo .... Cal
Plessey Co Ltd Ilford Essex .... England
Raytheon Co, Government Marketing Lexington .... Mass
Research Mfg Corp San Diego .... Cal
Ross Laboratories Inc Seattle .... Wash
Sangamo Electric Co Springfield ....
Sonus Corp Natick ....
Sparton Electronics, Div Sparton Corp Jackson ....
States Electronics Corp, Bludworth Marine Div Linden ....
Straza Industries Div Ametek Inc El Cajon ....

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NIPPON ELECTRIC CO LTD TOKYO .... JA
Acoustica Associates Inc Los Angeles ....
Aerospace Research, Inc Boston ....
Alcatel Paris 8eme .... Fr
Alden Electronic & Impulse Recording Equip Co Inc
 Westboro ....
American Machine & Foundry Co Alexandria Div
 Alexandria ....
Autonetics Div North American Rockwell Corp Anaheim ....
Bendix Corp Electrodynamics Div North Hollywood ....
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Decitron Electronics Corp Brooklyn ....
Edo Western Corp Salt Lake City ....
E G & G Inc, Systems Group Bedford ....
E G & G Int'l Inc Geodyne Div Waltham ....
Electronic Research Associates Inc Cedar Grove ....
EMI Electronics Canada Ltd Dartmouth .... N S
Euro Cedag Milan ....
General Atronics Corp, Military Elctns Div Philadelphia ....
General Dynamics, Electronics Div Rochester ....
General Instrument Corp Electronics Sys Div. Hicksville ....
General Instrument Corp, Harris ASW Div Westwood ....
Geodyne Div EG&G Int'l Waltham ....
Gulton Industries Inc Metuchen ....
Instruments Inc San Diego ....
Ithaco Inc Ithaca ....
Jetronic Industries Inc Philadelphia ....
Ling Electronics Div LTV Altec Inc Anaheim ....
Listening Inc Arlington ....
Massa Div Dynamics Corp of America Hingham ....
Nippon Electric Co Ltd Tokyo .... Ja
Ocean Sonics Inc El Segundo ....
Oki Electric Industry Co Ltd Tokyo .... Ja
Pioneer Instrument Inc Hanover ....
Plessey Co Ltd Ilford Essex .... Eng
Raytheon Co, Government Marketing Lexington ....
Recording Designs Ltd Camberley Surrey .... Eng
Reeves Instrument Div, DCA Garden City ....
Republic Electronic Industries Corp Melville ....
Research Mfg Corp San Diego ....
Ross Laboratories Inc Seattle .... W
Sangamo Electric Co Springfield ....
Sparton Electronics, Div Sparton Corp Jackson ....
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....
States Electronics Corp, Bludworth Marine Div Linden ....
Straza Industries Div Ametek Inc El Cajon ....
Ultra Electronics Ltd London, W 3 .... Engl
Vocaline Co of America Inc Old Saybrook ....

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Burnett Electronics Lab Inc San Diego ....
Cardion Electronics Div Gen Signal Corp Woodbury ....
Edo Western Corp Salt Lake City ....
Electronics Communications Div Atlantic Research Corp
 Alexandria ....
EMI Electronics Canada Ltd Dartmouth .... N S
General Dynamics, Electronics Div Rochester ....
Goodyear Aerospace Corp Akron ....
Lear Siegler Inc Santa Monica ....
Linden Labs Inc State College ....
Massa Div Dynamics Corp of America Hingham ....
Motorola, Govt Electronics Div Scottsdale ....
Oki Electric Industry Co Ltd Tokyo .... Ja
Reeves Instrument Div, DCA Garden City ....
Sanders Associates, Inc Nashua ....
Space & Systems Div General Time Corp Stamford C
Sparton Corp Jackson ....
Sparton Electronics, Div Sparton Corp Jackson ....
Sparton of Canada Ltd London ....
Sperry Gyroscope Div Sperry Rand Corp Great Neck ....
Sylvania Electronic Systems Waltham ....
Symetrics Engineering Corp Satellite Beach ....
Ultra Electronics Ltd London, W 3 .... Engl
Vocaline Co of America Inc Old Saybrook C

SORTERS

***See* Controls—Photoelectric; Controls—Sorting; Machines**

SOUND SYSTEMS—ENTERTAINMENT

ALLIED ELECTRONICS CORP CHICAGO ....
HEATH CO BENTON HARBOR ....
NELSON-HERSHFIELD ELECTRONICS CO PHOENIX .... A
Action Systems Co Div Conn Consolidated Inds Inc
 Meriden C
Allied Electronics Corp Chicago ....
Altec Lansing Div LTV Ling Altec Inc Anaheim ....
American Geloso Electronics Inc New York ....
Antronic Corp Chicago ....
Argos Products Co, Inc Genoa ....
Atlas Sound Div Amer Trading & Prod Corp Parsippany ....
Audio Instrument Co Inc Union City ....
Audio Vox Intercom Inc Montreal 357 ....
Bergen Lab, Inc Paterson ....

n Communications Div Lear Siegler Inc Paramus .... N J
dian Motorola Electronics Ltd Willowdale 425 .... Ont
con Products Elizabeth .... N J
er Corp Bala Cynwyd .... Pa
ane Corp St Charles Ill
Electronic Instrument Co Inc Brooklyn .... NY
ronic Homes Co New York .... N Y
ronic Research Associates Inc Cedar Grove .... N J
ro-Voice Inc Sub Gulton Industries Buchanan .... Mich
na Corp Bellmore .... NY
utone Inc Long Island City .... N Y
M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
Research Inc Imlaystown .... N J
kawa Electric Co Ltd Osaka .... Japan
h Co Benton Harbor .... Mich
en Mfg Div, The Muter Co Chicago Ill
on Research & Mfg Div KRC Corp Hempstead .... NY
A Labs Inc Detroit .... Mich
yette Radio Electronics Syosset .... NY
Jet Industries Inc Detroit .... Mich
Siegler Inc Santa Monica .... Cal
r Electronics Corp Brooklyn .... N Y
ushita Communication Industrial Co Ltd
kohama .... Japan
ushita Electric Industrial Co Ltd Osaka .... Japan
vest Audio Corp Chicago Ill
Audio Corp Fairfield .... Conn
on-Hershfield Electronics Co Phoenix .... Ariz
comb Audio Products Co Sylmar .... Cal
na-Power Co Div Chamberlain Mfg Corp Chicago Ill
ey Co Ltd Ilford Essex .... England
ate Tele Communications Inc Chicago Ill
and-Borg Corp Chicago Ill
d Hill Assoc Inc New York .... NY
ber Organ Corp New York .... N Y
t Inc, H H Maynard .... Mass
v Sound, Inc New York .... N Y
rt, Matthew & Co Inc Bronx .... NY
e-Athon Inglewood .... Cal
a Electronics Ltd London, W 3 .... England
ersity Sound Div Ltv Ling Altec Inc Oklahoma City .... Okla
d Sound Sun Valley .... Cal
ster Electric Co Racine .... Wisc

UND SYSTEMS—INDUSTRIAL

ED ELECTRONICS CORP CHICAGO ILL
SON-HERSHFIELD ELECTRONICS CO PHOENIX .... ARIZ
on Systems Co Div Conn Consolidated Inds Inc
eriden .... Conn
anced Purification System Co Inc Great Neck .... N Y
d Electronics Corp Chicago Ill
c Lansing Div LTV Ling Altec Inc Anaheim .... Cal
rican Geloso Electronics Inc New York .... N Y
ied Control Co Cedar Grove .... NJ
ied Electro Mechanics Inc Alexandria .... Va
s Sound Div Amer Trading & Prod Corp Parsippany .... N J
o Instrument Co Inc Union City .... N J
en Communications Div Lear Siegler Inc Paramus .... N J
co Music Systems Inc Hyde Park .... Mass
Laboratories Norwalk .... Conn
nitronics Corp Mount Kisco .... NY
e Instruments Ltd London W3 .... England
ker Corp Bala Cynwyd .... Pa
ane Corp St Charles Ill
O Electronic Instrument Co Inc Brooklyn .... NY
tronic Research Associates Inc Cedar Grove .... N J
cutone Inc Long Island City .... N Y
M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
Tronics Corp Reading .... Pa
Research Inc Imlaystown .... N J
akawa Electric Co Ltd Osaka .... Japan
nin Corp, Wm A Rockford Ill
Terryphone Corp Harrisburg .... Pa
sen Mfg Div, The Muter Co Chicago Ill
lson Research & Mfg Div KRC Corp Hempstead .... NY
de & Co Inc, Walter Belleville .... N J
A Labs Inc Detroit .... Mich
r Siegler Inc Santa Monica .... Cal
e Electronics Los Angeles .... Cal
rquardt Industrial Products Co Chicago Ill
tsushita Communication Industrial Co Ltd
okohama .... Japan
tsushita Electric Industrial Co Ltd Osaka .... Japan
west Audio Corp Chicago Ill
es Reproducer Co Inc New York .... N Y
Audio Corp Fairfield .... Conn
son-Hershfield Electronics Co Phoenix .... Ariz
vcomb Audio Products Co Sylmar .... Cal
trick & Wilkins Co Philadelphia .... Pa
ma-Power Co Div Chamberlain Mfg Corp Chicago Ill
ssey Co Ltd Ilford Essex .... England
vate Tele Communications Inc Chicago Ill
al Electronics Ltd Bracknell Berks .... England
land-Borg Corp Chicago Ill
nd Hill Assoc Inc New York .... NY
w Sound, Inc New York .... N Y
e-Athon Inglewood .... Cal
a Electronics Ltd London, W 3 .... England
versity Sound Div Ltv Ling Altec Inc Oklahoma City .... Okla
ity Communication Systems Inc West Chester .... Pa
d Sound Sun Valley .... Cal
bster Electric Co Racine .... Wisc

UND SYSTEMS—PAGING

IED ELECTRONICS CORP CHICAGO ILL
SON-HERSHFIELD ELECTRONICS CO PHOENIX .... ARIZ
ion Systems Co Div Conn Consolidated Inds Inc
Meriden .... Conn
anced Purification System Co Inc Great Neck .... N Y
ed Electronics Corp Chicago Ill
ec Lansing Div LTV Ling Altec Inc Anaheim .... Cal
erican Geloso Electronics Inc New York .... N Y
lied Electro Mechanics Inc Alexandria .... Va
as Sound Div Amer Trading & Prod Corp Parsippany .... N J
Audio Instrument Co Inc Union City .... N J
Audio Vox Intercom Inc Montreal 357 .... Que
Bogen Communications Div Lear Siegler Inc Paramus .... N J
Canadian Motorola Electronics Ltd Willowdale 425 .... Ont
Canoga Industries Los Angeles .... Cal
Casco Music Systems Inc Hyde Park .... Mass
Decker Corp Bala Cynwyd .... Pa
DuKane Corp St Charles Ill
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Research Associates Inc Cedar Grove .... N J
Executone Inc Long Island City .... N Y
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Fujitsu Ltd Tokyo .... Japan
Gai-Tronics Corp Reading .... Pa
G T Research Inc Imlaystown .... N J
ITT Terryphone Corp Harrisburg .... Pa
Jensen Mfg Div, The Muter Co Chicago Ill
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Lafayette Radio Electronics Syosset .... NY
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Yokohama .... Japan
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Midwest Audio Corp Chicago Ill
Miles Reproducer Co Inc New York .... N Y
Nelson-Hershfield Electronics Co Phoenix .... Ariz
Perma-Power Co Div Chamberlain Mfg Corp Chicago Ill
Picker Briggs Corp Cleveland .... Ohio
Plessey Co Ltd Ilford Essex .... England
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University Sound Div Ltv Ling Altec Inc Oklahoma City .... Okla
Utility Communication Systems Inc West Chester .... Pa
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SOURCES—INFRARED

***See* Infrared Equipment**

SOURCES—RADIOACTIVE

American Atomics Corp Tucson .... Ariz
Atomic Labs, Div Cenco Instr Corp Chicago Ill
Beckman Instruments Inc Fullerton, ... Cal
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3M Company St Paul .... Minn
Nuclear-Chicago Des Plaines Ill
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Materials & Equipment Corp Apollo .... Pa
Nuclear Supplies Encino .... Cal
Picker Nuclear White Plains .... N Y
Sanders Nuclear, Inc Nashua .... N H
The Nucleus, Inc Oak Ridge .... Tenn
US Nuclear Corp Div Icn Irvine .... Cal
United States Radium Corp Morristown .... N J

SPEAKER HOUSINGS

***See* Enclosures—Loudspeaker**

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Aikow Shoji Kaisha Ltd Osaka .... Japan
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Altec Lansing Div LTV Ling Altec Inc Anaheim .... Cal
American Geloso Electronics Inc New York .... N Y
Amperex Electronic Corp, Component Div Hauppauge .... N Y
Ampex Corp Redwood City .... Cal
Atlas Sound Div Amer Trading & Prod Corp Parsippany .... N J
Audio Dynamics Corp New Milford .... Conn
Audio Equipment Co Div Walter Kidde & Co Inc
Port Washington .... NY
Barker Sales Co Ridgefield .... NJ
Bogen Communications Div Lear Siegler Inc Paramus .... N J
Carbonneau Industries Inc Grand Rapids .... Mich
Cleveland Electronics Inc Speaker Div Cleveland .... Ohio
Components Specialties Inc Freeport .... N Y
CTS Corp Elkhart .... Ind
CTS Electronics Inc South Pasadena .... Cal
Decker Corp Bala Cynwyd .... Pa
Dowa Trading Co Ltd Kobe .... Japan
DuKane Corp St Charles Ill
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Research Associates Inc Cedar Grove .... N J
Electro-Voice Inc Sub Gulton Industries Buchanan .... Mich
Ercona Corp Bellmore .... NY
Fedtro Inc Rockville Centre .... N Y
Fen-Tone Corp New York .... N Y
Foster Electric Co Ltd Tokyo .... Japan
Fourjay Industries Dayton .... Ohio
Gates Radio Co Quincy Ill
Goodmans Loudspeakers Ltd Middlesex .... Eng
Gotham Audio Corp New York .... N Y
G T Research Inc Imlaystown .... N J
Hartley Products Corp Ho-Ho-Kus .... NJ
Hayakawa Electric Co Ltd Osaka .... Japan
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ITT Europe Inc Components Gp Brussels 1 .... Belgium
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K L A Labs Inc Detroit .... Mich
Knowles Electronics Inc Franklin Park Ill
Lansing Sound Inc, James B Los Angeles .... Cal
Lear Siegler Inc Santa Monica .... Cal
Magitran Co Div Era Acoustics Corp Moonachie .... N J
Martel Electronics Sales Inc Los Angeles .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
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Murdock Corp Chelsea .... Mass
Oaktron Industries Inc Monroe .... Wis
Oxford Electric Corp Chicago Ill
Permoflux Div American Comset Inc Glendale .... Cal
Philmore Mfg Co Inc Richmond Hill .... N Y
Private Tele Communications Inc Chicago Ill
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Rola Div The Muter Co Cleveland .... Ohio
Shigoto Industries Ltd New York .... N Y
Taffet Electronics Inc Woodside .... N Y
Telephonics Div, Instrument Systems Corp Huntington .... NY
Toa Electric Co Ltd Kobe .... Japan
Tonegen Electric Co Ltd Joto-ku, Osaka .... Japan
Ultra Electronics Ltd London, W 3 .... England
University Sound Div Ltv Ling Altec Inc Oklahoma City .... Okla
Utah Electronics Div, Utah-American Corp Huntington .... Ind
Wharfedale Div British Industries Co Westbury .... N Y
Wilder Engineering Products Chicago Ill

SPEAKERS—CONES, PAPER

American Geloso Electronics Inc New York .... N Y
Cleveland Electronics Inc Speaker Div Cleveland .... Ohio
Dowa Trading Co Ltd Kobe .... Japan
Fibre Form Corp Columbia City .... Ind
Goodmans Loudspeakers Ltd Middlesex .... Eng
ITT Terryphone Corp Harrisburg .... Pa
Sanon Co Ltd Osaka .... Japan
Shigoto Industries Ltd New York .... N Y
Tonegen Electric Co Ltd Joto-ku, Osaka .... Japan
Toyo Cone Paper Co Ltd Osaka .... Japan
Utah Electronics Div, Utah-American Corp Huntington .... Ind
Waldom Electronics Inc Chicago Ill

SPEAKERS—ELECTROSTATIC

Acoustech Div Koss Electronics Inc Milwaukee .... Wis
Altec Lansing Div LTV Ling Altec Inc Anaheim .... Cal
CTS Electronics Inc South Pasadena .... Cal
Decker Corp Bala Cynwyd .... Pa
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Listening Inc Arlington .... Mass
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Neshaminy Electronic Corp Furlong .... Pa
Radio Corp of America, Comml Elctn Prods Div Camden .... N J

SPEAKER SYSTEMS

HEATH CO BENTON HARBOR .... MICH
NELSON-HERSHFIELD ELECTRONICS CO PHOENIX .... ARIZ
Acoustic Research Inc Cambridge .... Mass
Altec Lansing Div LTV Ling Altec Inc Anaheim .... Cal
American Geloso Electronics Inc New York .... N Y
Argos Products Co, Inc Genoa Ill
Atlas Sound Div Amer Trading & Prod Corp Parsippany .... N J
Audio Dynamics Corp New Milford .... Conn
Audio Equipment Co Div Walter Kidde & Co Inc
Port Washington .... NY
Audiotronics Corp North Hollywood .... Cal
Automatic Clerical Systems Inc Pasadena .... Cal
Bogen Communications Div Lear Siegler Inc Paramus .... N J
Calbest Electronics Los Angeles .... Cal
Decker Corp Bala Cynwyd .... Pa
Dowa Trading Co Ltd Kobe .... Japan
DuKane Corp St Charles Ill
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Research Associates Inc Cedar Grove .... N J
Electro-Voice Inc Sub Gulton Industries Buchanan .... Mich
Empire Scientific Corp Garden City .... N Y
Ercona Corp Bellmore .... NY
Executone Inc Long Island City .... N Y
Foster Electric Co Ltd Tokyo .... Japan
Fourjay Industries Dayton .... Ohio
Goodmans Loudspeakers Ltd Middlesex .... Eng
G T Research Inc Imlaystown .... N J
Hartley Products Corp Ho-Ho-Kus .... NJ
Heath Co Benton Harbor .... Mich
ITT Terryphone Corp Harrisburg .... Pa
Jensen Mfg Div, The Muter Co Chicago Ill
Karg Labs Inc South Norwalk .... Conn
Karlson Research & Mfg Div KRC Corp Hempstead .... NY
Kidde & Co Inc, Walter Belleville .... N J
K L A Labs Inc Detroit .... Mich
Koss Electronics Inc Milwaukee .... Wis
Lafayette Radio Electronics Syosset .... NY
Lansing Sound Inc, James B Los Angeles .... Cal
Lear Jet Industries Inc Detroit .... Mich
Lear Siegler Inc Santa Monica .... Cal
Magitran Co Div Era Acoustics Corp Moonachie .... N J
Marantz Co Inc Sun Valley .... Cal
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Minneapolis Speaker Co Minneapolis .... Minn
Mobil Electronics Inc Anderson .... Ind
Nelson-Hershfield Electronics Co Phoenix .... Ariz
Neptune Electronics Co New York .... N Y
Neshaminy Electronic Corp Furlong .... Pa
Oaktron Industries Inc Monroe .... Wis
Perma-Power Co Div Chamberlain Mfg Corp Chicago Ill
Philmore Mfg Co Inc Richmond Hill .... N Y
Picker Briggs Corp Cleveland .... Ohio
Plessey Co Ltd Ilford Essex .... England
Private Tele Communications Inc Chicago Ill
Radio Corp of America, Comml Elctn Prods Div Camden .... N J

Rauland-Borg Corp Chicago Ill
Remler Co San Francisco . . . . Cal
Rola Div The Muter Co Cleveland . . . . Ohio
Schober Organ Corp New York . . . . N Y
Scott Inc, H H Maynard . . . . Mass
Sherwood Electronic Labs Inc Chicago Ill
Shigoto Industries Ltd New York . . . . N Y
Show Sound, Inc New York . . . . N Y
Sony Corp Tokyo . . . . Japan
Telex Communications Div Minneapolis . . . . Minn
Tonegen Electric Co Ltd Joto-ku, Osaka . . . . Japan
Ultra Electronics Ltd London, W 3 . . . . England
University Sound Div Ltv Ling Altec Inc Oklahoma City . . . Okla
Utah Electronics Div, Utah-American Corp Huntington . . . . Ind
Wald Sound Sun Valley . . . . Cal
Wharfedale Div British Industries Co Westbury . . . . N Y
Wilder Engineering Products Chicago Ill

SPECTROMETERS & SPECTROGRAPHS

HEWLETT-PACKARD PALO ALTO . . . . CAL
Advanced Kinetics, Inc Costa Mesa . . . . Cal
Aero Vac Corp Troy . . . . N Y
Alpha Scientific Labs Inc Oakland . . . . Cal
American Instrument Co, Inc Silver Spring . . . . Md
Analog Technology Corp Pasadena . . . . Cal
Applied Research Labs Sunland . . . . Cal
Avco Electronics Div Cincinnati . . . . Ohio
Baird-Atomic, Inc Cambridge . . . . Mass
Ball Brothers Research Corp Boulder . . . . Colo
Barnes Engineering Co Def & Space Div Stamford . . . . . . Conn
Barringer Research Ltd Rexdale 605 . . . . Ont
Bausch & Lomb Inc Rochester . . . . N Y
Beckman Instruments Inc Fullerton, ... Cal
Beckman & Whitley Mountain View . . . . Cal
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . Cal
Block Engineering Inc Cambridge . . . . Mass
Ealing Corp Cambridge . . . . Mass
Edwards High Vacuum (Canada) Ltd Oakville . . . . Ont
Edwin Industries Corp Silver Spring . . . . Md
Electronic Associates Inc Scien Instr Palo Alto . . . . Cal
EMI Electronics Ltd Hayes . . . . Middlesex Eng
Engis Equipment Co Morton Grove Ill
Eppley Lab Inc Newport . . . . R I
Gaertner Scientific Corp Chicago Ill
GCA Technology Div GCA Corp Bedford . . . . Mass
Grace Electronics Inc Cleveland . . . . Ohio
Hewlett-Packard Palo Alto . . . . Cal
High Voltage Engineering Corp Burlington . . . . Mass
Instrumentation Lab Inc Lexington . . . . Mass
ITT Aerospace, Optical Div Fort Wayne . . . . Ind
Jarrell-Ash Co Waltham . . . . Mass
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Kay Electric Co Pine Brook . . . . N J
McPherson Instrument Corp Sub GCA Corp Acton . . . . . Mass
Nuclear-Chicago Des Plaines Ill
Nuclear Enterprises Ltd Edinburgh . . . . Scotland
Nuclear Equipment Chemical Corp Farmingdale . . . . N Y
Nuclear Measurements Corp Indianapolis . . . . Ind
Nuclide Corp, AGV Div Acton . . . . Mass
Pacific Electric Motor Co Oakland . . . . Cal
Perkin-Elmer Corp Norwalk . . . . Conn
Perkin-Elmer Corp, Optical Group Norwalk . . . . Conn
RIL Electronics Inc Southampton . . . . Pa
Schoeffel Instrument Corp Westwood . . . . NJ
Texas Instruments Incorporated Dallas . . . . Tex
Thomson-CSF 78 Versailles . . . . France
Thomson Electric Co, Sub Cie Fran Thomson Houston
  New York . . . . N Y
TRW Instruments El Segundo . . . . Cal
Varian Palo Alto . . . . Cal
Veeco Andar Sub Veeco Palo Alto . . . . Cal
Veeco Instruments Inc Plainview . . . . N Y
Warner & Swasey Co Control Instr Div Flushing . . . . N Y
Wilks Scientific Corp South Norwalk . . . . Conn
Zeiss Inc, Carl New York . . . . N Y

SPECTROPHOTOMETERS

HEATH CO BENTON HARBOR . . . . MICH
American Instrument Co, Inc Silver Spring . . . . Md
Bausch & Lomb Inc Rochester . . . . N Y
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva . . . . . Switzerland
Block Engineering Inc Cambridge . . . . Mass
Canadian Research Institute Don Mills . . . . Ont
Cary Instruments a Varian Sub Monrovia . . . . Cal
Durrum Instrument Corp Palo Alto . . . . Cal
Grace Electronics Inc Cleveland . . . . Ohio
Heath Co Benton Harbor . . . . Mich
Instrumentation Lab Inc Lexington . . . . Mass
Instrument Development Labs Div Kollmorgen Corp
  Attleboro . . . . Mass
Jarrell-Ash Co Waltham . . . . Mass
Kahl Scientific Instrument Corp El Cajon . . . . Cal
Leeds & Northrup Co North Wales . . . . Pa
Lion Research Corp Newton . . . . Mass
McKee-Pedersen Instruments Danville . . . . Cal
McPherson Instrument Corp Sub GCA Corp Acton . . . . . Mass
Ovitron Corp Industrial Syst Div Cheshire . . . . Conn
Perkin-Elmer Corp Norwalk . . . . Conn
Perkin-Elmer Corp, Optical Group Norwalk . . . . Conn
Phoenix Precision Instrument Co, Inc Philadelphia . . . . Pa
Process & Instruments Corp Brooklyn . . . . N Y
Schoeffel Instrument Corp Westwood . . . . NJ
Spectra-Physics Mountain View . . . . Cal
Varian Palo Alto . . . . Cal
Zeiss Inc, Carl New York . . . . N Y

SPECTROSCOPES

SIEMENS AMERICA INC NEW YORK . . . . N Y
Applied Research, Inc Port Washington . . . . N Y
Applied Research Labs Sunland . . . . Cal
Bausch & Lomb Inc Rochester . . . . N Y
Central Scientific Co Chicago Ill
Ealing Corp Cambridge . . . . Mass
Engis Equipment Co Morton Grove Ill
Ercona Corp Bellmore . . . . NY
Gaertner Scientific Corp Chicago Ill
Jarrell-Ash Co Waltham . . . . Mass
Nuclide Corp, AGV Div Acton . . . . Mass
Schoeffel Instrument Corp Westwood . . . . NJ
Siemens America Inc New York . . . . N Y
Zeiss Inc, Carl New York . . . . N Y

SPEECH SCRAMBLERS

***See* Scramblers—Speech**

SPLICERS—MAGNETIC TAPE

Ampex Corp Redwood City . . . . Cal
Dowa Trading Co Ltd Kobe . . . . Japan
Duotone Co Inc Miami . . . . Fla
Elpa Mktg Industries Inc New Hyde Park . . . . N Y
Ercona Corp Bellmore . . . . NY
Fen-Tone Corp New York . . . . N Y
G C Electronics Div, Hydrometals Inc Rockford Ill
K L A Labs Inc Detroit . . . . Mich
Magnecessories Washington . . . . D C
Recoton Corp Long Island City . . . . N Y
Robins Data Devices Inc Flushing . . . . N Y
Robins Industries Corp Flushing . . . . N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo . . . . Japan

SPLICES—WIRE

BURNDY CORP NORWALK . . . . CONN
Allmetal Screw Products Co Inc Garden City . . . . N Y
AMP Incorporated Harrisburg . . . . Pa
Burndy Corp Norwalk . . . . Conn
Communications Technology Corp Los Angeles . . . . Cal
Electric Terminal Corp Warwick . . . . R I
General Staple Co. Connectrol Div New York . . . . N Y
Javex Electronics Cherry Valley . . . . Cal
Jonard Industries Corp Bronx . . . . N Y
Kent Corp Mundelein Ill
Penn-Union Electric A Teledyne Co Edinboro . . . . Pa
Preformed Line Products Co Cleveland . . . . Ohio
Reliable Electric Co Franklin Park Ill
Superior Continental Corp Hickory . . . . N C
Winslow Tele-Tronics Inc Eatontown . . . . N J

SPOT WELDERS

***See* Welders—Spot**

SPRAY SYSTEMS—ELECTROSTATIC

***See* Electrostatic Spray Systems**

SPRINGS—ANTENNA TENSION

Ace Spring Mfg Co, Inc Brooklyn . . . . N Y
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Dudek & Bock Spring Mfg Co Chicago Ill
Elgiloy Co Elgin Ill
Helix Spring Corp Long Island City . . . . NY
Hunter Spring Div Ametek Inc Hatfield . . . . Pa

SPRINGS—COMMON

Accurate Spring Mfg Co Div United Greenfield Corp
  River Grove Ill
Ace Spring Mfg Co, Inc Brooklyn . . . . N Y
Acme Model Engineering Co Ridgefield . . . . N J
Chatillon & Sons, John Kew Gardens . . . . N Y
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Dudek & Bock Spring Mfg Co Chicago Ill
Elgiloy Co Elgin Ill
Emtec Inc, Empire Spring Div Elyria . . . . Ohio
G C Electronics Div, Hydrometals Inc Rockford Ill
Helix Spring Corp Long Island City . . . . NY
Hunter Spring Div Ametek Inc Hatfield . . . . Pa
Larago Electronics Mfgrs Inc Melbourne . . . . Fla
Metal Ceram Inc Mount Vernon . . . . N Y
O'Hara Metal Products Co San Francisco . . . . Cal
Perkins Machine & Gear Co West Springfield . . . . Mass
Reliable Spring & Wire Forms Co Cleveland . . . . Ohio
Semi-Alloys Inc Mt Vernon . . . . N Y
Sterling Instrument Div, Designatronics Inc Mineola . . . . . N Y

SPRINGS—CONTACT

BARNES CORP LANSDOWNE . . . . PA
BRAUN TOOL & INSTRUMENT CO INC, H HAWTHORNE . . N J
INSTRUMENT SPECIALTIES CO INC LITTLE FALLS . . . . . N J
UMEDA NAMEPLATE MFG CO LTD TOKYO . . . . JAPAN
VOLKERT STAMPINGS INC SUB STANLEY WORKS
  QUEENS VILLAGE . . . . N Y
Accurate Spring Mfg Co Div United Greenfield Corp
  River Grove Ill
American Silver Co Div Flushing . . . . N Y
Barnes Corp Lansdowne . . . . Pa
Braun Tool & Instrument Co Inc, H Hawthorne . . . . N J
Carbone Corp Boonton . . . . N J
Chemical & Aerospace Products Inc Wilmington . . . . Cal
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . . . Cal
Diebel Mfg Co Morton Grove Ill
Dudek & Bock Spring Mfg Co Chicago . . . .
Elgiloy Co Elgin . . . .
Emtec Inc, Empire Spring Div Elyria C
General Findings Co Industrial Div Attleboro . . . . M
Helix Spring Corp Long Island City . . . .
Improved Seamless Wire Co Providence . . . .
Instrument Specialties Co Inc Little Falls . . . .
Metal Ceram Inc Mount Vernon . . . .
Micro Contacts, Inc Hicksville . . . .
Micro Science Assoc Mountain View . . . .
O'Hara Metal Products Co San Francisco . . . .
Reliable Spring & Wire Forms Co Cleveland C
Robinson-Nugent Inc New Albany . . . .
Seastrom Mfg Co Inc Glendale . . . .
Semi-Alloys Inc Mt Vernon . . . .
Texas Instruments Incorporated Dallas . . . .
Textool Products Inc Irving . . . .
Umeda Nameplate Mfg Co Ltd Tokyo . . . . Ja
Volkert Stampings Inc Sub Stanley Works Queens Village .
Wells Co Inc, Gary Yonkers . . . .
Wilkinson Co Westlake Village . . . .

SPRINGS—INSTRUMENT HAIRSPRING

VOLKERT STAMPINGS INC SUB STANLEY WORKS
  QUEENS VILLAGE . . . .
A & M Instruments Inc Great Neck . . . .
Chatillon & Sons, John Kew Gardens . . . .
Connor Spring Mfg Co Div Sloss & Britain San Jose . . . . .
Elgiloy Co Elgin . . . .
Emtec Inc, Empire Spring Div Elyria C
Metal Ceram Inc Mount Vernon . . . .
O'Hara Metal Products Co San Francisco . . . .
Precision Products Co Inc of Waltham Waltham . . . . . . M
Semi-Alloys Inc Mt Vernon . . . .
Sun Electric Corp Chicago . . . .
Volkert Stampings Inc Sub Stanley Works Queens Village .
Wells Co Inc, Gary Yonkers . . . .

SQUARE-WAVE GENERATORS

***See* Generators—Signal**

STABILIZERS—KLYSTRON

HEWLETT-PACKARD PALO ALTO C
Frequency Engineering Labs Farmingdale . . . .
Hewlett-Packard Palo Alto . . . .
Micro-Now Instrument Co Inc Chicago . . . .
Microwave/Systems Inc East Syracuse . . . .
Narda Microwave Corp Plainview . . . .

STABISTORS

EDAL INDUSTRIES INC EAST HAVEN . . . . CO
GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y . . . . ADV P
TECHNICAL APPARATUS BUILDERS DIV POWER
  ALTERNATING DIRECT CORP BROOKLYN . . . .
Atlantic Semiconductor Inc Asbury Park . . . .
Eastern Delta Corp Fair Lawn . . . .
Eastron Corp Haverhill . . . . M.
Edal Industries Inc East Haven . . . . Co
General Electric Co, ECSO Schenectady . . . .
General Semiconductor Industries Inc Tempe . . . . A
Green Rectifier Corp Fair Lawn . . . .
Intersil Inc Cupertino . . . .
NPC Electronics Canoga Park . . . .
Schauer Mfg Corp Cincinnati . . . . O
Technical Apparatus Builders Div Power Alternating Direct
  Corp Brooklyn . . . .

STAMPED CIRCUITS

***See* Circuits—Printed Wiring**

STAMPING MACHINES

***See* Machines Hot-Stamping; Machines—Marking & Numbering; Machines— Forming**

STAMPINGS & PUNCHINGS—PLASTIC

***See* Plastics—Finished Parts**

STAMPINGS—METAL

***See* Metal Parts—Small Metal Stampings**

STAMPINGS—PAPER

***See* Paper**

STAMPS—MARKING

Ackerman Gould Co, Inc Oceanside . . . . N
Acromark Co Berkeley Heights . . . . N
Apex Machine Co Fort Lauderdale . . . . F
Kingsley Machine Co Hollywood . . . .
Markem Corp Keene . . . .
Markon Mfg Inc Englewood C
Master Engraving East Paterson . . . . N
Matthews & Co Jas H Pittsburgh . . . .
Noble & Westbrook Div, Bristol Brass Corp
  East Hartford . . . . Co

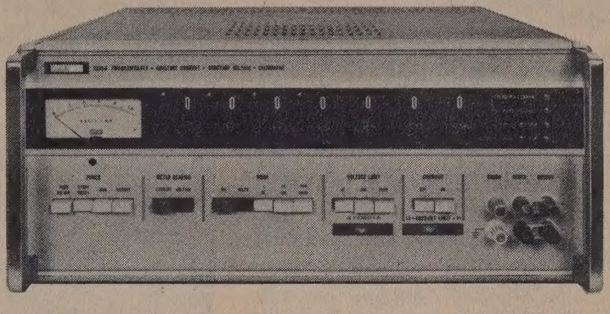
Standards Voltage DC

Fluke Precision Voltage/Current Calibrators

The new Fluke 3330A Programmable Constant Current/Voltage Calibrator is the ideal instrument to calibrate and test precision instruments, semiconductors, resistors and sub-assemblies. It can be operated in either a constant current or constant voltage mode. In the voltage mode, range is 0 to 1000 volts with 10% overranging in three ranges. Output current is 100 ma in the 10 and 100 v ranges and 50 ma in the 1000 v range. In the constant current mode, ranges are 0 to 100 ma in three ranges with 10% overranging. Compliance voltage is 1000 volts on the 1 and 10 ma ranges and 500 volts on the 100 ma range.

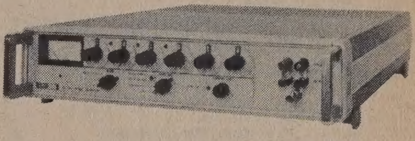
Programmable functions are output range, mode, level and polarity, voltage and current limit, crowbar, and standby/operate. Programming time is tens of milliseconds. Price is $2995.

Two DC calibrators, Models 341 and 343, are also new to the Fluke line. Their specifications will cost you up to 50% more elsewhere. The "best buy" Model 341A offers an accuracy of ±0.01% over a 10°C range for $1195. The Model 343A features a resolution of 0.1 ppm—equal to the most expensive instrument on the market—in only 3½" cabinet space. Output is within 25 ppm 5 seconds after any range or setting change. Current is automatically limited at any preset level between 1 and 30 ma. Four-terminal floating output is featured.


Model 3330

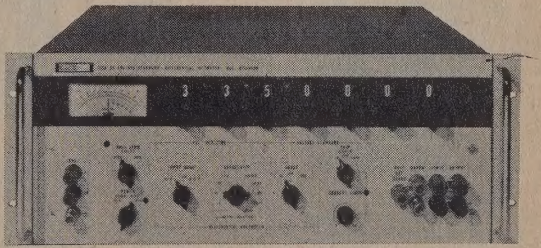
Specifications—voltage and voltage/current calibrators

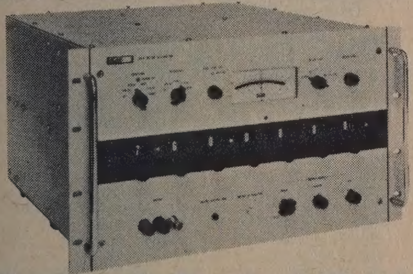
Model	Voltage	Current	Regulation Line (%)	Regulation Load (%)	Stability % Per Hour	Stability % Per Day	Stability % Per Month	Calibration Accuracy (%)	Max. Ripple (rms)	Resolution	Price
313A	0-50	0-2 a	0.0005	0.0005	0.002	0.0025	0.005	0.01	50 μv	2 ppm f.s.	$1295
382A (voltage mode)	0-50	0-2 a	0.0005	0.0005	0.002	0.0025	0.005	0.01	50 μv	2 ppm f.s.	$1595
382A (current mode)	0-50	0-2 a	0.0005	0.001	0.0025	0.005	0.005	0.02	0.002% of range	2 ppm f.s.	
341A	0-1,100	0-25 ma	0.0005	0.0005	0.0007	0.0015	0.003	0.01	100 μv	1 ppm f.s.	$1195
343	0-1,100	0-25 ma	0.0005	0.0005	0.0005	0.0007	0.0015	0.003	50 μv	0.1 ppm f.s.	$1695
Precision voltage standards											
332B	0-1,111	0-50 ma	0.0002	0.0002	0.0003	0.0003	0.001	0.002	20 μv—10V range 40 μv—1000V range	0.1 ppm f.s.	$2295
335A	0-1,111	0-50 ma	0.0002	0.0002	0.0003	0.0003	0.001	0.002	20 μv—10V range 40 μv—1000V range	0.1 ppm f.s.	$2485
Remotely programmed voltage/current calibrators											
315A	0-50	0-1 a	0.0005	0.0005	0.005	0.005	0.01	0.025	500 μv	2 ppm f.s.	$1995
383B (voltage mode)	0-50	0-2 a	0.0005	0.0005	0.005	0.005	0.01	0.025	50 μv	2 ppm f.s.	$1995
383B (current mode)	0-50	0-2 a	0.001	0.001	0.005	0.005	0.01	0.025	0.005% of range	2 ppm f.s.	
3330A (voltage mode)	0-1,111	0-100 ma (10V, 100V) 0-50 ma (1000V)	0.0002	0.0002	0.0005	0.001	0.0025	0.005	60 μv—10V range 100 μv—100V range 150 μv—1000V range	0.1 ppm f.s.	$2995
3330A (current mode)	0-1,111	0-100 ma	0.0002	0.0002	0.001	0.002	0.005	0.01	40 na—1 ma range 200 na—10 ma range 2 μa—100 ma range	0.1 ppm f.s.	


Model 341

Model 343

Model 335A




Model 760A

Fluke Model 760A Meter Calibrator

The Model 760A Meter Calibrator calibrates AC/DC, volt or ammeters directly in terms of percent error. This calibration standards instrument is guaranteed to stay within specifications for one full year over a wide range of environmental conditions.

A minimum number of controls and indicators simplify and speed operation of the instrument. You can dial up any parameter without range changing or switching. Interlocks and other safety features prevent damage to the instrument under test or harm to the user. A stable, low frequency oscillator is used to provide either 60 Hz or 400 Hz. Optional features include fractional scale division, high output, and external oscillator operation.

Brief specifications:

Voltage Range:
0.001 to 1000 volts.

DC Accuracy:
±0.1% to 1000 volts.

AC Accuracy:
±0.25% to 1000 volts.

Current Range:
1 microampere to 10 amperes.

Accuracy:
±0.25%.

Resistance Range:
0 to 10 megohms.

Accuracy:
±0.1%.

Price:
$2485.

FLUKE®

Fluke, Box 7428, Seattle, Washington 98133. Phone: (206) 774-2211.

Parker-Hartford Corp Windsor ....Conn
Photo Chemical Products Inc Santa Monica ....Cal
Royson Engineering Co Hatboro ....Pa
Seton Name Plate Corp New Haven ....Conn
Sossner Steel Stamps Inc Long Island City ....N Y
Stafford Mfg Co Inc Brooklyn ....N Y

STANDARD CELLS

***See* Cells—Standard**

STANDARDS—A-C VOLTAGE, ELECTRONIC

FLUKE MFG CO INC, JOHN SEATTLE ....WASH
HEWLETT-PACKARD PALO ALTO ....CAL
NORTH HILLS ELECTRONICS INC GLEN COVE ....N Y
American Machine & Foundry Co Alexandria Div Alexandria ....Va
Beckman Instruments Inc Fullerton, ...Cal
Bradley Ltd G & E London NW 10 ....England
Cohu Electronics Inc San Diego ....Cal
Dynamco Ltd Chertsey Surrey ....Eng
Electronic Development Corp Boston ....Mass
Fluke Mfg Co Inc, John Seattle ....Wash
Grafix Inc Albuquerque ....N Mex
Hewlett-Packard Palo Alto ....Cal
Holt Instrument Labs Oconto ....Wis
Idalee Electronics Corp Valley Stream ....NY
Julie Research Labs, Inc New York ....N Y
Nelson Electronic Labs Inc Plano ....Tex
Northeast Electronics Corp Concord ....N H
North Hills Electronics Inc Glen Cove ....N Y
Optimation, Inc Sun Valley ....Cal
RFL Industries Inc, Instrumentation Div Boonton .....N J
Simpson Electric Co Chicago Ill
Singer Co Instrumentation Div Bridgeport ....Conn
Singer Co Instr Div Ballantine Oper Boonton ....N J
Singer Co Instru Div Gertsch Oper Los Angeles ....Cal
Sunshine Scientific Instruments Inc Philadelphia .....Pa
Twinco Div Atlas Engrg Co Inc Dorchester ....Mass
Wac Line Div Simmonds Precision Prods Dayton ....Ohio
Western Instrument Corp Burbank ....Cal
Weston Instruments Div Weston Instr Inc Newark ......N J
Weston Lexington Weston Instruments Div Lexington ...Mass

STANDARDS—CAPACITANCE

American Technical Ceramics Huntington Station ......N Y
Arco Electronics Div. Loral Corp. Great Neck ....N Y
Beckman Instruments Inc Fullerton, ...Cal
Boonton Electronics Corp Parsippany ....N J
Cardwell Condenser Corp Lindenhurst ....N Y
Electro Scientific Industries Inc Portland ....Ore
General Radio Co West Concord ....Mass
Leeds & Northrup Co North Wales ....Pa
Rohde & Schwarz Sales Co USA Inc Passaic ....N J
Sprague Electric Co North Adams ....Mass
Wayne Kerr Co c/o Southfield Electronics Southfield ...Mich
Winslow Tele-Tronics Inc Eatontown ....N J

STANDARDS—D-C VOLTAGE, ELECTRONIC

DYNAGE, INC BLOOMFIELD ....CONN
FLUKE MFG CO INC, JOHN SEATTLE WASH ...ADV PG 585
HEWLETT-PACKARD PALO ALTO ....CAL
KEPCO INC FLUSHING N Y ....ADV PG 4th Cover
NORTH HILLS ELECTRONICS INC GLEN COVE ....N Y
American Machine & Foundry Co Alexandria Div Alexandria ....Va
Analogic Corp Wakefield ....Mass
Beckman Instruments Inc Fullerton, ...Cal
Bradley Ltd G & E London NW 10 ....England
Cohu Electronics Inc San Diego ....Cal
Dynage, Inc Bloomfield ....Conn
Elasco-Eastern Inc Bloomfield ....Conn
Electronic Design Labs Inc Philadelphia ....Pa
Electronic Development Corp Boston ....Mass
Eppley Lab Inc Newport ....R I
Fluke Mfg Co Inc, John Seattle ....Wash
General Resistance Inc Div Chronetics Inc Mount Vernon ..N Y
Grafix Inc Albuquerque ....N Mex
Guildline Instruments Ltd Smiths Falls ....Ont
Gulton Industries Inc Engineered Magnetics Div Hawthorne ....Cal
Hewlett-Packard Palo Alto ....Cal
Howell Instruments Co Fort Worth ....Tex
IB Instruments Inc Cleveland ....Ohio
Instrulab Inc Dayton ....Ohio
Julie Research Labs, Inc New York ....N Y
Keithley Instruments Inc Cleveland ....Ohio
Kepco Inc Flushing ....N Y
Kikusui Electronics Corp Kanagawa City ....Kanagawa Pref Japan
Kuwano Electrical Instruments Co Ltd Kawasaki ....Kanagawa Pref
Lorch Electronics Corp Englewood ....N J
Medistor Instrument Co Seattle ....Wash
3M Company St Paul ....Minn
Monroe Electronics Inc Middleport ....N Y
Nelson Electronic Labs Inc Plano ....Tex
North Hills Electronics Inc Glen Cove ....N Y
Precision Standards Corp Santa Ana ....Cal
RFL Industries Inc, Instrumentation Div Boonton .....N J
Simpson Electric Co Chicago Ill
Singer Co Instrumentation Div Bridgeport ....Conn
Sunshine Scientific Instruments Inc Philadelphia .....Pa
Takeda Riken Industry Co Ltd Tokyo ....Japan
Twinco Div Atlas Engrg Co Inc Dorchester ....Mass
Wac Line Div Simmonds Precision Prods Dayton ....Ohio
Weston Instruments Div Weston Instr Inc Newark ......N J
Weston Lexington Weston Instruments Div Lexington ...Mass

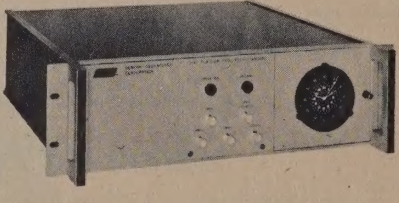
STANDARDS—FREQUENCY, A-F

C M L INC PLAINFIELD ....N J
FORK STANDARDS INC WEST CHICAGO ILL ...ADV PG 409
HEWLETT-PACKARD PALO ALTO ....CAL
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON ..N J
REEVES-HOFFMAN DIV CARLISLE PA ....ADV PG 212
TRACOR INC AUSTIN TEX ....ADV PG 587
VECTRON LABS INC STAMFORD CONN ....ADV PG 404
Accutronics, Inc Geneva Ill
Advanced Energy Conversion Menlo Park ....Cal
American Machine & Foundry Co Alexandria Div Alexandria ....Va
American Time Products, Elctns Div Bulova Watch Co Inc Woodside ....N Y
Armec Corp Huntington Station ....N Y
Beckman Instruments Inc Fullerton, ...Cal
Beukers Labs Inc Hauppauge ....NY
C M L Inc Plainfield ....N J
Ebauches SA Dept Oscilloquartz 2001 Neuchatel .....Switz
Fork Standards Inc West Chicago Ill
Frequency Electronics Inc New Hyde Park ....N Y
General Radio Co West Concord ....Mass
Gibbs Mfg & Research Corp Janesville ....Wis
Greenray Industries Inc Mechanicsburg ....Pa
H B Engineering Corp Silver Spring ....Md
Hewlett-Packard Palo Alto ....Cal
Industrial Test Equipment Co Port Washington ....N Y
Measurements A McGraw-Edison Div Boonton ....N J
Melpar Inc, Special Prods Dept Falls Church ....Va
Meson Electronics Co, Inc Rochester ....N Y
Metric Engineering Div Greenray Indus Inc Mechanicsburg ..Pa
Muirhead Instruments Inc Mountainside ....N J
NH Research Inc Santa Ana ....Cal
Norrman Laboratories, Ernst Williams Bay ....Wis
Northeast Electronics Corp Concord ....N H
Racal Electronics Ltd Bracknell Berks ....England
Reeves-Hoffman Div Carlisle ....Pa
Riverbank Labs, Dept of Engrg Geneva Ill
Rohde & Schwarz Sales Co USA Inc Passaic ....N J
Singer Co Instrumentation Div Bridgeport ....Conn
Solid State Electronics Corp Sepulveda ....Cal
Systems Electronics Inc Cleveland ....Ohio
Takeda Riken Industry Co Ltd Tokyo ....Japan
T M C Systems (Ariz) Inc Tempe ....Ariz
Tracor Inc Austin ....Tex
Vectron Labs Inc Stamford ....Conn
Venner Electronics Ltd New Malden, Surrey ....Eng

STANDARDS—FREQUENCY, ATOMIC TYPE

HEWLETT-PACKARD PALO ALTO ....CAL
TRACOR INC AUSTIN TEX ....ADV PG 586

GENERAL TECHNOLOGY
RUBIDIUM FREQUENCY
STANDARDS



Model 304D
Rubidium Frequency Standard is accurate, stable, compact, and rugged. For use in timing, standards laboratories, navigation systems, missile and satellite tracking and communication systems. Synthesizer translates atomic resonance frequency to outputs at standard frequencies. Time scale selector permits switch selection of output time scale to accommodate future changes in UT2 and to select A1 or UT2. Initial frequency setting of ± 5 X 10^{-11} relative to customer prescribed frequency or time scale (± 2 X 10^{-11} if set at the National Bureau of Standards). Drift Rate < 1 X 10^{-11}/month. Optional clock delay module and integral standby power.

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Fastest warm-up, best long-term stability and a low price. 5 x 10^{-10}/24 hrs within 12 hrs from turn on. 1 x 10^{-10}/hr within one month continuous operation. Standby power supply included.

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Ebauches SA Dept Oscilloquartz 2001 Neuchatel ......Sw
Frequency Electronics Inc New Hyde Park ....N
Hewlett-Packard Palo Alto C
National Radio Co Inc Melrose ....Ma
Racal Electronics Ltd Bracknell Berks ....Engla
Tracor Inc Austin ....T
TRW Systems Group Redondo Beach C

STANDARDS—FREQUENCY, MICROWAVE

HEWLETT-PACKARD PALO ALTO C
NIPPON ELECTRIC CO LTD TOKYO ....JAPA
SYSTRON-DONNER CORP CONCORD C
Frequency Electronics Inc New Hyde Park ....N
General Radio Co West Concord ....Ma
Greenpar Engineering Ltd, Electronics Div Essex ...Engla
Hewlett-Packard Palo Alto C
J A C Electronics Ltd Camberley ....Engla
MCS Corp Monrovia C
Micro-Now Instrument Co Inc Chicago ....
Microwave Development Labs Inc Needham Heights ....Ma
Microwave/Systems Inc East Syracuse ....N
Narda Microwave Corp Plainview ....N
Nippon Electric Co Ltd Tokyo ....Japa
Parzen Research Elctn Prods Gr Ovitron Corp Westbury ...N
PRD Electronics Inc, Sub H-I Corp Westbury ....N
Somerset Radiation Lab Inc Arlington V
Systron-Donner Corp Concord C

STANDARDS—FREQUENCY, R-F

FORK STANDARDS INC WEST CHICAGO ILL ...ADV PG 4
HEWLETT-PACKARD PALO ALTO C
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON ..N
PETERSEN RADIO CO INC COUNCIL BLUFFS ....IOW
REEVES-HOFFMAN DIV CARLISLE PA ....ADV PG 21
TRACOR INC AUSTIN TEX ....ADV PG 58
VECTRON LABS INC STAMFORD CONN ....ADV PG 40
Accutronics, Inc Geneva ....
Aerospace Research, Inc Boston ....Ma
Alpha Industries Inc Newton Upper Falls ....Ma
Beckman Instruments Inc Fullerton, ...C
Betron-IRE-SpA Livorno ....Ita
Beukers Labs Inc Hauppauge ....N
Ebauches SA Dept Oscilloquartz 2001 Neuchatel .....Swi
Fork Standards Inc West Chicago ....
Frequency Electronics Inc New Hyde Park ....N
General Radio Co West Concord ....Ma
Geo Space Systems Inc St Petersburg ....F
Gibbs Mfg & Research Corp Janesville ....W
Greenpar Engineering Ltd, Electronics Div Essex ...Englar
Greenray Industries Inc Mechanicsburg ....P
Hewlett-Packard Palo Alto C

Europe Inc Components Gp Brussels 1 .... Belgium
C Electronics Ltd Camberley .... England
h Electronics Corp Englewood .... N J
coni Co Ltd Chelmsford .... England
coni Div, English Electric Corp New York .... N Y
surements A McGraw-Edison Div Boonton .... N J
ar Inc, Special Prods Dept Falls Church .... Va
ic Engineering Div Greenray Indus Inc Mechanicsburg . Pa
owave Development Labs Inc Needham Heights .... Mass
orola Communications & Electronics Inc Chicago Ill
man Laboratories, Ernst Williams Bay .... Wis
en Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
rsen Radio Co Inc Council Bluffs .... Iowa
al Communications Inc Silver Spring .... Md
al Electronics Ltd Bracknell Berks .... England
es-Hoffman Div Carlisle .... Pa
er Co Instrumentation Div Bridgeport .... Conn
State Electronics Corp Sepulveda .... Cal
erset Radiation Lab Inc Arlington .... Va
ems Electronics Inc Cleveland .... Ohio
C Systems (Ariz) Inc Tempe .... Ariz
or Inc Austin .... Tex
ron Labs Inc Stamford .... Conn
er Electronics Ltd New Malden, Surrey .... Eng
g Instruments Inc East Haddam .... Conn

ANDARDS—INDUCTANCE

TED TRANSFORMER CO DIV TRW INC NEW YORK .. N Y
o Electric Co Ltd Ohta-ku, Tokyo .... Japan
eral Radio Co West Concord .... Mass
ds & Northrup Co North Wales .... Pa
er Co Instrumentation Div Bridgeport .... Conn
ague Electric Co North Adams .... Mass
ley H & Co c/o Southfield Electronics Southfield .... Mich
ed Transformer Co Div TRW Inc New York .... N Y

ANDARDS—PHASE

TH ATLANTIC INDUSTRIES INC PLAINVIEW ...... N Y
TA INSTRUMENT CORP FAIRFIELD .... N J
on Laboratories Inc Acton .... Mass
anced Energy Conversion Menlo Park .... Cal
osystems Inc New Hyde Park .... N Y
ronics Co Inc Columbus .... Ohio
elhard Minerals & Chemicals Corp, Engelhard Indus Div
ewark .... N J
eral Resistance Inc Div Chronetics Inc Mount Vernon .. N Y
ustrial Test Equipment Co Port Washington .... N Y
ch Electronics Corp Englewood .... N J
rimac Research & Development Inc West Caldwell, ... N J
th Atlantic Industries Inc Plainview .... N Y
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ger Co Instrumentation Div Bridgeport .... Conn
ta Instrument Corp Fairfield .... N J
versal Ad-Yu Electronics Inc Passaic .... N J
stern Instrument Corp Burbank .... Cal
ston Lexington Weston Instruments Div Lexington ... Mass

ANDARDS—Q

WLETT-PACKARD PALO ALTO .... CAL
ITED TRANSFORMER CO DIV TRW INC NEW YORK .. N Y
erican Technical Ceramics Huntington Station .... N Y
wlett-Packard Palo Alto .... Cal
ted Transformer Co Div TRW Inc New York .... N Y
nslow Tele-Tronics Inc Eatontown .... N J

ANDARDS—RESISTANCE

LE ELECTRONICS INC COLUMBUS .... NEB
WLETT-PACKARD PALO ALTO .... CAL
EINSCHEL ENGINEERING CO INC GAITHERSBURG .... MD
do Electric Co Ltd Ohta-ku, Tokyo .... Japan
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ctro Scientific Industries Inc Portland .... Ore
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neral Resistance Inc Div Chronetics Inc Mount Vernon .. N Y
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ie Research Labs, Inc New York .... N Y
ithley Instruments Inc Cleveland .... Ohio
eds & Northrup Co North Wales .... Pa
arstan Electronics Orange .... N J
easuring Instrument Controls Inc Berkeley Heights .... N J
onroe Electronics Inc Middleport .... N Y
chols Co Ltd, R H Downsview .... Ont
hde & Schwarz Sales Co USA Inc Passaic .... N J
semount Engineering Co Minneapolis .... Minn
nger Co Instrumentation Div Bridgeport .... Conn
keda Riken Industry Co Ltd Tokyo .... Japan
nsley H & Co c/o Southfield Electronics Southfield .... Mich
einschel Engineering Co Inc Gaithersburg .... Md
eston Lexington Weston Instruments Div Lexington ... Mass
nslow Tele-Tronics Inc Eatontown .... N J

TANDARDS—TIME

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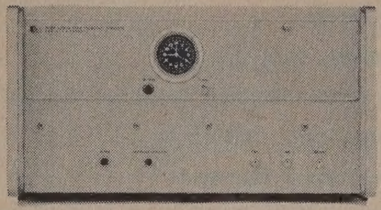
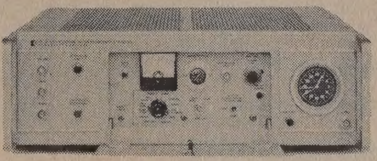
WLETT-PACKARD PALO ALTO CAL .... ADV PG 587
ACOR INC AUSTIN TEX .... ADV PG 587
CTRON LABS INC STAMFORD CONN ...... ADV PG 404
rospace Research, Inc Boston .... Mass
nerican Time Products, Elctns Div Bulova Watch Co Inc
Woodside .... N Y
ckman Instruments Inc Fullerton, ... Cal

FREQUENCY & TIME STANDARDS



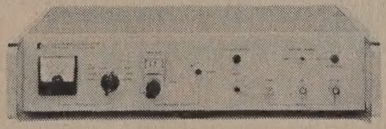
5061A

Cesium Beam Atomic Standard, Model 5061A. The reliability of this portable primary standard has been proven by more than 5.5 million field operation hours. Warranty is now increased to 3 years. Accuracy: $\pm 1 \times 10^{-11}$ including effects of 0° to 50° C ambient temperature and magnetic fields to 2 gauss. Long term stability: $\pm 5 \times 10^{-12}$ over cesium beam tube life (3 year warranty). 5/1/0.1 MHz outputs. Clock pulse jitter < 5 ns. History includes on-line performance in critical applications such as Loran-C Navigation, Omega Navigation, Apollo Timing. Met 400 lb. hammer blow test of MIL-S-901C with slight modification. Price: $14,800 as a frequency standard; add $1500 for built-in clock.



5065A

Rubidium Atomic Standard, Model 5065A. Sets a new mark for short-term stability (rms) in rubidium frequency standards: $< 7 \times 10^{-12}$, 1 s avg; $< 2.2 \times 10^{-12}$, 10 s avg; $< 7 \times 10^{-13}$, 100 s avg-verified against HP hydrogen maser. Long term stability: $< 2 \times 10^{-11}$/month. Built-in synthesizer for time scale change. Signal-noise ratio > 87 dB. 5/1/0.1 MHz outputs. Portable (37 lbs). Price: $7500; add $1500 for built-in clock.



105B

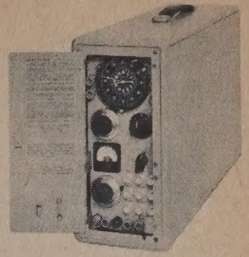
Quartz Oscillator, Model 105B. Compact (3½" high), lightweight (16 lbs), precision frequency standard with 5/1/0.1 MHz outputs. Aging rate 5×10^{-10}/24 hrs. Output change $< 2 \times 10^{-11}$ from open to short circuit. Short term stability: $< 1 \times 10^{-11}$ rms, 1 s avg. S/N > 90 db. Rapid warm-up. Phase locking capability. Price: $1500.

VLF Comparator, Model 117A. Provides phase plot of your 100 kHz standard against standard 60 kHz signal from U.S. NBS Station WWVB. Overall phase stability $\pm 1 \mu s$. Price: $1400 includes loop antenna with preamp.

HEWLETT hp PACKARD

02917

SULZER CRYSTAL CLOCKS



Model A5 generates precise time references (10^{-10}) under extreme environmental conditions. Choice of internal oscillator determines characteristics: D5 has excellent frequency stability over wide temperature range; D2.5 provides even higher frequency stability. Pulse outputs down to 1 per second; sine wave outputs at 5, 1.0 and 0.1 MHz and 10 kHz; Mechanical register indicates elapsed time in hrs., mins., seconds. Typical time lost or gained during first 24 hours is 2 micro-seconds.

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GENERAL TECHNOLOGY PORTABLE ATOMIC CLOCKS

Model 307B, industry's first truly **portable** Atomic Clock transports time data between remote stations which must operate in microsecond synchronism. Operates on either internal batteries (8 or 14 hours) or 115 VAC. Incorporates proven reliability of Model 304-B, has environmentally rugged resonator unit developed for ballistic missile application. Long-Term Stability 5×10^{-11} (standard deviation) per year. Initial frequency setting $\pm 2 \times 10^{-11}$ if set at the National Bureau of Standards. 7" X 7½" X 17⅝", 38 pounds **with batteries.**

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Flow Corp Watertown .... Mass
Fork Standards Inc West Chicago Ill
General Radio Co West Concord .... Mass
Geo Space Systems Inc St Petersburg .... Fla
Gibbs Mfg & Research Corp Janesville .... Wis
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Meson Electronics Co, Inc Rochester .... N Y
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Riverbank Labs, Dept of Engrg Geneva Ill
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Space & Systems Div General Time Corp Stamford ..... Conn
Tracor Inc Austin .... Tex
Universal Ad-Yu Electronics Inc Passaic .... N J
Vectron Labs Inc Stamford .... Conn
Venner Electronics Ltd New Malden, Surrey .... Eng

STANDARD CALIBRATION SERVICES

***See* Calibration Services**

STANDING-WAVE DETECTORS

***See* Detectors—Standing-Wave**

STANDOFF INSULATORS

***See* Insulators—Antenna**

STATIC CONTROLS

***See* Reactors—Saturable; Amplifiers—Magnetic**

STATIC RELAYS

***See* Relays**

STEATITE

***See* Ceramics**

STEEL

SUPERIOR TUBE CO NORRISTOWN .... PA
Armco Steel Corp Middletown .... Ohio
Carpenter Technology Corp Reading .... Pa
Colt Industries Inc, Crucible Inc Pittsburgh .... Pa
Eastern Rolling Mills Inc Bronx .... N Y
Hamilton Precision Metals Div Hamilton Watch Co Lancaster .... Pa
Mackay Inc, A D New York .... N Y
Porter H K Co Inc Connors Steel Div Pittsburgh .... Pa
Republic Steel Corp Cleveland .... Ohio
Rodney Metals A Teledyne Co New Bedford .... Mass
Ryerson & Son Inc, J T Chicago Ill
Superior Tube Co Norristown .... Pa
Timken Roller Bearing Co Canton .... Ohio
Uniform Tubes Inc Collegeville .... Pa
U S Steel Corp Pittsburgh .... Pa
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh .... Pa

STEEL—ELECTRIC (FOR CORES)

Allegheny Ludlum Steel Corp Pittsburgh .... Pa
Armco Steel Corp Middletown .... Ohio
Carpenter Technology Corp Reading .... Pa
Hamilton Precision Metals Div Hamilton Watch Co Lancaster .... Pa
Tempel Steel Co Chicago Ill
Thomas & Skinner Inc Indianapolis .... Ind
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh .... Pa

STEEL—STAINLESS

STAR STAINLESS SCREW CO PATERSON .... N J
SUPERIOR TUBE CO NORRISTOWN .... PA
Active Alloys, Inc Elizabeth .... N J
Active Alloys, Inc Elizabeth .... N J
Allegheny Ludlum Steel Corp Pittsburgh .... Pa
American Silver Co Div Flushing .... N Y
Armco Steel Corp Middletown .... Ohio
Carpenter Technology Corp Reading .... Pa
Chase Metals Service Div Chase Brass & Copper Co Cleveland .... Ohio
Colt Industries Inc, Crucible Inc Pittsburgh .... Pa
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark ..... N J
Glidden Metals, SCM Corp Cleveland .... Ohio
Hamilton Precision Metals Div Hamilton Watch Co Lancaster .... Pa
Harper Co, H M Morton Grove Ill
Janney Cylinder Co Sub Edgewater Corp Philadelphia ..... Pa
Laser Optics Inc Danbury .... Conn
Mackay Inc, A D New York .... N Y
Pfizer Minerals, Pigments & Metals Div New York .... NY
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Republic Steel Corp Cleveland .... Ohio
Rodney Metals A Teledyne Co New Bedford .... Mass
Ryerson & Son Inc, J T Chicago Ill
Somers Thin Strip Inc Sub Olin Waterbury .... Conn
Special Metals Corp New Hartford .... NY
Star Stainless Screw Co Paterson .... N J
Superior Tube Co Norristown .... Pa
Timken Roller Bearing Co Canton .... Ohio
Uniform Tubes Inc Collegeville .... Pa
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh .... Pa
Wallingford Steel Co Wallingford .... Conn

STEPPING MOTORS

***See* Motors**

STEPPING SWITCHES

***See* Relays—Stepping; Switches—Stepping**

STERILIZERS—MEDICAL

***See* Ultrasonic Equipment**

STORAGE BATTERIES

***See* Batteries**

STORAGE TRAYS—ASSEMBLY

PANTA-PAK DIV PANTASOTE CO NEW YORK .... NY
Panta-Pak Div Pantasote Co New York .... NY
Parsons Mfg Corp Menlo Park .... Cal

STORAGE TUBES

***See* Tubes—Cathode Ray**

STRAIGHTENERS—TUBE PIN

Ercona Corp Bellmore .... NY
G C Electronics Div, Hydrometals Inc Rockford Ill
Haydu Products Inc Opa Locka .... Fla
Seco Electronics Corp Hopkins .... Minn
Smith Inc, Herman H Brooklyn .... N Y

STRAIN GAGES

***See* Gages—Strain**

STRAIN INDICATORS

***See* Indicators—Strain**

STRAIN INSULATORS

***See* Insulators—Antenna**

STRAIN RELIEFS

***See* Reliefs—Strain**

STRETCHERS—LINE, MICROWAVE

HEWLETT-PACKARD PALO ALTO .... CAL
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
SYSTRON-DONNER CORP CONCORD .... CAL
Aircom Inc Union .... N H
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Alford Mfg Co Winchester .... Mass
Applied Engineering Prods Div Samarius Inc Ansonia .... Conn
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Bishop Instruments Inc. Portland .... Me
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Electro-Metrics Corp Sub Fairchild Cam & Instr Corp Amsterdam .... N Y
Engelmann Microwave Co Montville .... NJ
General Microwave Corp Farmingdale .... N Y
General Radio Co West Concord .... Mass
Gombos Microwave Inc Clifton .... N J
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Microlab/F X R Livingston .... N J
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Labs of America Brooklyn .... N Y
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Omega Laboratories Inc Rowley .... Mass
Rantec Div Emerson Electric Co Calabasas .... Cal
RLC Electronics Inc Port Chester .... N Y
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Victor Microwave Inc Wakefield .... Mass

STRIP-LINE COMPONENTS—MICROWAVE (INCL. FILTERS)

AMPHENOL DANBURY CONN .... ADV PG 5
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS .... ADV PG 3
HEWLETT-PACKARD PALO ALTO C
LEL DIV VARIAN ASSOCIATES COPIAGUE N Y . ADV PG 5
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ....
PREMIER MICROWAVE CORP PORT CHESTER ....
SCIENTIFIC-ATLANTA INC ATLANTA ....
SYSTRON-DONNER CORP CONCORD C
VARI-L CO INC STAMFORD .... CO
VEGA PRECISION LABS VIENNA ....
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park .... N
Airtron, Div of Litton Industries, Inc Morris Plains .... N
Alford Mfg Co Winchester .... Ma
Alpha Industries Inc Newton Upper Falls .... Ma
American Electronic Labs Inc Lansdale ....
American Radar Components, Inc Denville .... N
American Technical Ceramics Huntington Station .... N
Americon Corp Waltham .... Ma
Amphenol Danbury .... Co
Anaren Microwave Inc Syracuse .... N
Anzac-Waltham, Div Adams-Russell Waltham .... Ma
Applied Engineering Prods Div Samarius Inc Ansonia .... Co
Applied Microwave Lab, Inc Andover .... Ma
Applied Research, Inc Port Washington .... N
Ark Electronics Corp Willow Grove ....
Astrolab Inc Linden .... N
Automatic Metal Products Corp Brooklyn .... N
Avco Systems Div Wilmington .... Ma
Aviation Electric Ltd St Laurent, Montreal .... Q
Aviel Electronics, Inc Burbank C
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Ma
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N
Electro-Data Inc Garland .... T
Electromagnetic Technology Corp Mountain View C
Electronic Resources Inc Tasker Indus Los Angeles C
Elpac Inc RF/Microwave Div Irvine C
Engelmann Microwave Co Montville ....
Ferranti, Ltd Lancashire .... Englar
Ferrotec Inc Newton .... Ma
Film Components Div Reon Resister Corp Yonkers .... N
Film Microelectronics, Inc Burlington .... Ma
Frequency Engineering Labs Farmingdale .... N
Fujitsu Ltd Tokyo .... Japa
Gombos Microwave Inc Clifton .... N
Guide Industries Inc Sun Valley C
Harris-Intertype Corp Cleveland .... Oh
Herley Industries, Inc Syosset .... N
Hewlett-Packard Palo Alto C
Honig Laboratories Inc Westbury .... N

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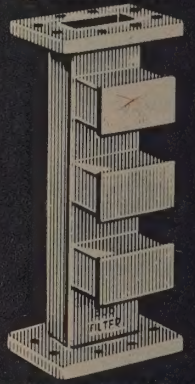


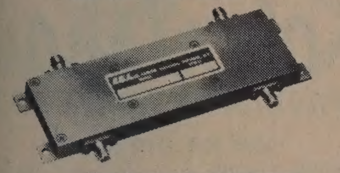
Custom filters, directional couplers, detectors, hybrid junctions, waveguide to coax transitions, loads, mixers, modulators, attenuators, antenna components

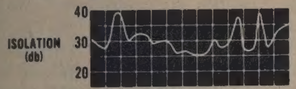
For quotations or additional information, call the sales offices or divisions listed in the green pages at the back of this directory.

AMPHENOL ™

Stripline Components

roadband Directional Couplers: 0.5 to 11.0 GHz





Series BBC Directional Couplers per-t use of a single coupler over an tire microwave frequency decade th excellent symmetry, directivity and SWR at any included frequency.

- Directivity: 20 dB (typ.), 15 dB (min.)
- Coupling tolerance: +1 dB
- VSWR: 1.35:1 (typ.), 1.5:1 (max.)
- Connectors: OMS

Standard Models

eq. Range GHz	Coupling dB	Model No.
0.5-5.0	3.0	BBC-300-550
0.5-5.0	8.34	BBC-834-550
0.5-5.0	10.0	BBC-100-550
0.5-5.0	20.0	BBC-200-550
1.0-11.0	3.0	BBC-330-111
1.0-11.0	8.34	BBC-834-111
1.0-11.0	10.0	BBC-100-111
1.0-11.0	20.0	BBC-200-111

POWER DIVIDERS for dependable, low loss operation

Excellent for such applications as hased array systems. Minimum isola-on is 15 dB (2-way) and 13 dB (4-way). laximum VSWR is 1.8:1 (2-way) and 2:1 -way).

Standard Models

Range GHz	Outputs	Insertion Loss (max.)* dB	Model No.
high isolation dividers/combiners			
1.0-2.0	2	3.6	CSI-1-1002
2.0-4.0	2	3.6	CSI-1-2002
3.2-5.8	2	3.6	CSI-1-3002
1.0-2.0	4	7.0	CSI-1-1004
2.0-3.8	4	7.0	CSI-1-2004
3.2-5.8	4	7.0	CSI-1-3004
binary power dividers			
0.5-4.0	4	3.6	DSB-1-5402
0.5-4.0	4	7.0	DSB-1-5404

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Indit Corp Albertson .... N Y
LDV Electro Science Industries Syracuse .... N Y
Lel Div Varian Associates Copiague .... N Y
MCS Corp Monrovia .... Cal
Melabs Palo Alto .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Micronetics Div Teledyne Systems Co San Diego .... Cal
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Mi-Kro Connector Corp Long Island City .... N Y
Mitronics Inc Murray Hill .... N J
M-O Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Omega Laboratories Inc Rowley .... Mass
Omni Spectra Inc Farmington .... Mich
Perkin-Elmer Corp, Optical Group Norwalk .... Conn
Phelps Dodge Communications Co North Haven .... Conn
Polymer Corp Reading .... Pa
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Rantec Div Emerson Electric Co Calabasas .... Cal
Sanders Assoc Inc, Microwave Div Nashua .... N H
Scientific-Atlanta Inc Atlanta .... Ga
Sedco Systems Inc Farmingdale .... N Y
Solitron/Microwave Long Island City .... N Y
Star Tronics Inc Georgetown .... Mass
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Varian Palo Alto .... Cal
Vari-L Co Inc Stamford .... Conn
Vector Industries A Teledyne Co Palo Alto .... Cal
Vega Precision Labs Vienna .... Va
Wavecom Inc Chatsworth .... Cal
Western Microwave Labs Inc Los Gatos .... Cal

STRIPPERS, WIRE—AUTOMATIC

GAGNE ASSOCIATES INC BINGHAMTON .... N Y
Artos Engineering Co New Berlin .... Wis
Carpenter Mfg Co Inc Manlius .... NY
Eraser Co Inc Syracuse .... NY
Eubanks Engineering Co Monrovia .... Cal
Ewald Instruments Corp Kent .... Conn
Gagne Associates Inc Binghamton .... N Y
Gore & Assoc Inc, W L Newark .... Del
High Speed Hammer Co Inc Rochester .... N Y
Ideal-Hellerman Canada Ltd Ajax .... Ontario
Industrial Winding Machinery Corp River Edge .... N J
Janel Inc Stirling .... N J
Manger Electric Co Inc Stamford .... Conn
Mann Co, Henry Cornwell Heights .... Pa
Muirhead Instruments Inc Mountainside .... N J
Philmore Mfg Co Inc Richmond Hill .... N Y
Technical Devices Co Culver City .... Cal
Techni-Tool Inc Philadelphia .... Pa
Thomas Instrument Co Phoenix .... N Y
Western Electronic Products Co San Clemente .... Cal

STRIPPERS, WIRE—CHEMICAL

Chemclean Corp College Point .... N Y
Clarkson Labs Inc Camden .... NJ
Division Lead Co Summit Ill
Dynaloy, Inc Hanover .... N J
Enthone Inc New Haven .... Conn
Fidelity Chemical Products Corp Newark .... N J
Hi-Grade Alloy Corp East Hazelcrest Ill
Isochem Resins Co Lincoln .... RI
Janel Inc Stirling .... N J
Lea Mfg Co Waterbury .... Conn
London Chemical Co Inc Bensenville Ill
Mann Co, Henry Cornwell Heights .... Pa
Mereco Prods Inc, Div Metachem Resins Corp Cranston .... RI
Mona Industries Inc Paterson .... N J
Oakite Products Inc Berkeley Heights .... N J
Omega Engineering Inc Stamford .... Conn

STRIPPERS, WIRE—HAND

AMPHENOL BROADVIEW ILL
GAGNE ASSOCIATES INC BINGHAMTON .... N Y
Aerospace Systems A Teledyne Co Fairmont .... Minn
Aircraft Components Inc Benton Harbor .... Mich
Amphenol Broadview Ill
Bailey Co Washington .... D C
Blonder-Tongue Labs Inc Newark .... N J
Carpenter Mfg Co Inc Manlius .... NY
Clauss Cutlery Co Div Alco Standard Corp Fremont .... Ohio
Clinton Instrument Co Clinton .... Conn
Engineering & Electronic Devices Inc Los Angeles .... Cal
Ewald Instruments Corp Kent .... Conn
Gagne Associates Inc Binghamton .... N Y
G C Electronics Div, Hydrometals Inc Rockford Ill
General Hardware Mfg Co Inc New York .... N Y
Holub Industries Inc Sycamore Ill
Ideal-Hellerman Canada Ltd Ajax .... Ontario
Ideal Industries Inc Sycamore Ill
Janel Inc Stirling .... N J
Jonard Industries Corp Bronx .... N Y
Kinetics A Teledyne Co Solana Beach .... Cal
Klein & Sons Inc, Mathias Chicago Ill
MacDonald & Co Glendale .... Cal
Mann Co, Henry Cornwell Heights .... Pa
Martindale Electric Co Cleveland .... Ohio
Omega Engineering Inc Stamford .... Conn
Philmore Mfg Co Inc Richmond Hill .... N Y
Stevens Mfg Co Inc, Geo Chicago Ill
Techni-Tool Inc Philadelphia .... Pa
Triple A Specialty Co Chicago Ill
Utica Tool Co Inc Orangeburg .... S. C.
Vaco Products Co Chicago Ill
Wenco Mfg Co (Simplex) Chicago Ill
Western Electronic Products Co San Clemente .... Cal

STRIPPERS, WIRE—HOT WIRE

American Electrical Heater Co Detroit .... Mich
Bean Inc, William T Detroit .... Mich
Contact, Inc Hudson .... N H
Eraser Co Inc Syracuse .... NY
Henes Mfg Co Phoenix .... Ariz
Ideal Industries Inc Sycamore Ill
Janel Inc Stirling .... N J
Jonard Industries Corp Bronx .... N Y
Kinetics A Teledyne Co Solana Beach .... Cal
MacDonald & Co Glendale .... Cal
Mann Co, Henry Cornwell Heights .... Pa
Pioneer Magnetics Inc Santa Monica .... Cal
Techni-Tool Inc Philadelphia .... Pa
Western Electronic Products Co San Clemente .... Cal
Zephyr Mfg Co Inc Inglewood .... Cal

STRIP-TRANSMISSION LINES—MICROWAVE

MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
VEGA PRECISION LABS VIENNA .... VA
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Anaren Microwave Inc Syracuse .... N Y
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Aviel Electronics, Inc Burbank .... Cal
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Engelmann Microwave Co Montville .... NJ
Film Microelectronics, Inc Burlington .... Mass
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
MCS Corp Monrovia .... Cal
Megadyne Industries Inc Rochester .... N Y
Micronetics Div Teledyne Systems Co San Diego .... Cal
Microwave Associates Inc Burlington .... Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
3M Company St Paul .... Minn
Narda Microwave Corp Plainview .... N Y
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Terra Corp Albuquerque .... N M
Vega Precision Labs Vienna .... Va
Vitramon Microwave Corp Middlesex .... N J

STROBOSCOPES

C M L INC PLAINFIELD .... N J
Amstro Corp Fairfield .... N J
Central Scientific Co Chicago Ill
Chadwick Helmuth Co Inc Monrovia .... Cal
C M L Inc Plainfield .... N J
Conn Corp Elkhart .... Ind
Dawe Instruments Ltd London W3 .... England
Dytronics Co Inc Columbus .... Ohio
E G & G Inc, Electronic Prods Div Boston .... Mass
Electronic Brazing Co Montclair .... N J
Electro Powerpacs Corp Cambridge .... Mass
Epic Inc New York .... N Y
General Radio Co West Concord .... Mass
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Kahl Scientific Instrument Corp El Cajon .... Cal
Nichols Co Ltd, R H Downsview .... Ont
Power Instruments Inc Skokie Ill
Slaughter Co Ardmore .... Okla
Sticht Co Inc, Herman H New York .... N Y
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Tenney Engineering Inc Union .... N J
U S Scientific Instruments Inc Watertown .... Mass
Xenon Co Medford .... Mass

STROBOSCOPIC LAMPS

See Lamps

STRONTIUM—STRONTIUM COMPOUNDS

MOLYBDENUM CORP OF AMERICA NEW YORK .... N Y
Aceto Chemical Co, Inc Flushing .... NY
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Barium and Chemicals, Inc Steubenville .... Ohio
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Foote Mineral Co Exton .... Pa
King Laboratories Inc Syracuse .... N Y
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mallinckrodt Chemical Works St Louis .... Mo
Metal Ceram Inc Mount Vernon .... N Y
3M Company St Paul .... Minn
Molybdenum Corp of America New York .... N Y
Rocky Mountain Research Inc Denver .... Colo
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Ventron Corp. Metal Chemicals Div. Beverly .... Mass

SUBCARRIER OSCILLATOR

See **Oscillators—R-F**

SUBMINIATURE LAMPS

See **Lamps**

SUBSTRATES—CERAMIC

AMERICAN LAVA CORP CHATTANOOGA	**TENN**
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
American Feldmuehle Corp Glenbrook	Conn
American Lava Corp Chattanooga	Tenn
American Technical Ceramics Huntington Station	N Y
Applied Magnetics Corp Drum & Disc Head Div Goleta	Cal
Basic Ceramics Inc Sub Basic Inc Hawthorne	NJ
Brush Beryllium Co Cleveland	Ohio
Carborundum Co Electrical & Elctns Br Niagara Falls	NY
Centralab, Div Globe-Union Inc Milwaukee	Wis
Ceramics International Corp Mahwah	NJ
Consolidated Ceramics & Metalizing Corp Flemington	N J
Coors Porcelain Co Golden	Colo
Corning Glass Works Corning	N Y
Custom Materials Inc Chelmsford	Mass
Device Seals Inc Sun Valley	Cal
Diamonite Products Mfg Co Shreve	Ohio
Duplate Canada Ltd Toronto	Ont
Erie Technological Products Inc Erie	Pa
Frenchtown/CFI Inc Frenchtown	N J
General Electric Co, ECSO Schenectady	N Y
Glass Beads Co Latrobe	Pa
Impectron Inc New York	N Y
Jones Optical Works Inc A D Burlington	Mass
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto	Japan
Linden Labs Inc State College	Pa
Maryland Lava Co Inc Bel Air	Md
Meller Co, Adolf Providence	R I
Metal Ceram Inc Mount Vernon	N Y
Metalized Ceramics Corp Providence	R I
Mindrum Precision Products Cucamonga	Cal
3M Company St Paul	Minn
Mitronics Inc Murray Hill	N J
National Beryllia Corp Haskell	N J
NGK Spark Plug Co Ltd Mizuho-ku Nagoya	Japan
Norton Co Chemical Process Prods Div Orrville	Ohio
Quartzite Processing, Inc Malden	Mass
Saxonburg Ceramics Inc Pittsburgh	Pa
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Stettner-Trush Inc Cazenovia	N Y
Steward Mfg Co, D M Chattanooga	Tenn
Syncor Products Co, Inc Malden	Mass
Tele-Dynamics Div, American Bosch Arma Corp Philadelphia	Pa
Thermal American Fused Quartz Co Montville	N J
Union Carbide Corp, Carbon Products Div New York	N Y
United Mineral & Chemical Corp New York	N Y
Veritron West Inc Chatsworth	Cal
Vitta Corp Wilton	Conn
Western Gold & Platinum Co Belmont	Cal
Western Microwave Labs Inc Los Gatos	Cal

SUBSTRATES—GLASS

Atlantic Optical Moulding Co Dudley	Mass
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bentley-Harris Mfg Co Conshohocken	Pa
Corning Glass Works Corning	N Y
Device Seals Inc Sun Valley	Cal
Fish-Schurman Corp New Rochelle	N Y
General Optics Inc Bloomfield	N J
Glass Beads Co Latrobe	Pa
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead	Cal
Interman Industrial Products Ltd Garden City	NY
Jones Optical Works Inc A D Burlington	Mass
Laser Optics Inc Danbury	Conn
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge	Pa
Metal Ceram Inc Mount Vernon	N Y
Mindrum Precision Products Cucamonga	Cal
Optics Electronics Corp Dallas	Tex
O & S Research Inc Riverton	N J
Pacific Universal Products Corp Pasadena	Cal
Perkin-Elmer Corp, Optical Group Norwalk	Conn
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Spectrum Systems, Inc Waltham	Mass
Syncor Products Co, Inc Malden	Mass
Vitta Corp Wilton	Conn

SUBSTRATES—THIN FILM

AMERICAN LAVA CORP CHATTANOOGA	**TENN**
American Lava Corp Chattanooga	Tenn
American Technical Ceramics Huntington Station	N Y
Andersen Laboratories, Inc Bloomfield	Conn
Basic Ceramics Inc Sub Basic Inc Hawthorne	NJ
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Carborundum Co Electrical & Elctns Br Niagara Falls	NY
Coors Porcelain Co Golden	Colo
Dilectrix Corp Farmingdale	N Y
Duplate Canada Ltd Toronto	Ont
Ferranti, Ltd Lancashire	England
Film Microelectronics, Inc Burlington	Mass
Fish-Schurman Corp New Rochelle	N Y
General Optics Inc Bloomfield	N J
Interman Industrial Products Ltd Garden City	NY
Isomet Corp Palisades Park	N J
Jones Optical Works Inc A D Burlington	Mass
Laser Optics Inc Danbury	Conn
Lear Siegler Inc, Instrument Div Grand Rapids	Mich
Lek-Trol, Inc Grapevine	Tex
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge	Pa
Materials Research Corp Orangeburg	N Y
Megadyne Industries Inc Rochester	N Y
Meller Co, Adolf Providence	R I
Metal Ceram Inc Mount Vernon	N Y
Metalized Ceramics Corp Providence	R I
3M Company St Paul	Minn
Motorola, Govt Electronics Div Scottsdale	Ariz
NPC Electronics Canoga Park	Cal
Pacific Universal Products Corp Pasadena	Cal
Perkin-Elmer Corp, Optical Group Norwalk	Conn
Quantum Devices Bergenfield	NJ
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Spectrum Systems, Inc Waltham	Mass
Union Carbide Corp, Carbon Products Div New York	N Y
United Mineral & Chemical Corp New York	N Y
Varo Inc Microcircuit Products Div Garland	Tex
Veritron West Inc Chatsworth	Cal
Vitta Corp Wilton	Conn.

SUPPRESSORS

DALE ELECTRONICS INC COLUMBUS	**NEB**
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO	**IND**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
American Technical Ceramics Huntington Station	N Y
Continental-Wirt Electronics Corp Philadelphia	Pa
Dale Electronics Inc Columbus	Neb
Delco Radio Div General Motors Corp Kokomo	Ind
Eastern Delta Corp Fair Lawn	N J
Estes Engineering Co Gardena	Cal
G C Electronics Div, Hydrometals Inc Rockford	Ill
General Electric Co, ECSO Schenectady	N Y
Green Rectifier Corp Fair Lawn	N J
Philmore Mfg Co Inc Richmond Hill	N Y
Plessey Co Ltd Ilford Essex	England
Semikron International Inc Scarsdale	N Y

SUPPRESSORS—NOISE

See **Filters**

SURGE PROTECTORS

See **Protectors—Surge**

SURPLUS EQUIPMENT SEE SEARCHLIGHT SECTION

SURVEYING EQUIPMENT—GEOPHYSICAL & MINERAL

See **Geophysical Apparatus**

SWEEP AMPLIFIERS

See **Amplifiers—R-F**

SWEEP CALIBRATORS

See **Generators—Signal**

SWEEP OSCILLATORS

See **Generators—Signal, R-F Sweep**

SWITCHES—BAROMETRIC

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE	**MD**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
Aero Mechanism, Inc Van Nuys	Cal
Bendix Corp Environmental Science Div Baltimore	Md
Bristol Div, American Chain & Cable Co Waterbury	Conn
Carleton Controls Corp East Aurora	N Y
Computer Instruments Corp Hempstead	N Y
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Cook Electric Co Automatic Controls Div Palatine	Ill
Custom Component Switches Inc Chatsworth	Cal
Datametrics Inc Waltham	Mass
Dowa Trading Co Ltd Kobe	Japan
Fairchild Controls Hicksville	N Y
Gorn Corp Stamford	Conn
Hydra-Electric Co Burbank	Cal
Lear Siegler Inc, Romec Div Elyria	Ohio
Meletron Corp Los Angeles	Cal
Nus Corp Paramus	N J
Precision Sensors Inc Trumbull	Conn
Rosemount Engineering Co Minneapolis	Minn
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sparton Southwest Inc Albuquerque	NM
Teledyne Systems Control Sys A Teledyne Co El Segundo	Cal
U S Gauge Div Ametek Inc Sellersville	Pa
U S Switch Corp, Sub Westport Dev & Mfg Co Inc Milford	Conn
UOP Instruments Div Greenwich	Conn

SWITCHES—ELECTROCHEMICAL (LIQUID)

Autocon Industries, Inc St Paul	Minn
Bergen Lab, Inc Paterson	N J
Dowa Trading Co Ltd Kobe	Ja
Gems Co Inc Farmington	C
Meletron Corp Los Angeles	
Vapor Corp Chicago	

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SWITCHES—EXPLOSIVE-ACTUATED

CHICAGO SWITCH INC CHICAGO	
Beckman & Whitley Mountain View	
Chicago Switch Inc Chicago	
Consolidated Controls Corp El Segundo	
Dowa Trading Co Ltd Kobe	Jap
Hydra-Electric Co Burbank	
Milli-Switch Corp Gladwyne	
Raymond Engineering Inc Middletown	Co
Research Inc, R-I Controls Div Minneapolis	M
SieBelAir Co Los Angeles	
Vapor Corp Chicago	
Varian Palo Alto	

SWITCHES—FLOAT

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG**
NIPPON ELECTRIC CO LTD TOKYO	**JAPA**
Acme Divac Industries Inc Hawthorne	C
Adel Div De Laval Turbine Calif Inc Burbank	C
Allen-Bradley Co Milwaukee	W
Allis-Chalmers Mfg Co Milwaukee	W
Autocon Industries, Inc St Paul	Mi
Automation Products, Inc Houston	T
Consolidated Controls Corp El Segundo	C
Controlotron Corp Farmingdale	N
Cutler-Hammer Inc Milwaukee	Wi
Dowa Trading Co Ltd Kobe	Japa
Fulton Sylphon Div Robertshaw Controls Co Knoxville	Te
Furnas Electric Co Batavia	
Gems Co Inc Farmington	Co
General Control Co Boston	Ma
General Electric Co, ECSO Schenectady	N
General Equipment & Mfg Co Louisville	K
Gordos Corp Bloomfield	N
Gorn Corp Stamford	Co
In-Val-Co Tulsa	Ok
La Telemecanique Electrique 92 Rueil	Franc
Madison Labs, Inc Madison	Co
Magnetrol Inc Downers Grove	
McDonnell & Miller Inc Chicago	
Nippon Electric Co Ltd Tokyo	Japa
Precision Sensors Inc Trumbull	Co
Relay & Control Corp Long Island City	N
Revere Electronic Div Wallingford	Co
Square D Co Park Ridge	
Sylvania Elec Prods Inc Special Prod Div Danvers	Mas
UOP Instruments Div Greenwich	Co
Yaskawa Electric Mfg Co Ltd Tokyo	Japa

ITCHES—FOOT

AGO SWITCH INC CHICAGO	**ILL**
RAL ELECTRIC CO, ECSO SCHENECTADY	**ADV PG 7**
O SWITCH DIV, HONEYWELL FREEPORT	**ILL**
Divac Industries Inc Hawthorne	Cal
Bradley Co Milwaukee	Wis
Chalmers Mfg Co Milwaukee	Wis
ican Solenoid Co, Inc Rahway	N J
ood Electronics, Inc Glendale	Cal
ner Corp, Industrial Div Monterey Park	Cal
go Switch Inc Chicago	Ill
Hersee Co S Boston	Mass
r-Hammer Inc Milwaukee	Wisc
as Div Scott & Fetzer Co Bronson	Mich
Trading Co Ltd Kobe	Japan
as Electric Co Batavia	Ill
ral Control Co Boston	Mass
ral Electric Co, ECSO Schenectady	N Y
trial Timer Corp Parsippany	N J
elemecanique Electrique 92 Rueil	France
a Labs Inc Div Kriser Corp College Point	N Y
on Mfg Co Inc Brooklyn	N Y
Electric Co Parsippany	N J
worth Rees Div Madison Heights	Mich
ll Mfg Co Inc, Electrical Div Valparaiso	Ind
odot Inc. Troy	Mich
Switch Div, Honeywell Freeport	Ill
onal Acme Elecl Controls Div Acme-Cleveland Corp veland	Ohio
rick & Wilkins Co Philadelphia	Pa
yr Mfg Co Buena Park	Cal
ndustries, Inc Mamaroneck	N Y
re D Co Park Ridge	Ill
switch Corp of America Farmingdale	N Y
ni-Tool Inc Philadelphia	Pa
aline Products Co, Inc Wycoff	N J
awa Electric Mfg Co Ltd Tokyo	Japan

ITCHES—ILLUMINATED, PUSH-UTTON

MAR INSTRUMENT CORP FORT WAYNE	**IND**
ITOL MACHINE & SWITCH CO DANBURY NN	**ADV PG 592**
AGO DYNAMIC INDUSTRIES INC, PRECISION PRODS V CHICAGO ILL	**ADV PG 612**
AGO SWITCH INC CHICAGO	**ILL**
TRAN CO PASADENA	**CAL**
ERAL ELECTRIC CO, ECSO SCHENECTADY Y	**ADV PG 7**
YHILL INC LA GRANGE	**ILL**
DON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
RY MFG CO SEATTLE WASH	**ADV PG 592**
ON COMPUTER PRODUCTS DIV COLORADO SPRINGS LO	**ADV PG 591**
RO SWITCH DIV, HONEYWELL FREEPORT L	**ADV PG 592**
MFG CO, DIV OAK ELECTRO/NETICS CORP RYSTAL LAKE	**ILL**
WA MUSEN KOGYO CO LTD TOKYO	**JAPAN**
MAX SWITCH DIV MAXSON ELECTRONICS CORP ALLINGFORD CONN	**ADV PG 592**
Electronic Products, Inc Lawrence	Mass
n-Bradley Co Milwaukee	Wis
erican Solenoid Co, Inc Rahway	N J
erican Zettler, Inc Costa Mesa	Cal
mar Instrument Corp Fort Wayne	Ind
le Electric Products Inc Providence	R I
itol Machine & Switch Co Danbury	Conn
ing Electric Inc West Hartford	Conn
ter Precision Electric Co Skokie	Ill
cago Dynamic Industries Inc, Precision Prods Div hicago	Ill
cago Switch Inc Chicago	Ill
re-Pendar Co Post Falls	Idaho
e-Hersee Co S Boston	Mass
trol Switch Div Controls Co of America Folcroft	Pa
ler-Hammer Inc Milwaukee	Wisc
ight Corp Brooklyn	N Y
tran Co Pasadena	Cal
va Trading Co Ltd Kobe	Japan
le Electric Mfg Co Inc Long Island City	N Y
ema Div Genisco Technology Corp Compton	Cal
ctro-Mech Components Inc San Gabriel	Cal
csson Centrum Inc New York	N Y
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nas Electric Co Batavia	Ill
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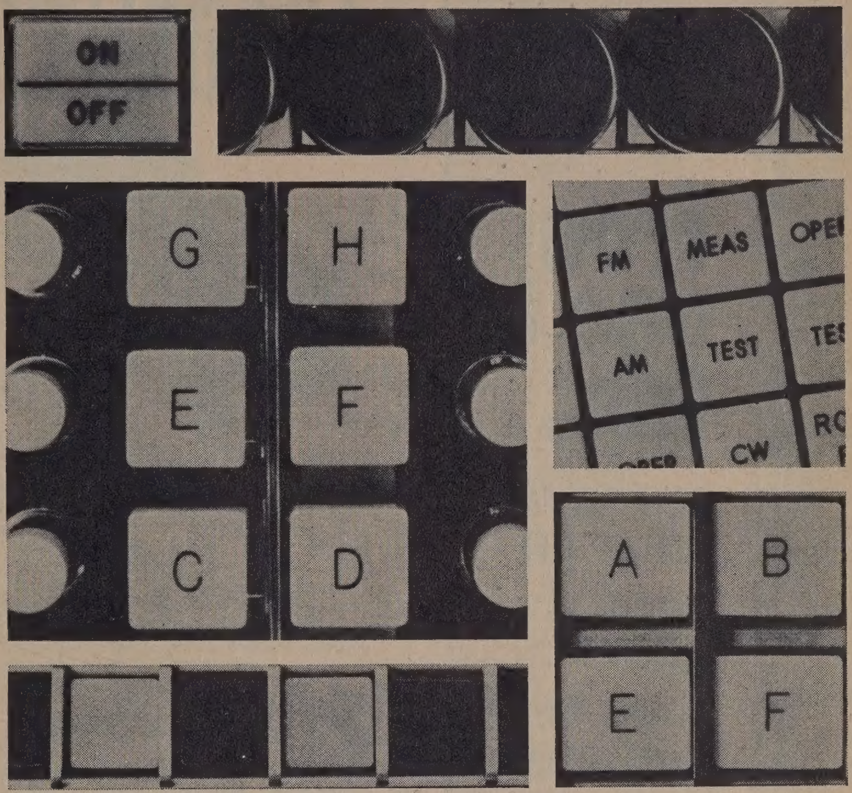

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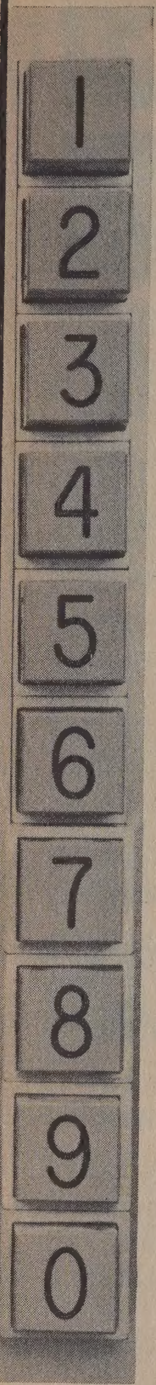

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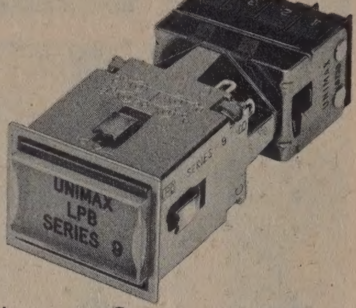

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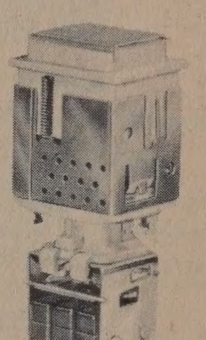

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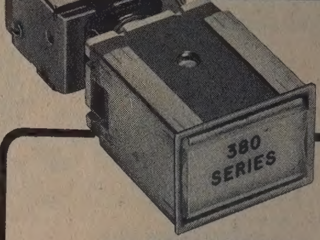

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Industrial Devices Inc Edgewater . . . . N
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ITT Europe Inc Components Gp Brussels 1 . . . . Belgi
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Kameco Electronics Ltd. Montreal . . . . Q
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Leecraft Mfg Co Inc Long Island City . . . . N
Licon Div, Illinois Tool Works Inc Chicago . . . .
Litton Computer Products Div Colorado Springs . . . . Co
Luminator Inc Plano . . . . T
Machinery Electrification Inc Northboro . . . . Ma
Mackworth Rees Div Madison Heights . . . . Mi
Marco-Oak Industries Anaheim C
Master Specialties Co Costa Mesa C
Methode Electronics Inc Chicago . . . .
Micro Switch Div, Honeywell Freeport . . . .
Molex Products Co Downers Grove . . . .
Mossman Inc, Donald P Brewster . . . . N
Navcor Inc Div KDI Corp Norristown . . . . F
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Square D Co Park Ridge I
Stacoswitch Inc Costa Mesa C
Star-A Electric Mfg Co Inc Brooklyn . . . . N
Switchcraft Inc Chicago I
Tokyo Electric Co Ltd Tokyo . . . . Japa
Touch-Plate Electro-Systems Inc Paramount C
Transistor Electronics Corp Minneapolis . . . . Min
Truco Inc Simsbury . . . . Con
Unimax Switch Div Maxson Electronics Corp Wallingford . Con
United-Carr Inc Boston . . . . Mas
Waldom Electronics Inc Chicago I
Yaskawa Electric Mfg Co Ltd Tokyo . . . . Japa

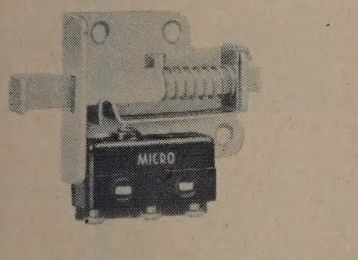
ITCHES—INERTIA

DON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
dyne Controls Corp Farmingdale	N Y
aft Components Inc Benton Harbor	Mich
nbly-Overland Div Rucker Co Los Angeles	Cal
ix Corp Electrical Components Div Sidney	N Y
en Lab, Inc Paterson	N J
& Betts Corp Southbury	Conn
olidated Controls Corp El Segundo	Cal
Trading Co Ltd Kobe	Japan
on Switch & Instrument Inc Waterbury	Conn
a-Electric Co Burbank	Cal
ator Industries Inc New York	N Y
ia Switch Inc New York	N Y
thon Instruments Div Spec Tool Co Pico Rivera	Cal
n Electric Co Inc Los Angeles	Cal
ix Instrument Co Houston	Tex
nond Engineering Inc Middletown	Conn
e & Systems Div General Time Corp Stamford	Conn
ton Southwest Inc Albuquerque	NM
lyne Systems Control Sys A Teledyne Co El Segundo	Cal

ITCHES—INTERLOCK (SAFETY)

ITOL MACHINE & SWITCH CO DANBURY	**CONN**
RRY ELECTRICAL PRODUCTS CORP HIGHLAND PARK	**ADV PG 608**
T INSTRUMENTS INC NEW HAVEN CONN	**ADV PG 615**
RY MFG CO SEATTLE	**WASH**
ON COMPUTER PRODUCTS DIV LORADO SPRINGS	**COLO**
RO SWITCH DIV, HONEYWELL FREEPORT	**ADV PG 593**
L ELECTRONICS INC IRVINGTON	**N J**
ERTSHAW CONTROLS CO, ACRO DIV COLUMBUS IIO	**ADV PG 590**
MAX SWITCH DIV MAXSON ELECTRONICS CORP ALLINGFORD	**CONN**
w Shoji Kaisha Ltd Osaka	Japan
Electronic Products, Inc Lawrence	Mass
rican Solenoid Co, Inc Rahway	N J
Les Switch Corp Watertown	Mass
omatic Switch Co Florham Park	N J
s & Betts Corp Southbury	Conn
tol Machine & Switch Co Danbury	Conn
er Precision Electric Co Skokie	Ill
rry Electrical Products Corp Highland Park	Ill
e-Pendar Co Post Falls	Idaho
-Hersee Co S Boston	Mass
rol Switch Div Controls Co of America Folcroft	Pa
er-Hammer Inc Milwaukee	Wisc
a Trading Co Ltd Kobe	Japan
tro Switch Corp Weymouth	Mass
eral Equipment & Mfg Co Louisville	Ky
Vacuum Electronics Inc South Pasadena	Cal
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Inertia Switch Inc New York	N Y
International Electro Exchange Corp Minneapolis	Minn
J-B-T Instruments Inc New Haven	Conn
Kameco Electronics Ltd. Montreal	Que
Korry Mfg Co Seattle	Wash
La Telemecanique Electrique 92 Rueil	France
Licon Div, Illinois Tool Works Inc Chicago	Ill
Litton Computer Products Div Colorado Springs	Colo
Luminator Inc Plano	Tex
Mason Electric Co Inc Los Angeles	Cal
Micro Switch Div, Honeywell Freeport	Ill
Milli-Switch Corp Gladwyne	Pa
R C L Electronics Inc Irvington	N J
Risk Industries Inc, George Columbus	Neb
Robertshaw Controls Co, Acro Div Columbus	Ohio
Schurter AG, H 6002 Lucerne	Switzerland
Signet Scientific Co Burbank	Cal
Smith Inc, Herman H Brooklyn	N Y
Square D Co Park Ridge	Ill
Switchcraft Inc Chicago	Ill
Tapeswitch Corp of America Farmingdale	N Y
Truco Inc Simsbury	Conn
Unimax Switch Div Maxson Electronics Corp Wallingford	Conn
United Electric Controls Co Watertown	Mass
Vapor Corp Chicago	Ill
Yaskawa Electric Mfg Co Ltd Tokyo	Japan

SAFETY INTERLOCK
SWITCHES



Door interlock switches for hazardous electronic cabinets. Automatically turn off power when an enclosure is opened. But they may be manually operated for circuit testing — eliminating dangerous jumpers or tie-downs. Normal protection resumed upon closing. Request Catalog 50.

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C & K COMPONENTS INC WATERTOWN	**MASS**
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MICRO SWITCH DIV, HONEYWELL FREEPORT	**ILL**
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Cutler-Hammer Inc Milwaukee	Wisc
Daburn Electronics & Cable Corp Bronx	N Y
Daven Div McGraw-Edison Co Manchester	N H
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Electro Switch Corp Weymouth	Mass
Furnas Electric Co Batavia	Ill
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General Electric Co, ECSO Schenectady	N Y
Grayhill Inc La Grange	Ill
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Janco Corp Burbank	Cal
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Leviton Mfg Co Inc Brooklyn	N Y
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Machinery Electrification Inc Northboro	Mass
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Milli-Switch Corp Gladwyne	Pa
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Pass & Seymour Syracuse	N Y
Plessey Co Ltd Ilford Essex	England
Pollak Corp, Joseph Boston	Mass
Schurter AG, H 6002 Lucerne	Switzerland
Sierra Electric Div Sola Basic Ind Gardena	Cal
Slater Electric Inc Glen Cove	N Y
Smith Inc, Herman H Brooklyn	N Y
Square D Co Park Ridge	Ill
Stettner-Trush Inc Cazenovia	N Y
Stromberg-Carlson Sub Gen Dynamics Rochester	N Y
Tokyo Electric Co Ltd Tokyo	Japan
Transistor Electronics Corp Minneapolis	Minn
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Betts & Betts Corp Southbury	Conn
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Cable Electric Products Inc Providence	R I
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Daburn Electronics & Cable Corp Bronx	N Y
Dowa Trading Co Ltd Kobe	Japan
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Fuji Electric Co Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
Kameco Electronics Ltd. Montreal	Que
Kolton Electric Mfg Co Newark	N J
Leviton Mfg Co Inc Brooklyn	N Y
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Philmore Mfg Co Inc Richmond Hill	N Y
Shigoto Industries Ltd New York	N Y
Sierra Electric Div Sola Basic Ind Gardena	Cal
Square D Co Park Ridge	Ill
Star-A Electric Mfg Co Inc Brooklyn	N Y
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SWITCHES—LEVER

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UNIMAX SWITCH DIV MAXSON ELECTRONICS CORP WALLINGFORD	**CONN**
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Betts & Betts Corp Southbury	Conn
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Clare & Co, C P Chicago	Ill
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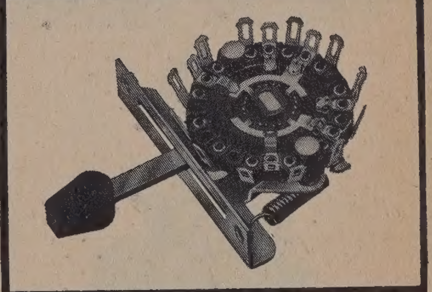
OAK
#184 LEVER SWITCH



New!...with molded diallyl phthalate stator advantages as a bonus! Gives long life, more clips per stator, low electrical leakage, improved or equal dielectric characteristics at no extra cost.

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Stacoswitch Inc Costa Mesa . . . . Cal
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Betts & Betts Corp Southbury . . . . Conn
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General Equipment & Mfg Co Louisville . . . . Ky
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Haydon Switch & Instrument Inc Waterbury . . . . Conn
Honeywell Inc Apparatus Controls Div Minneapolis . . . . . . Minn
Industrial Components Inc Div Welsh Corp Beaverton . . . . . Ore
Kinetics A Teledyne Co Solana Beach . . . . Cal
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Luminator Inc Plano . . . . Tex
Machinery Electrification Inc Northboro . . . . Mass
Mackworth Rees Div Madison Heights . . . . Mich
Martin-Decker Corp Santa Ana . . . . Cal
Micro Switch Div, Honeywell Freeport Ill
Microwave Associates Inc Burlington . . . . Mass
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United Electric Controls Co Watertown . . . . Mass
Wavetronics Industries Inc West Pittston . . . . Pa
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Allis-Chalmers Mfg Co Milwaukee . . . . W
American Zettler, Inc Costa Mesa C
Ansley Doylestown . . . . P
Automated Measurements Corp Oakland . . . . Cal
Automatic Equipment Corp Cincinnati . . . . Ohi
Automatic Switch Co Florham Park . . . . N
Beltone Electronics Corp Chicago I
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Clare-Pendar Co Post Falls . . . . Idah
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Cutler-Hammer Inc Milwaukee . . . . Wis
Daburn Electronics & Cable Corp Bronx . . . . N
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Douglas Randall Inc Westerly . . . . R
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by GUARDIAN

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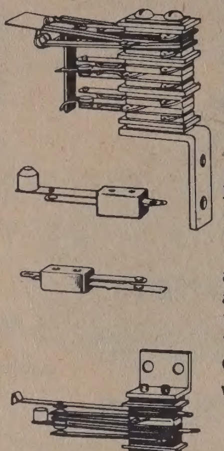

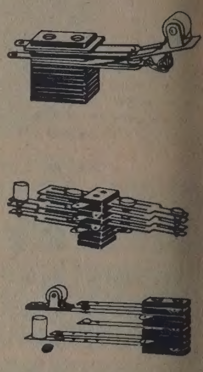

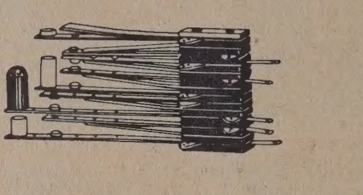

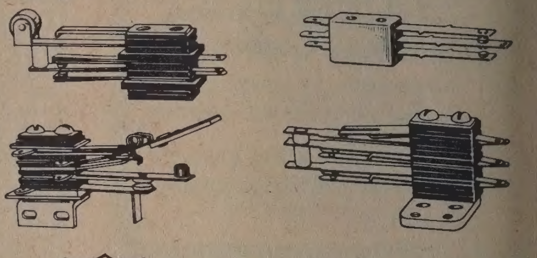

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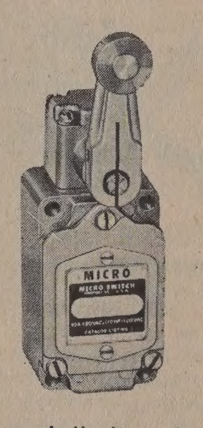
LIMIT SWITCHES



Oiltight reed limit switches for reliable, long-life operation of dry circuits and numerically controlled machinery. Also complete line of high capacity snap-action limit switches. Request Catalog 50.

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FOR MAXIMUM QUALITY RELIABILITY SPECIFY NEC MERCURY-WETTED SWITCHES.

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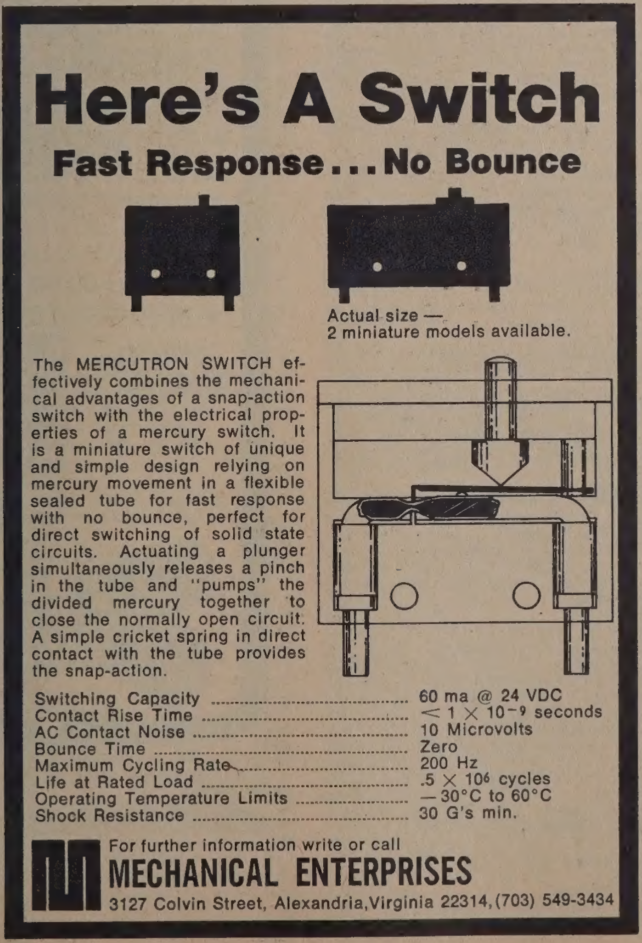

Here's A Switch

Fast Response . . . No Bounce

Actual size —
2 miniature models available.

The MERCUTRON SWITCH effectively combines the mechanical advantages of a snap-action switch with the electrical properties of a mercury switch. It is a miniature switch of unique and simple design relying on mercury movement in a flexible sealed tube for fast response with no bounce, perfect for direct switching of solid state circuits. Actuating a plunger simultaneously releases a pinch in the tube and "pumps" the divided mercury together to close the normally open circuit. A simple cricket spring in direct contact with the tube provides the snap-action.

Switching Capacity	60 ma @ 24 VDC
Contact Rise Time	$< 1 \times 10^{-9}$ seconds
AC Contact Noise	10 Microvolts
Bounce Time	Zero
Maximum Cycling Rate	200 Hz
Life at Rated Load	$.5 \times 10^6$ cycles
Operating Temperature Limits	—30°C to 60°C
Shock Resistance	30 G's min.

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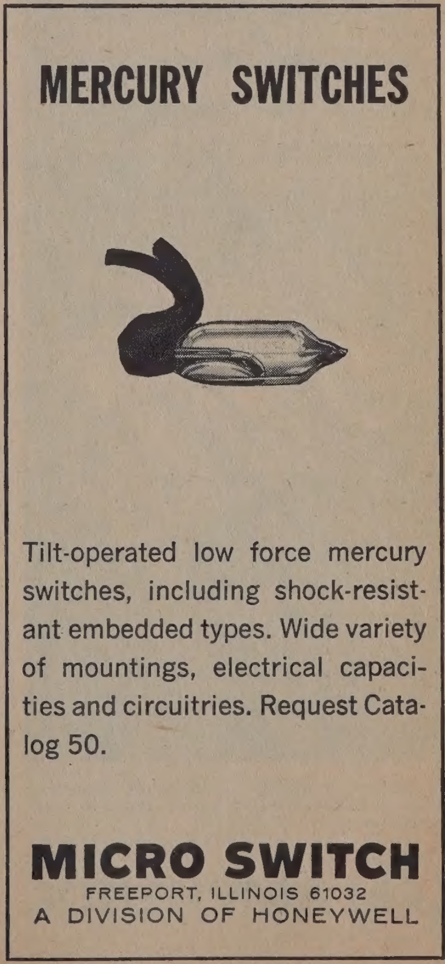
3127 Colvin Street, Alexandria, Virginia 22314, (703) 549-3434



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Tilt-operated low force mercury switches, including shock-resistant embedded types. Wide variety of mountings, electrical capacities and circuitries. Request Catalog 50.

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FREEPORT, ILLINOIS 61032
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Anaren Microwave Inc Syracuse	N Y
Andrew Corp Orland Park	Ill
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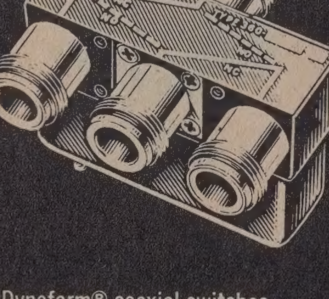

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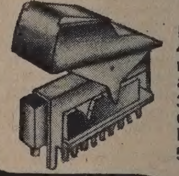

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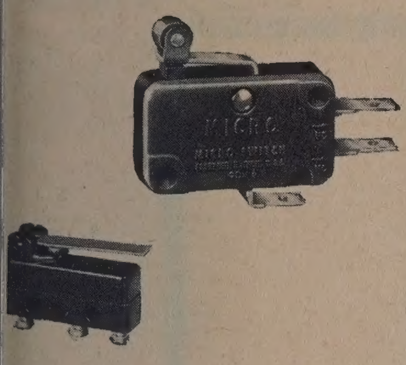

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RAD CONTROLS CO SANTA BARBARA	**CAL**
C Electronics, Inc Harbor City	Cal
ericana X-Ray Co Englewood	N J
erican Electronic Labs Inc Lansdale	Pa
par Div Adams-Russell Waltham	Mass
ren Microwave Inc Syracuse	N Y
ac-Waltham, Div Adams-Russell Waltham	Mass
lied Microwave Lab, Inc Andover	Mass
neers Inc. New Rochelle	NY
nputer Logic Corp Santa Monica	Cal
co Industries Inc Gardena	Cal
ison Inc, R B Bedford	Ohio
rchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View	Cal
M Systems Co, Div Fischbach & Moore, Inc Dallas	Tex
nas Electric Co Batavia	Ill
zino S p A 10020 Pessinetto	Italy
ns Co Inc Farmington	Conn
isco Technology Corp Compton	Cal
isco Technology Corp Components, Genistron Divs Compton	Cal
gsby Barton Inc Arlington Heights	Ill
ardian Electric Mfg Co of Cal Inc Culver City	Cal
t Power A Teledyne Co Gardena	Cal
ernational Rectifier Semiconductor Div El Segundo	Cal
Europe Inc Components Gp Brussels 1	Belgium
meco Electronics Ltd. Montreal	Que
dex Div Ledex Inc Dayton	Ohio
is Allis Co Div Litton Industries Milwaukee	Wisc
G Electronics Inc Deer Park	N Y
torola, Govt Electronics Div Scottsdale	Ariz
ll Engineering Co East Hartland	Conn
zen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
ssey Airborne Corp Hillside	NJ
nsor Corp Greenwich	Conn
cum Industries Reseda	Cal
nus Corp Natick	Mass
nn Controls Co Detroit	Mich
mpo Instrument Inc Ind Div Plainview	N Y
mpo Instrument Inc, Military Div Plainview	N Y
ramon Microwave Corp Middlesex	N J
nrad Controls Co Santa Barbara	Cal

WITCHES—PRESSURE-ACTUATED, GAS

NDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE	**MD**
ICAGO SWITCH INC CHICAGO	**ILL**
MPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
GNE ASSOCIATES INC BINGHAMTON	**N Y**
NERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
YDON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
me Divac Industries Inc Hawthorne	Cal
ro Mechanism, Inc Van Nuys	Cal
en-Bradley Co Milwaukee	Wis
sembly-Overland Div Rucker Co Los Angeles	Cal
tomatic Equipment Corp Cincinnati	Ohio
ndix Corp Environmental Science Div Baltimore	Md
ndix Corp, Flight & Engine Instr Div South Montrose	Pa
stol Div, American Chain & Cable Co Waterbury	Conn
rleton Controls Corp East Aurora	N Y
Celtic Industries Inc Van Nuys	Cal
Century Electronics & Instruments Inc Tulsa	Okla
Chicago Switch Inc Chicago	Ill
Computer Instruments Corp Hempstead	N Y
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Cook Electric Co Automatic Controls Div Palatine	Ill
Corning Glass Works Corning	N Y
Custom Component Switches Inc Chatsworth	Cal
Cutler-Hammer Inc Milwaukee	Wisc
Datametrics Inc Waltham	Mass
Dietz Co Inc, Henry G Long Island City	N Y
Dowa Trading Co Ltd Kobe	Japan
Ellison Instrument Div Dieterich Std Corp New Buffalo	Mich
Fairchild Controls Hicksville	N Y
Fulton Sylphon Div Robertshaw Controls Co Knoxville	Tenn
Furnas Electric Co Batavia	Ill
Gagne Associates Inc Binghamton	N Y
General Electric Co, ECSO Schenectady	N Y
Genisco Technology Corp Compton	Cal
Glassco Instrument Co Pasadena	Cal
Gorn Corp Stamford	Conn
Gulton Industries Inc Controls & Instru Grp Costa Mesa	Cal
Haydon Switch & Instrument Inc Waterbury	Conn
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Hydra-Electric Co Burbank	Cal
IMC Magnetics Corp Ariz Div Tempe	Ariz
International Controls Corp Fairfield,	N J
In-Val-Co Tulsa	Okla
Kidde & Co Inc, Walter Belleville	N J
La Telemecanique Electrique 92 Rueil	France
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Romec Div Elyria	Ohio
Meletron Corp Los Angeles	Cal
National Acme Elecl Controls Div Acme-Cleveland Corp Cleveland	Ohio
Nus Corp Paramus	N J
Precision Sensors Inc Trumbull	Conn
Rosemount Engineering Co Minneapolis	Minn
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sparton Corp Jackson	Mich
Sparton Southwest Inc Albuquerque	NM
Square D Co Park Ridge	Ill
Tapeswitch Corp of America Farmingdale	N Y
Tavco, Inc Santa Monica	Cal
Teledyne Systems Control Sys A Teledyne Co El Segundo	Cal
United Electric Controls Co Watertown	Mass
U S Gauge Div Ametek Inc Sellersville	Pa
U S Switch Corp, Sub Westport Dev & Mfg Co Inc Milford	Conn
UOP Instruments Div Greenwich	Conn
Wallace & Tiernan Div Pennwalt Corp Belleville	N J

SWITCHES—PRESSURE-ACTUATED, LIQUID

BENDIX CORP ENVIRONMENTAL SCIENCE DIV BALTIMORE	**MD**
CHICAGO SWITCH INC CHICAGO	**ILL**
COMPUTER INSTRUMENTS CORP HEMPSTEAD	**N Y**
GAGNE ASSOCIATES INC BINGHAMTON N Y	**ADV PG 599**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HAYDON SWITCH & INSTRUMENT INC WATERBURY	**CONN**
MALLORY & CO INC, P R INDIANAPOLIS	**IND**
Acme Divac Industries Inc Hawthorne	Cal
Acoustica Associates Inc Los Angeles	Cal
Adel Div De Laval Turbine Calif Inc Burbank	Cal
Aero Mechanism, Inc Van Nuys	Cal
Allen-Bradley Co Milwaukee	Wis
Assembly-Overland Div Rucker Co Los Angeles	Cal
Automatic Equipment Corp Cincinnati	Ohio
Bendix Corp Environmental Science Div Baltimore	Md
Bendix Corp, Flight & Engine Instr Div South Montrose	Pa
Bin-Dicator Ultrasonics Div. Detroit	Mich
Bristol Div, American Chain & Cable Co Waterbury	Conn
Carleton Controls Corp East Aurora	N Y
Century Electronics & Instruments Inc Tulsa	Okla
Chicago Switch Inc Chicago	Ill
Computer Instruments Corp Hempstead	N Y
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Controlotron Corp Farmingdale	N Y
Control Products Inc East Hanover	N J
Cook Electric Co Automatic Controls Div Palatine	Ill
Custom Component Switches Inc Chatsworth	Cal
Dietz Co Inc, Henry G Long Island City	N Y
Dowa Trading Co Ltd Kobe	Japan
Dynamic Controls Corp South Windsor	Conn
Electro Marine Corp Falmouth	Mass
Fairchild Controls Hicksville	N Y
Fulton Sylphon Div Robertshaw Controls Co Knoxville	Tenn
Furnas Electric Co Batavia	Ill
Gagne Associates Inc Binghamton	N Y
General Electric Co, ECSO Schenectady	N Y
Genisco Technology Corp Compton	Cal
Glassco Instrument Co Pasadena	Cal
Gorn Corp Stamford	Conn
Gulton Industries Inc Controls & Instru Grp Costa Mesa	Cal
Haydon Switch & Instrument Inc Waterbury	Conn
Hydra-Electric Co Burbank	Cal
IMC Magnetics Corp Ariz Div Tempe	Ariz
International Controls Corp Fairfield,	N J
In-Val-Co Tulsa	Okla
ITT Barton Controls & Instr Div Monterey Park	Cal
La Telemecanique Electrique 92 Rueil	France
Lear Siegler Inc Santa Monica	Cal
Lucci & Co Marine Div Mechtron-Genco Sarasota	Fla
Mallory & Co Inc, P R Indianapolis	Ind
Mallory Timers Co Indianapolis	Ind
Martin-Decker Corp Santa Ana	Cal
Meletron Corp Los Angeles	Cal
National Acme Elecl Controls Div Acme-Cleveland Corp Cleveland	Ohio
Nus Corp Paramus	N J
Precision Sensors Inc Trumbull	Conn
Rex Chainbelt Inc Milwaukee	Wis
Rosemount Engineering Co Minneapolis	Minn
Scaico Div, Wavetronics Industries Inc West Pittston	Pa
Smiths Industries Ltd, Aviation Div Wembley, Mdsx	England
Sparton Corp Jackson	Mich
Sparton Southwest Inc Albuquerque	NM
Square D Co Park Ridge	Ill
Tavco, Inc Santa Monica	Cal
Teledyne Systems Control Sys A Teledyne Co El Segundo	Cal
United Electric Controls Co Watertown	Mass
U S Gauge Div Ametek Inc Sellersville	Pa
U S Switch Corp, Sub Westport Dev & Mfg Co Inc Milford	Conn
UOP Instruments Div Greenwich	Conn
Wavetronics Industries Inc West Pittston	Pa

GAGNE ASSOCIATES, INC.
BINGHAMTON, NEW YORK

NEW MINIATURE
WHISPER-SENSITIVE
"sensiflex*" FLUIDIC SWITCH

- SENSITIVE CONTROL
- SENSIBLE COST From $8.95

The New Sensiflex Fluidic Switch reacts to air, liquid flow or level, and vacuum or pressure change. Ideal for new product design . . . Easy to adapt to existing equipment. Accessories and all-air amplifiers available.

SPECIAL FEATURES

Operates on as little as 0.01 psi air pressure. Can be made to work with other sensitivities or to work on vacuum.

Service-proved precision SPDT switch to 25A; also DPDT. Flex-tested polyurethane bellows.

Dimensions: 2.25" long, 1.69" wide, 2.31" high.

Our engineers will be glad to supply information on applying the Sensiflex Switch to your own job at no obligation.

For further information; or to order direct, write. No Salesmen Will Call. * Trademark

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Binghamton, N.Y. 13901 or phone: 607-723-9556

SWITCHES—PRINTED CIRCUIT TERMINAL

AIRFLYTE ELECTRONICS CO BAYONNE	**N J**
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON	**CAL**
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE	**WIS**
CHERRY ELECTRICAL PRODUCTS CORP HIGHLAND PARK ILL	**ADV PG 608**
CHICAGO DYNAMIC INDUSTRIES INC, PRECISION PRODS DIV CHICAGO ILL	**ADV PG 612**
CHICAGO SWITCH INC CHICAGO	**ILL**
DIGITRAN CO PASADENA	**CAL**
GENERAL REED CO CLARK	**N J**
GRAYHILL INC LA GRANGE	**ILL**
J-B-T INSTRUMENTS INC NEW HAVEN	**CONN**
MALLORY & CO INC, P R INDIANAPOLIS	**IND**
MICRO SWITCH DIV, HONEYWELL FREEPORT	**ILL**
NEY CO, J M BLOOMFIELD	**CONN**
OAK MFG CO, DIV OAK ELECTRO/NETICS CORP CRYSTAL LAKE	**ILL**
R C L ELECTRONICS INC IRVINGTON	**N J**
SHOWA MUSEN KOGYO CO LTD TOKYO	**JAPAN**
STANDARD GRIGSBY CO AURORA	**ILL**
TABET MFG CO INC NORFOLK VA	**ADV PG 606**
TECH LABORATORIES INC PALISADES PARK N J	**ADV PG 610**
UNIMAX SWITCH DIV MAXSON ELECTRONICS CORP WALLINGFORD	**CONN**
Aikow Shoji Kaisha Ltd Osaka	Japan
Airflyte Electronics Co Bayonne	N J
Alco Electronic Products, Inc Lawrence	Mass
American Zettler, Inc Costa Mesa	Cal
Anaren Microwave Inc Syracuse	N Y
Ansley Doylestown	Pa
Anzac-Waltham, Div Adams-Russell Waltham	Mass
Astrolab Inc Linden	N J
Autotronics Inc Joplin	Mo
Beckman Instruments Inc, Helipot Div Fullerton	Cal
Bulova Watch Co Inc, Timer Lab Flushing	N Y
Centralab, Div Globe-Union Inc Milwaukee	Wis

Cherry Electrical Products Corp Highland Park Ill
Chicago Dynamic Industries Inc, Precision Prods Div Chicago Ill
Chicago Switch Inc Chicago Ill
Continental-Wirt Electronics Corp Philadelphia . . . . Pa
Control Switch Div Controls Co of America Folcroft . . . . . . Pa
Co-Ord Div LVC Industries Inc Corona . . . . NY
CTS Electronics Inc South Pasadena . . . . Cal
Daven Div McGraw-Edison Co Manchester . . . . N H
Digilog Electronics Corp Seattle . . . . Wash
Digitran Co Pasadena . . . . Cal
Dowa Trading Co Ltd Kobe . . . . Japan
Electro-Mec Instrument Corp Watertown . . . . Conn
General Devices Inc, Instrumentation Div Princeton . . . . . . N J
General Reed Co Clark . . . . N J
Grayhill Inc La Grange Ill
Impectron Inc New York . . . . N Y
Inter-Market Inc Glenview Ill
International Electro Exchange Corp Minneapolis . . . . . . Minn
Janco Corp Burbank . . . . Cal
J-B-T Instruments Inc New Haven . . . . Conn
Kameco Electronics Ltd. Montreal . . . . Que
Licon Div, Illinois Tool Works Inc Chicago Ill
Luminator Inc Plano . . . . Tex
Mallory & Co Inc, P R Indianapolis . . . . Ind
Mallory Controls Co Frankfort . . . . Ind
Methode Electronics Inc Chicago Ill
Microdot Inc. Troy . . . . Mich
Micro Switch Div, Honeywell Freeport Ill
Molex Products Co Downers Grove Ill
Ney Co, J M Bloomfield . . . . Conn
NPC Electronics Canoga Park . . . . Cal
Oak Mfg Co, Div Oak Electro/Netics Corp Crystal Lake Ill
Omega-t Systems Inc Richardson . . . . Tex
Plessey Co Ltd Ilford Essex . . . . England
R C L Electronics Inc Irvington . . . . N J
Risk Industries Inc, George Columbus . . . . Neb
Rye Industries, Inc Mamaroneck . . . . N Y
Schurter AG, H 6002 Lucerne . . . . Switzerland
Seacor Inc Norwood . . . . NJ
Shallcross A Cutler-Hammer Co Selma . . . . N C
Sharpe Instruments Div Scintrex Inc Tonawanda . . . . N Y
Showa Musen Kogyo Co Ltd Tokyo . . . . Japan
Standard Grigsby Co Aurora Ill
Subminiature Instruments Corp Riverside . . . . Cal
Tabet Mfg Co Inc Norfolk . . . . Va
Tech Laboratories Inc Palisades Park . . . . N J
Torsion Balance Co Clifton . . . . N J
UID Electronics Corp Hollywood . . . . Fla
Unimax Switch Div Maxson Electronics Corp Wallingford . Conn
Vactric Control Equipment Ltd Morden . . . . England
Vitramon Microwave Corp Middlesex . . . . N J
Wilmington Controls Div Ledex Inc Wilmington . . . . Ohio

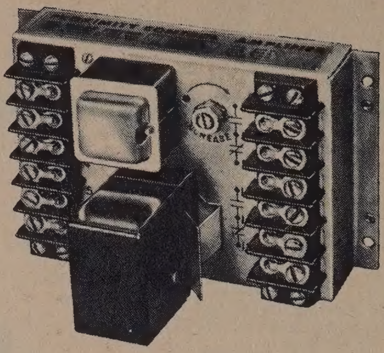
SWITCHES—PROGRAMMABLE

AIRFLYTE ELECTRONICS CO BAYONNE . . . . N J
CHERRY ELECTRICAL PRODUCTS CORP HIGHLAND PARK ILL . . . . ADV PG 608
DIGITRAN CO PASADENA . . . . CAL
HAYDON SWITCH & INSTRUMENT INC WATERBURY . . CONN
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
R C L ELECTRONICS INC IRVINGTON . . . . N J
TECH LABORATORIES INC PALISADES PARK N J . . . . ADV PG 610
Airflyte Electronics Co Bayonne . . . . N J
Almond Instruments Co Covina . . . . Cal
American Solenoid Co, Inc Rahway . . . . N J
Astro Lab Westminster . . . . Cal
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Autotronics Inc Joplin . . . . Mo
Autronics Corp Pasadena . . . . Cal
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook . . . . Conn
Bulova Watch Co Inc, Timer Lab Flushing . . . . N Y
Burnett Electronics Lab Inc San Diego . . . . Cal
Carter Mfg Corp Hudson . . . . Mass
Cherry Electrical Products Corp Highland Park Ill
Daven Div McGraw-Edison Co Manchester . . . . N H
Digitran Co Pasadena . . . . Cal
Dillon & Co Inc, W C Van Nuys . . . . Cal
Dowa Trading Co Ltd Kobe . . . . Japan
Ericsson Centrum Inc New York . . . . N Y
Essex Engineering Co Inc Essex . . . . Conn
Giannini-Voltex-Radex-Irvine Whittier . . . . Cal
Haydon Switch & Instrument Inc Waterbury . . . . Conn
Hickok Electrical Instrument Co Cleveland . . . . Ohio
Interswitch Inc Burlingame . . . . Cal
Kinetics A Teledyne Co Solana Beach . . . . Cal
Ledex Div Ledex Inc Dayton . . . . Ohio
Matrix Div, Schafer Electronics Chatsworth . . . . Cal
Measurement Technology Corp Canoga Park . . . . Cal
3M Company St Paul . . . . Minn
3M Instrument Products Camarillo . . . . Cal
Monitor Systems Inc an Aydin Co Fort Washington . . . . Pa
Montgomery Mfg Co, Inc Owensville . . . . Ind
Omega-t Systems Inc Richardson . . . . Tex
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Precision Mechanisms Corp Westbury . . . . N Y
Program Electronics Co New Hyde Park . . . . N Y
R C L Electronics Inc Irvington . . . . N J
Schrack Electrical Sales Corp New York . . . . N Y
Space & Systems Div General Time Corp Stamford . . . . . Conn
Sparton Southwest Inc Albuquerque . . . . NM
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia . . . . Pa
Tech Laboratories Inc Palisades Park . . . . N J
Tenor Co Inc New Berlin . . . . Wis
Vocaline Co of America Inc Old Saybrook . . . . Conn

SWITCHES—PROXIMITY

DABURN ELECTRONICS & CABLE CORP BRONX . . . . N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7

Proximity Switches



Detects without physical contact. Ideal for high speed automatic production lines. Complete line, including all-metals and ferromagnetic sensitive systems, high speed counting systems, AND/OR logic systems, etc. Request Catalog 50.

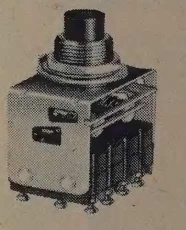
MICRO SWITCH
FREEPORT, ILLINOIS, U.S.A.
A DIVISION OF HONEYWELL

GENERAL REED CO CLARK . . . . N J
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL . . . . ADV PG 600
R C L ELECTRONICS INC IRVINGTON . . . . N J
SIEMENS AMERICA INC NEW YORK . . . . N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK . . . . . N J
Aerodyne Controls Corp Farmingdale . . . . N Y
Allen-Bradley Co Milwaukee . . . . Wis
A M E C 45 Orleans . . . . France
Amtron Inc Sub Republic Corp Midlothian Ill
Automatic Equipment Corp Cincinnati . . . . Ohio
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus . . . . Ohio
Control Switch Div Controls Co of America Folcroft . . . . . . Pa
Cutler-Hammer Inc Milwaukee . . . . Wisc
Daburn Electronics & Cable Corp Bronx . . . . N Y
Decker Corp Bala Cynwyd . . . . Pa
Delavan Mfg Co West Des Moines . . . . Iowa
Denison Inc, R B Bedford . . . . Ohio
Dolan Jenner Industries Inc Melrose . . . . Mass
Douglas Randall Inc Westerly . . . . R I
Dowa Trading Co Ltd Kobe . . . . Japan
Drexelbrook Engineering Co Glenside . . . . Pa
Electro Development Corp Lynnwood . . . . Wash
Electronic Resources Inc Tasker Indus Los Angeles . . . . Cal
Electro Products Labs Inc Transducer Div Chicago Ill
Ferranti, Ltd Lancashire . . . . England
Flair Electronics Inc Glendora . . . . Cal
Gems Co Inc Farmington . . . . Conn
General Electric Co, ECSO Schenectady . . . . N Y
General Equipment & Mfg Co Louisville . . . . Ky
General Reed Co Clark . . . . N J
Gordos Corp Bloomfield . . . . N J
Gulton Industries Inc Controls & Instru Grp Costa Mesa . . . Cal
Hyde Park Electronics Inc Dayton . . . . Ohio
Kidde & Co Inc, Walter Belleville . . . . N J
Licon Div, Illinois Tool Works Inc Chicago Ill
Luminator Inc Plano . . . . Tex
Martin-Decker Corp Santa Ana . . . . Cal
Micro Switch Div, Honeywell Freeport Ill
National Acme Elecl Controls Div Acme-Cleveland Corp Cleveland . . . . Ohio
Peco Corp Mountain View . . . . Cal
Photobell Co Inc New York . . . . N Y
Plessey Co Ltd Ilford Essex . . . . England
Racal Electronics Ltd Bracknell Berks . . . . England
R C L Electronics Inc Irvington . . . . N J
Research Associates Inc Linden . . . . N J
Revere Electronic Div Wallingford . . . . Conn
Schaevitz Engineering Pennsauken . . . . N J
Sensor Corp Greenwich . . . . Conn
Siemens America Inc New York . . . . N Y
Square D Co Park Ridge Ill
Tann Controls Co Detroit . . . . Mich
Tung-Sol Div Wagner Electric Corp Newark . . . . N J
Vapor Corp Chicago Ill
Wavelabs Co Div Systron-Donner Corp Concord . . . . Cal
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh . . . Pa
Whittaker Corp Instrument Sys Div Chatsworth . . . . Cal

SWITCHES—PUSHBUTTON

BOWMAR INSTRUMENT CORP FORT WAYNE . . . .
CAPITOL MACHINE & SWITCH CO DANBURY C
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE . . . .
CHERRY ELECTRICAL PRODUCTS CORP HIGHLAND PARK ILL . . . . ADV PG
CHICAGO DYNAMIC INDUSTRIES INC, PRECISION PRODS DIV CHICAGO ILL . . . . ADV PG
CHICAGO SWITCH INC CHICAGO . . . .
C & K COMPONENTS INC WATERTOWN . . . . M
COUCH S H, DIV ESB INC BOSTON . . . . M
DABURN ELECTRONICS & CABLE CORP BRONX . . . . . .
DIGITRAN CO PASADENA . . . .
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV P
GRAYHILL INC LA GRANGE ILL . . . . ADV PG
GUARDIAN ELECTRIC MFG CO CHICAGO . . . .
HAYDON SWITCH & INSTRUMENT INC WATERBURY . C
J-B-T INSTRUMENTS INC NEW HAVEN C
KORRY MFG CO SEATTLE . . . . W
LITTON COMPUTER PRODUCTS DIV COLORADO SPRINGS C
MALLORY & CO INC, P R INDIANAPOLIS . . . .
MICRO SWITCH DIV, HONEYWELL FREEPORT ILL . . . . ADV PGS 600,
MITSUMI ELECTRIC CO LTD TOKYO . . . . JA
OAK MFG CO, DIV OAK ELECTRO/NETICS CORP CRYSTAL LAKE ILL . . . . ADV PG
ROBERTSHAW CONTROLS CO, ACRO DIV COLUMBUS .
SHOWA MUSEN KOGYO CO LTD TOKYO . . . . JA
STANDARD GRIGSBY CO AURORA ILL . . . . ADV PG
UNIMAX SWITCH DIV MAXSON ELECTRONICS CORP WALLINGFORD C
Agastat Div, Amerace Esna Corp. Elizabeth . . . .
Alco Electronic Products, Inc Lawrence . . . . M
Allen-Bradley Co Milwaukee . . . .
Allis-Chalmers Mfg Co Milwaukee . . . .
Allmetal Screw Products Co Inc Garden City . . . .
American Solenoid Co, Inc Rahway . . . .
American Zettler, Inc Costa Mesa . . . .
Ark-Les Switch Corp Watertown . . . . M
Automatic Electric Co Northlake . . . .
Automatic Switch Co Florham Park . . . .
Beltone Electronics Corp Chicago . . . .
Betts & Betts Corp Southbury C
Birnbach Co Inc Freeport . . . .
Bowmar Instrument Corp Fort Wayne . . . .
Capitol Machine & Switch Co Danbury C
Carling Electric Inc West Hartford C
Carter Precision Electric Co Skokie . . . .
Centralab, Div Globe-Union Inc Milwaukee . . . .
Cherry Electrical Products Corp Highland Park . . . .
Chicago Dynamic Industries Inc, Precision Prods Div Chicago . . . .
Chicago Switch Inc Chicago . . . .
C & K Components Inc Watertown . . . . M
Clare-Pendar Co Post Falls . . . . Id

PUSHBUTTON SWITCHES



Compact assemblies with one to four precision snap-acting switches, each SPDT. Momentary or maintained contact action. Variety of button styles and colors. Also modular matrix-mount units. Request Catalog 51.

MICRO SWITCH
FREEPORT, ILLINOIS, U.S.A.
A DIVISION OF HONEYWELL

For Excellence in

PUSH BUTTON SWITCHES

specify Grayhill

Shown below is a simplified chart of Grayhill Push Button Switches. Not all switches or specifications can be shown in this limited space—please contact your Grayhill Distributor or Factory Direct for more information or to place your order.

A

B

C

D

E

F

G

H

J

Style	① Circuitry	Life Expectancy Operations	Amp. Rating @ 115 VAC Resistive	Approximate Dimensions Largest O.D. Or Length & Width	 Depth Behind Panel	② Grayhill Part No.	List Price Ea. Subject to Quantity Discount
MOMENTARY CONTACT PUSH BUTTON SWITCHES							
A	SPST-N.O.	25,000	10	7/8"	1.18"	2201R	$2.40
A	SPST-N.O.	25,000	10	7/8"	1.18"	7-7B	2.40
A	SPST-N.O.	25,000	10	7/8"	1.18"	7-21R ②	2.80
A	SPST-N.C.	25,000	10	7/8"	1.18"	2202B	2.40
A	SPST-N.C.	25,000	10	7/8"	1.18"	7-8R	2.40
A	SPST-N.C.	25,000	10	7/8"	1.18"	7-22B ②	2.80
B	SPST-N.O.	100,000	1	13/16"	.97"	4001R	1.00
B	SPST-N.O.	100,000	1	13/16"	.97"	10-9B	1.00
B	SPST-N.C.	100,000	1	13/16"	.97"	4002B	1.00
B	SPST-N.C.	100,000	1	13/16"	.97"	10-10R	1.00
B	SPST-N.O.	1,000,000	1	3/8"	.59"	30-1R	.95
B	SPST-N.O.	1,000,000	1	3/8"	.59"	30-3B	.95
B	SPST-N.C.	1,000,000	1	3/8"	.61"	30-2B	.95
B	SPST-N.C.	1,000,000	1	3/8"	.61"	30-6R	.95
C	SPST-N.O.	1,000,000	1/2	1/4"	.32"	39-1R	1.15
C	SPST-N.O.	1,000,000	1/2	1/4"	.32"	39-3B	1.15
D	SPST-N.O.	500,000	1/2	.51"	.55"	39-101N	2.40
B	SPST-N.O.	100,000	1/4	15/32"	.67"	23-1R	1.10
B	SPST-N.O.	100,000	1/4	15/32"	.67"	23-4B	1.10
C	SPST-N.C.	250,000	1/4	1/4"	.49"	39-2B	1.60
A	SPDT	25,000	10	7/8"	1.24"	7-26R or B	3.50
B	SPDT	250,000	1/4	7/16"	.89"	46-101R or B	1.40
E	SPDT	250,000	1/4	7/16"	.89"	46-102R or B	1.50
F	SPDT	250,000	1/4	.640"	1.18"	46-125R or B	2.35
J	SPDT	250,000	1/4	1/2"x.42"	None	39-204 ②	2.75
B	DPST-N.O.	100,000	1/2	13/16"	.74"	35-1R	1.50
B	DPST-N.O.	100,000	1/2	13/16"	.74"	35-3B	1.50
G	DPDT	250,000	1/4	.63"x.45"	.92"	46-200R or B	3.10
ALTERNATE ACTION (PUSH-ON PUSH-OFF) PUSH BUTTON SWITCHES							
F	SPDT	250,000	1/4	.640"	1.47"	46-525R or B	3.90
E	SPDT	250,000	1/4	.577"	.94"	46-502R or B	3.50
LIGHTED PUSH BUTTON SWITCHES WITH NEON LAMPS 40-1 and 40-2 AND WITH INCANDESCENT LAMPS 40-100 and 40-102							
H	SPST-N.O.	500,000	1	1/2"	1.14"	40-1 ③	2.45
H	SPST-N.C.	500,000	1	1/2"	1.14"	40-2 ③	2.70
H	SPST-N.O.	500,000	1	1/2"	1.14"	40-100 ④	2.75
H	SPST-N.C.	500,000	1	1/2"	1.14"	40-102 ④	3.00

① SPDT and DPDT Switches are Break Before Make. Make Before Break are also available.

② Push Button Switches come with Solder Lug Terminals except Grayhill Part Nos. 7-21 and 7-22 which have "FASTON", and 39-204 which has PC Terminals. R = RED BUTTONS, B = BLACK BUTTONS, N = NATURAL NYLON WHITE.

③ Available in: CLEAR; TRANSPARENT Amber or Red, and FROSTED White.

④ Available in: CLEAR; TRANSPARENT Amber, Green or Red; and FROSTED White, Red, Green or Yellow.

For Excellence in Rotary Switches—see Grayhill ad under Rotary Switch Heading

ENGINEERING CATALOG G-304B
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537 Hillgrove Ave.
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Prices and specifications are subject to change without notice.

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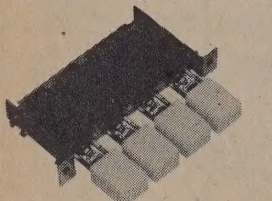
PUSHBUTTON, SLIDE, SUBMINIATURE ROTARY & LEVER, ROTARY, LEVER and THUMBWHEEL SWITCHES

Standard Grigsby Co. is devoted exclusively to engineering, designing and manufacturing of commerical, industrial, and military specification switches. Our mechanical and electronic engineers welcome your inquiry for regular, special, unusual, and printed circuit switch design applications. We will develop a switch from a sketch, completely tool up, and provide high speed production for any quantity of the exact switch to fulfill your requirements.

MODULE PUSHBUTTONS



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1-20 buttons, in 1 thru 12 poles per button. Button spacings .590" and .708". Numerous functions in wire thru or printed circuit contacts.

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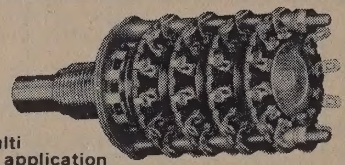

For multi circuit application where space is limited. Strut screw mounting ¾". Optional assemblies include spring return, A.C. and concentric shafts.

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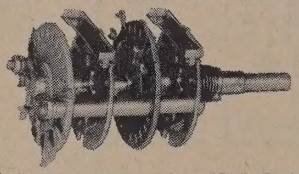

From 1 1/32" strut centers thru 2 7/32". Switching from 2 to 28 positions. Available in a multiplicity of applications.

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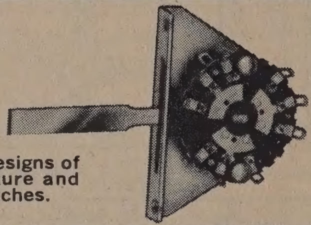
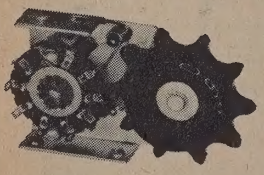


Available up to 4 positions in basic designs of subminiature and rotary switches.

THUMBWHEELS



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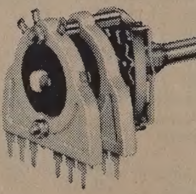

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SWITCH CATALOG

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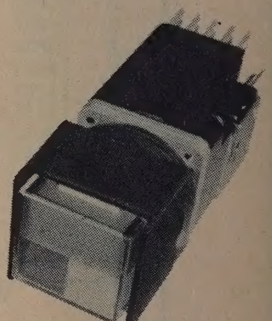

Lighted and unlighted miniature pushbuttons and indicators for industrial electronic equipment. Contemporary square shape, large clear legends, up to four lamps per button. Up to four SPDT circuits per unit. Request Product Sheet PM.

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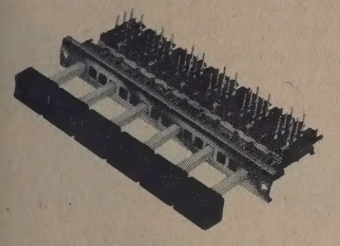

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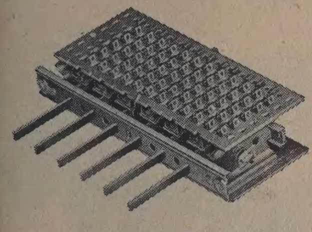
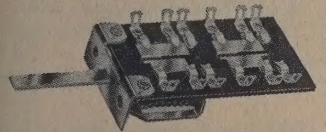


Type 130 PUSHBUTTON
... universal for complicated low-power switching, in multiple banks or as subassemblies, lighted on request. Maximum 10 SPDT or 12 SPST on double-sided switch.



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... long service even in rugged operation, single button with up to 4 PDT.

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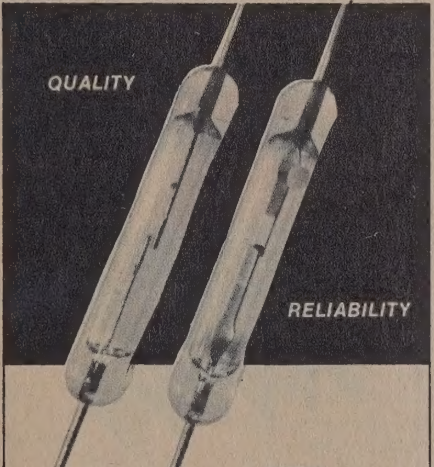

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RD SERIES 3-5-6-and RD16.
The contact is carefully sealed in a glass tube, and can be adapted to various other types of reed relays when combined with an exciting coil. NEC Dry Reed Switches are widely used for keyboard installation.

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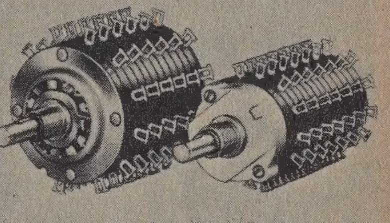

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- Both index mechanism and electrical sections are completely enclosed.
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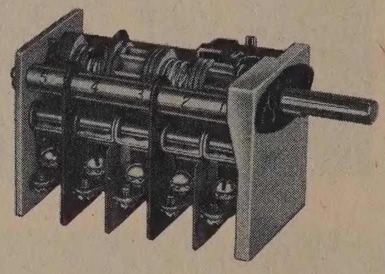

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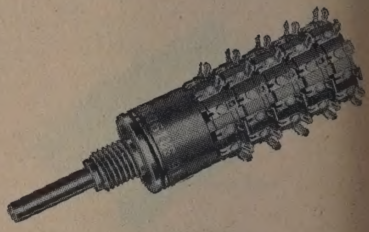

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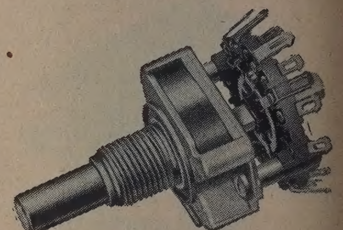
...ultra-compact, enclosed, withstands severe environments.



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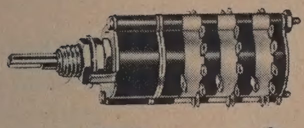
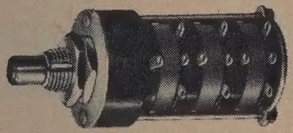
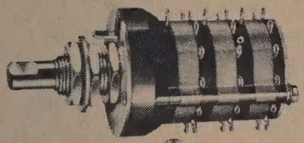
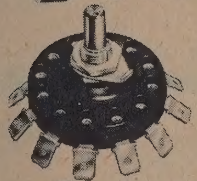
Standard Switches

	Series No.
.500" Dia. O.D.—36°, 45° or 60° angles of throw—1 or 2 poles—1 deck—rated at 200 MA at 115 VAC resistive	50
.562" Dia. O.D.—30° angle of throw—1, 2, 3, or 4 poles—1 deck—rated at 200 MA at 115 VAC resistive	51
.687" Dia. O.D.—36° angle of throw—1 or 2 poles—1-12 decks—rated ¼ amp., at 115 VAC resistive	8
.750" Dia. O.D.—30°, 45° or 60° angles of throw—1-6 poles—1-12 decks—rated ¼ amp., at 115 VAC resistive	9
1.01" Dia. O.D.—36° angle of throw—1 or 2 poles—1-10 decks—rated 1 amp., at 115 VAC resistive	24
1.015" Dia. O.D.—36° angle of throw—1 or 2 poles—1-12 decks—rated 1 amp.; at 115 VAC resistive	42
1.170" Dia. O.D.—30°, 45°, 60° or 90° angles of throw—1-6 poles—1-12 decks—rated 1 amp., at 115 VAC resistive	44
2.280" Dia. O.D.—30° angle of throw—rated 15 amps., at 125 VAC resistive	19

The above standard switches are available with the following features:

	Series No.
Spring Return—a rotational force is required to maintain contact at one or more switch positions	8, 9, 24, 42 or 44
Isolated Position—one or more switch positions can be isolated from contact by normal rotation of shaft	9, 42 or 44
Printed Circuit Terminals—switch positions have printed circuit terminal for PC board mounting	8, 9, 24, 50 or 51
Concentric Shafts—two switches in one: both rotary; one rotary and one push button; or one rotary and an add-a-pot adapter	42 and 44
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	Series No.
Adjustable Stop—switches have stops which can be set and reset for any number of active positions	42, 44, 50 or 51
Keylock—using adapter, switches can only be operated with key acting as shaft knob	42 or 44
Coded—switches convert decimal (10) inputs to computer codes	42
Homing Rotor—switch positions are all shorted except one	44
Progressively Shorting—each additional switch position is shorted as shaft is rotated 1 thru 6 positions	44
Unidirectional—switch shafts may be rotated in one direction only	24, 42, 44
Tap—30° angle rated at 15 amps. at 125 VAC resistive	19

For Excellence in Push Button Switches—
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Grayhill INC

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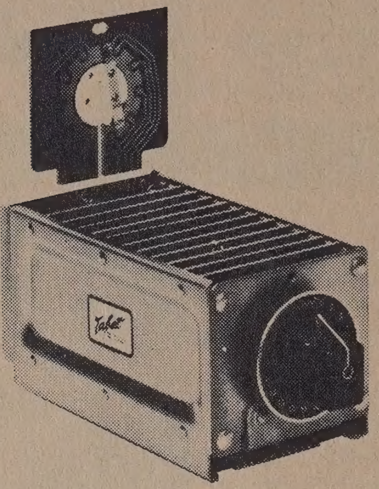
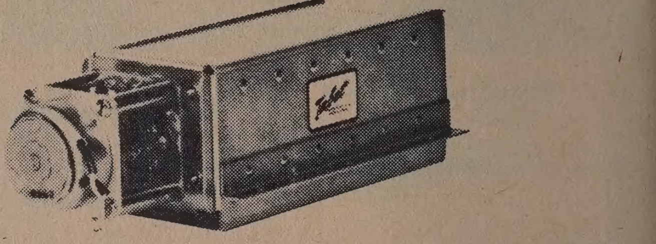
Grayhill also manufactures a broad line of Termination Hardware—Information on Request
Write for your Grayhill Engineering Catalog offering complete technical data.

. . . the Difference Between Excellent and Adequate

Tabet removable wafer rotary switches offer, Versatility and Design-ability.

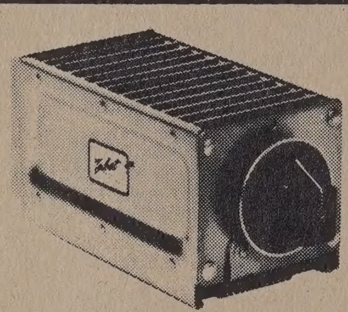




Tabet instantly replaceable wafer switches are available in all standard switch configurations including Binary or Complementary Codes.

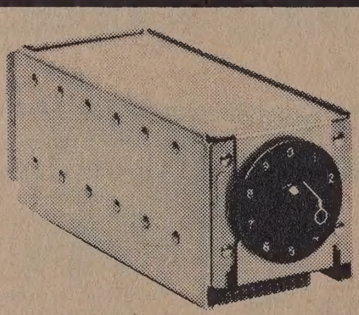
Tabet switches offer great versatility in switch patterns and configurations that are not obtainable with other rotary switches. Many varied switching circuits including auxiliary component mounting are available in three standard sizes. Standard switches are available up to 26 positions, shorting or non-shorting with standard or special binary codes. Both manual and solenoid driven switches can be furnished.

MANUFACTURED UNDER TABET U.S. PATENTS 2,841,660; 2,971,066; 3,015,000; 2,956,131 and 2,988,607.



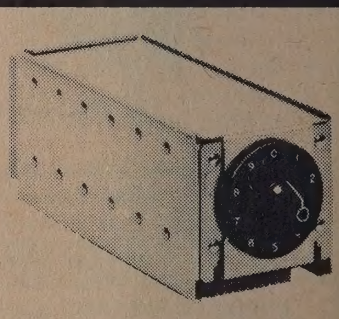
TC-121

Size — 3½" x 3½"
Positions — up to 25
Poles — up to 8 per wafer



TC-125

Size — 2½" x 2½"
Positions — up to 22
Poles — up to 8 per wafer



TC-130

Size — 1⅞" x 1⅞"
Positions — up to 14
Poles — up to 4 per wafer

MATERIALS —

Wafer section — XXXP phenolic or glass epoxy
Plating — Silver-gold, nickel-gold
Enclosure — Aluminum
Hardware — Stainless steel and brass nickel plated.

Tabet Switches conform to applicable portions of Mil-S-22710.

Tabet
MANUFACTURING
COMPANY, INC.

1336 BALLENTINE BLVD.
NORFOLK, VIRGINIA 23516

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SWITCHES—SNAP ACTION

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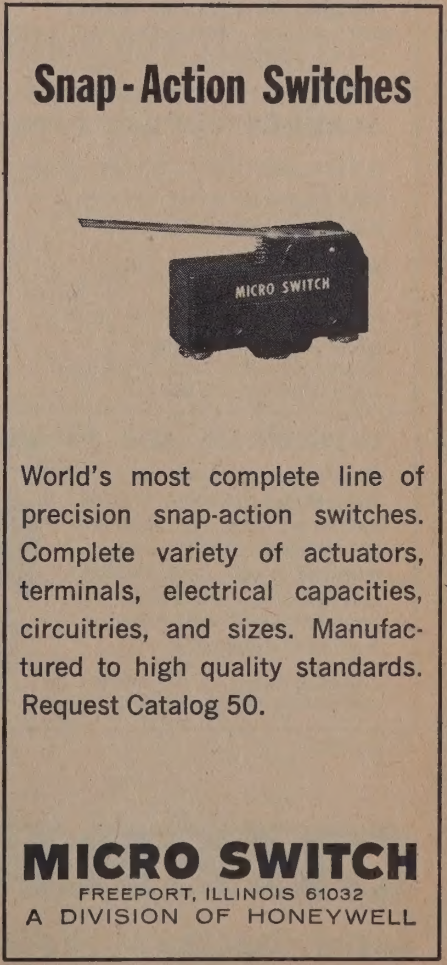
Unimax switches cover almost any conceivable snap-acting switch requirement—at competitive prices. Units range from big, rugged metal-cased switches to the smallest miniature sub-miniature in standard and not-so-standard use. And we offer the most complete range of General Purpose and Basic Precision switches in the industry. All actuator styles are available. Wide range of characteristics and terminal styles.

Ask for Catalog 123

Unimax Switch
Division Maxson Electronics Corporation
Ives Road, Wallingford, Conn. 06492



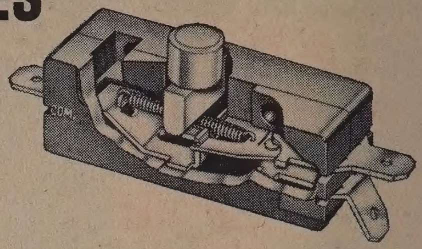
Snap-Action Switches

World's most complete line of precision snap-action switches. Complete variety of actuators, terminals, electrical capacities, circuitries, and sizes. Manufactured to high quality standards. Request Catalog 50.

MICRO SWITCH
FREEPORT, ILLINOIS 61032
A DIVISION OF HONEYWELL

CHERRY®

LONG-LIFE PRECISION SWITCHES

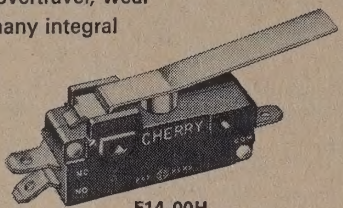


At the heart of every Cherry precision switch is the unique stainless steel coil spring that insures outstanding operating reliability and consistent performance. Precision-made, carefully assembled and tested, this rugged coil steel spring provides greater overtravel, greater repeatability of operating points in every Cherry Switch you specify.

GENERAL PURPOSE E-14 SERIES

A rugged switch with large overtravel, wear resistant nylon button and many integral hinged actuator variations.

Electrical Ratings—25 amps.,
125-250 VAC—1 H.P.,
125 VAC—2 H.P., 250 VAC

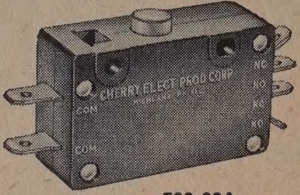


E14-00H

E-20 SERIES DOUBLE POLE SWITCH

Heavy-duty, yet extremely compact unit for double pole service, features wide range of actuator variations and large overtravel.

Electrical Ratings—
20 amps.,
125-250 VAC—1 H.P.
125 VAC—2 H.P., 250 VAC



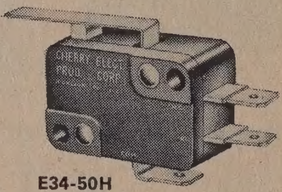
E20-00A

MINIATURE E-34 SERIES

Compact precision unit with high electrical capacity for heavy-duty miniature switch use. Available with QC, solder or screw terminals.

Electrical Ratings—15 amps.,
1/2 H.P., 125-250 VAC

Miniature series available in a variety of electrical ratings with operating forces as low as 1-1/4 grams.



E34-50H

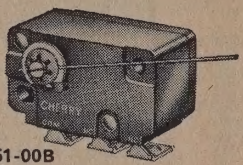
COIN SWITCHES

Low torque rotary action long life switch. Operating torque 4 inch-grams maximum.

Electrical Ratings—5 amps.,
125-250 VAC

E51-00B Clockwise
.205 x .032 QC Terminals

Other coin switches available in variety of terminations and with counterclockwise actuation.



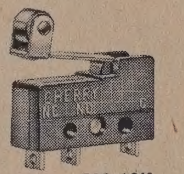
E51-00B

SUBMINIATURE E-62 SERIES

A high capacity subminiature switch with large overtravel and integral hinged actuators.

Electrical Ratings—10.1 amps.,
125-250 VAC 1/4 H.P., 125 VAC
Switch Body—25/32" x 23/64" x 1/4"

Subminiature series available in light force version E-61 with electrical rating of 5 amps., 125-250 VAC.

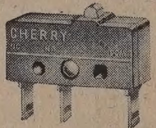


E62-10K

GOLD "CROSSPOINT" CONTACT SWITCHES

CHERRY ELECT PROD. CORP.

E21-00A



E63-00A

For positive switching of low energy solid state circuits. New Gold "Crosspoint" contacts provide high force per unit of contact area and virtually eliminate contact closure interference. Available in four basic cherry switches: E21 enclosed miniature; E63 subminiature; E53 low torque and S31 open type miniature.

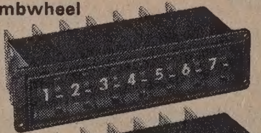
Electrical Ratings—0.1 amps., 125 VAC
Insertion Resistance—50 Milliohms Maximum

LEVERWHEEL AND THUMBWHEEL ROTARY

The unique new Leverwheel, lever-action thumbwheel with instant set/reset, and traditional thumbwheel switches are available in both miniature and subminiature sizes, totally-interchangeable with other leading thumbwheels.

Electrical Rating—½ amp., 240 VAC per output circuit. 1 amp. total of output circuit.

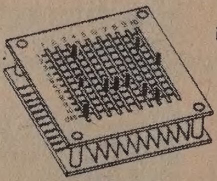
Thumbwheel



Leverwheel

SELECTOR SWITCHES

So compact, one hundred sequencing positions are accommodated in 10 sq. inches of panel area. Cross-grid printed circuitboard eliminates soldering —no jungle of wires to cause problems either. Choose from eleven standard models with from 100 to 2780 switching positions.



C10-20A

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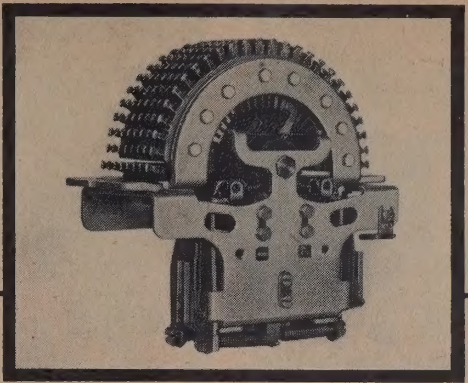

2 WAY
Genalex Precision Stepping Switch

for circuits which require a switch that steps positively, in either direction, around a bank of 25 contacts.

FEATURING:
- self-cycle or remote control operation
- 65 steps per second on self-interruption
- bridging or non-bridging wipers
- 20 steps per second from external impulses

Over 10,000,000 steps in each direction without replacement.

for complete data on this and other unique GENALEX switches, write:

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Kinetics A Teledyne Co Solana Beach	Cal
Ledex Div Ledex Inc Dayton	Ohio
Luminator Inc Plano	Tex
Mason Electric Co Inc Los Angeles	Cal
Muirhead Instruments Inc Mountainside	N J
Oki Electric Industry Co Ltd Tokyo	Japan
Scaico Div, Wavetronics Industries Inc West Pittston	Pa
Schrack Electrical Sales Corp New York	N Y
Sealectro Corp Mamaroneck	N Y
Shallcross A Cutler-Hammer Co Selma	N C
Siemens America Inc New York	N Y
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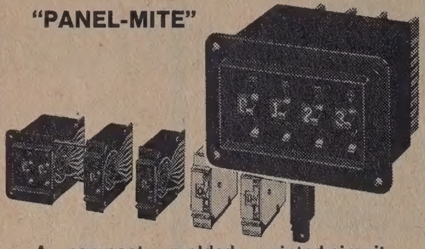
THUMBWHEEL SWITCHES

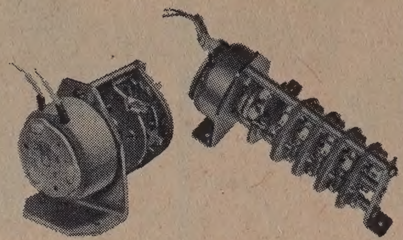
"PANEL-MITE"



A compact, molded, printed-circuit wafer switch for limited space and in line readout. **Modular type for either front or back of panel mounting:** modules ½" between center lines, height 2". Single or double pole, 10 position, binary or complementary codes, standard. Other codes available on request. Adjustable stops available.

Delivery from stock!

STEPPING SWITCHES



TECH LABS switches are now standard equipment in missiles as well as in ground controls. Furnished sealed to meet all specs. Write for details. Prices on request.

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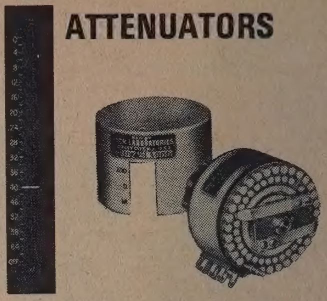

A complete line of audio and r.f. attenuators with both manual and REMOTE CONTROL. We will design components to meet your specific requirements, if standard units are inadequate. Please write for catalogue and send us your specs for estimate.

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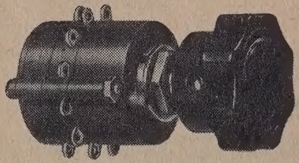
TAP SWITCHES



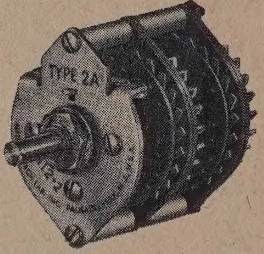
TYPE 3A MINIATURE TAP SWITCH

Molded from Diallyl Phthalate
Has adjustable stop

Specifications
Size: 1" diameter. 1¼" with terminals. 1 deck, 1-1/16" long. ½" for each additional deck.
Rating: 1200 volts rms, 2000 VDC, 5 amps. (carrying) 115 V.
Insulating resistance: 100 megohms minimum at 500 volts DC.
Life: 1.5—2 million revolutions.
Temperature range: —65°C to 100°C.
Mounting: single hole.

TYPE 10A TAP SWITCH

A multi-deck switch of small dimensions, 1-5/16" sq. This is a precision switch designed to meet high requirements in smallest possible space. Up to 24 positions, shorting. Adjustable stop available.



TYPE 2A & 2M

The Type 2A, a standard control switch for precision instruments and equipments, comes in 2-24 positions and 1-4 poles per deck, with phenolic insulation. The 2M is identical except for Melamine insulation. Both are rated for 3 AMP and have adjustable stops. Code "S" denotes "shorting" and "N" "non-shorting".

Type	Code	No. Pos.	No. Decks	Poles /Deck
2A	1S24	24	1	1
2A	4S5	4	1	5
2A	1N10-2	10	2	1
2M	1S24	24	1	1
2M	4N3	3	1	4

DELIVERY FROM STOCK.

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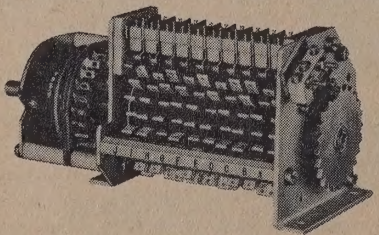
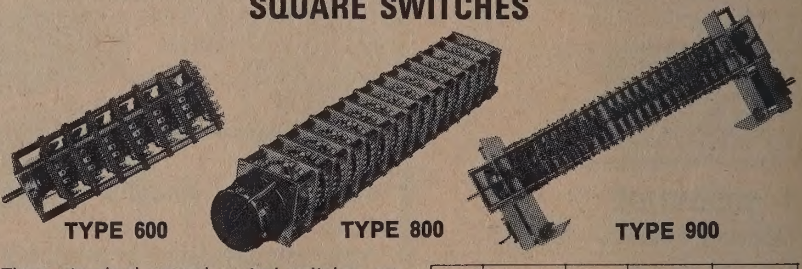
PROGRAMMING SWITCHES



Adjustable programming switches, 24 or more positions. Available in MBB and BBM; manual, motor or solenoid driven. Contact ratings from dry circuit to 20 amps.

SQUARE SWITCHES



TYPE 600 TYPE 800 TYPE 900

These standard rugged control switches are the standby for equipment calling for dependable switches in a hurry. Will meet all standard government specs. All parts carried in stock. An infinite number of combinations possible. Teletype your specs.

Type	Size	Rating	Max. Pos. Short.	Max. Pos. Non-Short.
600	1¾" sq.	5A.	24	12
800	2¼" sq.	5A.	32	16
900	2¾" sq.	10A.	48	24

ITCHES—SUBMINIATURE

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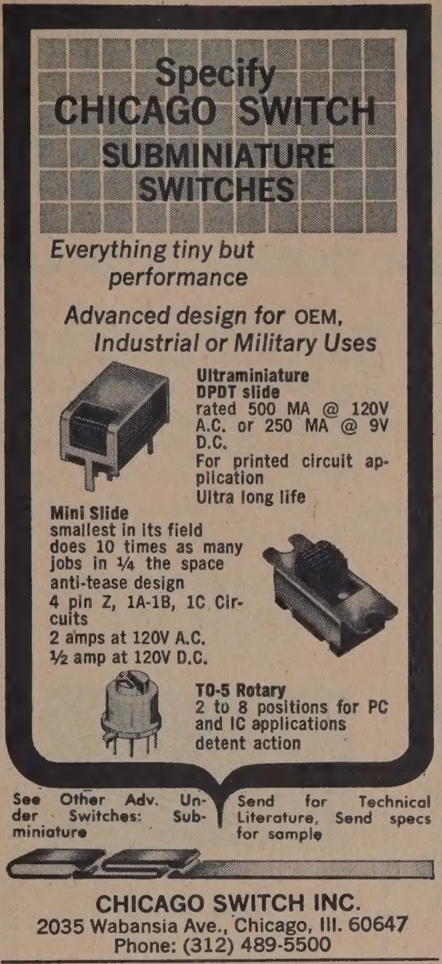

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Send for Technical Literature, Send specs for sample

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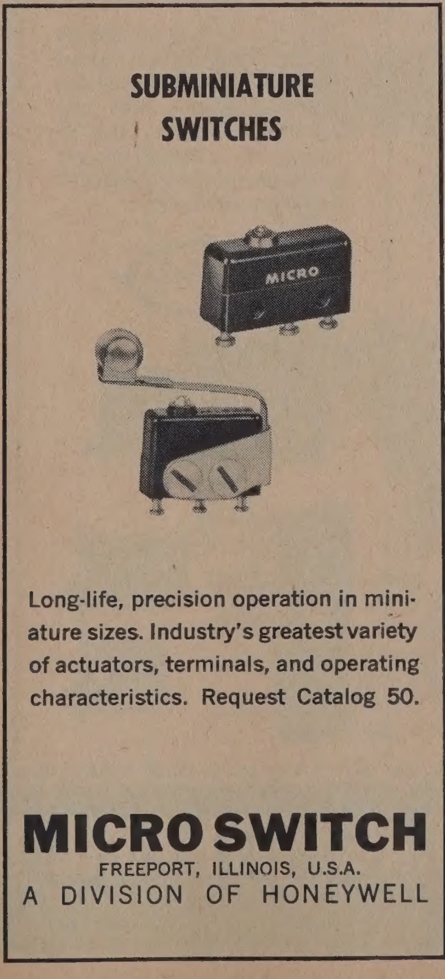

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Long-life, precision operation in miniature sizes. Industry's greatest variety of actuators, terminals, and operating characteristics. Request Catalog 50.

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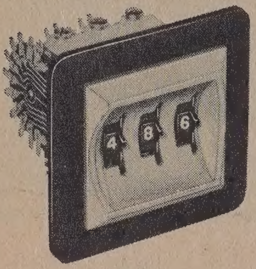

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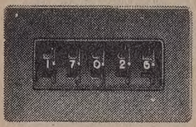
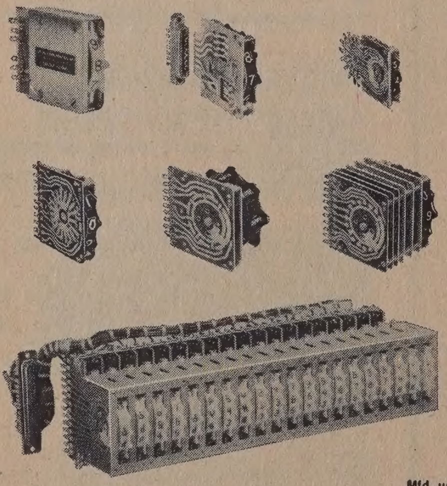
Digital and Binary. Meet MIL-S-22710. For critical reliability applications. Available with internal lighting MIL-L-25467A. Switch modules with panel and switching elements separately sealed for complete protection are available. Bezel types have no visible screws when rear mounted.





PUSHBUTTON SWITCHES

NEW MINI 10-POSITION ADD/SUBTRACT

Retrofits most miniature thumbwheel switch panel openings. 8 & 12 positions available. Simply push one button to add, the other to subtract. Each decade mounts on ½" centers. Over 1,000,000-operation service life.

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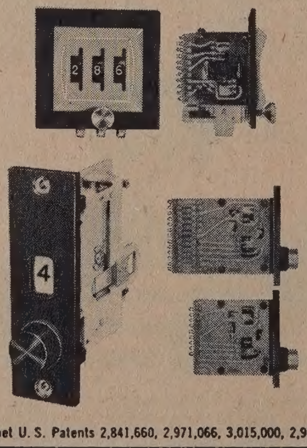

ROTARY SWITCHES

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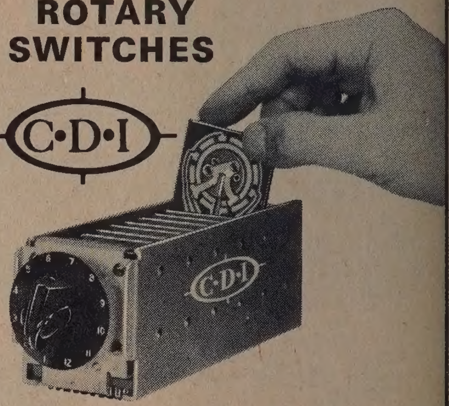
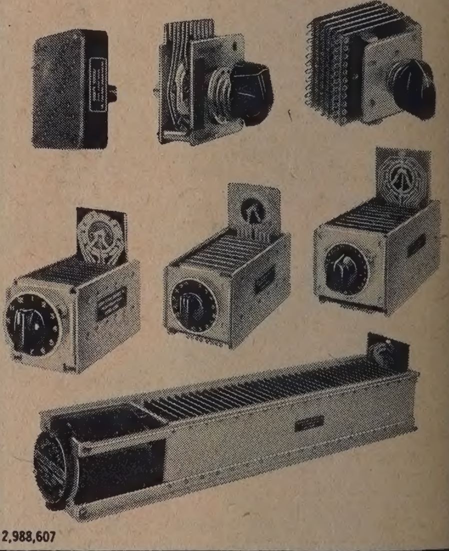


For critical reliability applications. Meet MIL-S-22710. Removable wafers permit quick changing of programs, configurations, circuits. CDI patented switches with dust covers available in sizes 2" x 2", 3" x 3" and 4" x 4" with lengths to accommodate up to 36 wafers. Operation may be manual, motor or solenoid.



Mfd. under Tabet U. S. Patents 2,841,660, 2,971,066, 3,015,000, 2,956,131, 2,988,607

C·D·I

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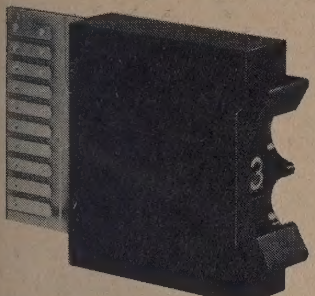
Convert directly from dial setting to coded electrical output.



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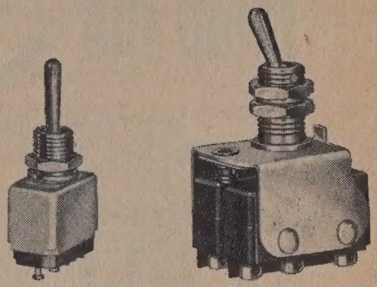
Toggle Switches



Wide variety of high quality panel mount toggle switches, including miniature, heavy duty or electronic duty, sealed, multi-circuit, special circuitries and actions, standard or pull-to-unlock levers, holding coils. Request Catalog 51.

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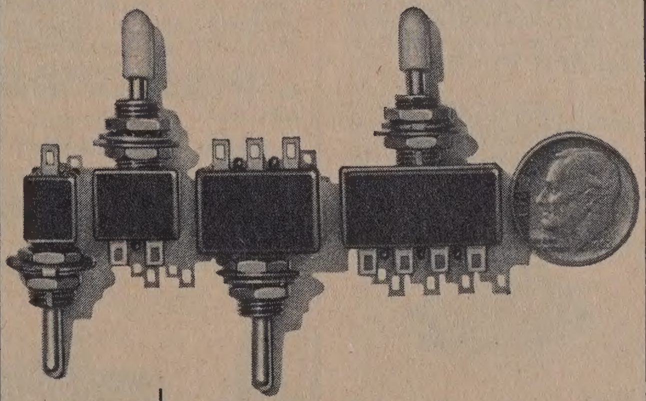
Electronics Buyers' Guide

SUBMINIATURE TOGGLE SWITCHES



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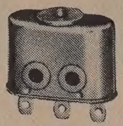
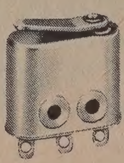
from the H·S·I® switchline

SERIES 6100
HERMETICALLY SEALED
PRECISION SWITCHES



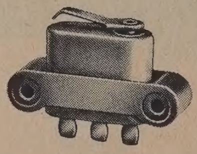
Patented Elastomer Seal and one-piece snap action blade performs reliably under extreme vibration conditions. Temp. rating: −65° +300°F. Available to +400°F. **Electrical ratings:** 28 VDC/115 VAC. 5 amp resistive, 3 amp inductive. Meets requirements of MIL-S-8805. **Actuators:** Leaf, roller, toggle and push button. Low operating force. **Reference: Cat. No. 72**

SERIES 6300
HERMETICALLY SEALED
PRECISION SWITCHES



Housing: Corrosion resistant housing with integral wobble diaphragm. One piece snap action blade as in 6100 Series, proven in years of performance. **Standard rating:** −85°F +300°F. **Electrical ratings:** 28 VDC/115 VAC. 5 amps resistive, 3 amps inductive, 3 amps motor. Meets requirements of MIL-S-8805.

SERIES 6200
HIGH TEMPERATURE
HERMETICALLY SEALED
SWITCHES



With metal to metal and glass to metal seals corrosion resistant steel base and housing heliarc welded to avoid use of fluxes normally used in solder sealing. Actuator operates switch through metal diaphragm integral with housing. **Standard rating:** −65° +660°F. Meets requirements of MIL-S-8805.

PUSH-BUTTON AND
TOGGLE ACTUATED,
HERMETICALLY SEALED
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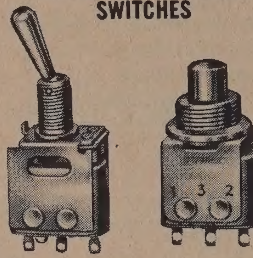
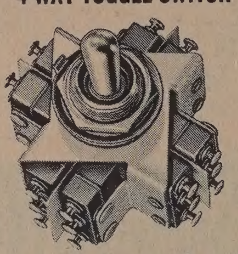


Incorporate Series 6100 basic switch to meet requirement of MIL-S-8805, enclosure 4. Also available with 6300 Series switch to meet enclosure 5 requirements of MIL-S-8805. Toggle switches are available in various configurations of one-pole and 2-pole, 2-position and 3-position.

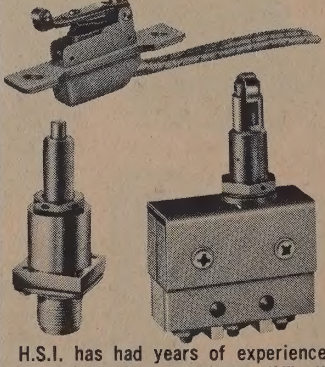
Reference: Bul. No. 61T-1

SERIES 5300
4 WAY TOGGLE SWITCH



2 pole double throw each position. Center off. Momentary contact, maintained contact, or combinations. 28 VDC/115 VAC: 5 amps resistive, 3 amps inductive. **Reference: Bul. No. 53T-3.** Available with water tight panel seal.

SPECIAL SEALED SWITCHES



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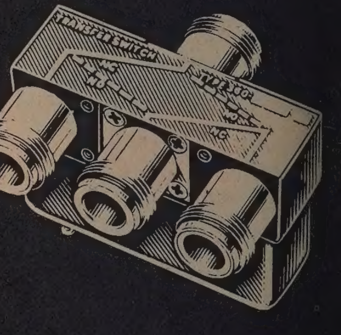

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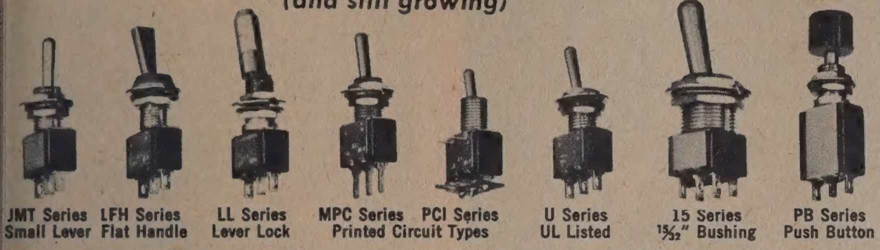
(and still growing)



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Singer Co Instru Div Gertsch Oper Los Angeles ....
Smiths Industries North America Ltd Jamaica ....
Smiths Industries Ltd, Aviation Div Wembley, Mdsx ....Engl
Sperry Rand Corp Electro Components Plant Durham ....
Sunbeam Electronics Fort Lauderdale ....
Tachtronic Instruments Inc New Ulm ....M
Thomson-CSF 78 Versailles ....Fra
Transmagnetics Inc Flushing ....
Vactric Control Equipment Ltd Morden ....Engl
Vernitron Corp Precision Comp Group Farmingdale ....
Vernitron Corp Torrance Div Torrance ....
Weston-Transicoil, Weston Instruments Inc Worcester ....

SYNCHROS—TRANSMITTERS

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS IN DREXEL HILL ....
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ....ADV P
IMC MAGNETICS CORP WESTERN DIV MAYWOOD ....
NIPPON ELECTRIC CO LTD TOKYO ....JAP
Allen Aircraft Radio Inc Elk Grove Village ....
American Electronics, Inc Fullerton ....
Aviation Electric Ltd St Laurent, Montreal ....
Bendix Corp, Flight & Engine Instr Div South Montrose ....
Cedar Div Control Data Corp Minneapolis ....M

n Div Litton Industries Litton Prec Prods Inc
xel Hill . . . . Pa
Engineering Co N Hollywood . . . . Cal
ric Indicator Co Inc Wilton . . . . Conn
nd Controls Inc Valhalla . . . . N Y
al Electric Co, ECSO Schenectady . . . . N Y
we Servo Controls Inc West Chester . . . . Pa
chel Corp Amesbury . . . . Mass
Magnetics Corp Western Div Maywood . . . . Cal
fott Div Singer-General Precision Inc Little Falls . . . . . NJ
cor Div LTV Electrosystems Inc Huntington . . . . Ind
head Instruments Inc Mountainside . . . . N J
on Electric Co Ltd Tokyo . . . . Japan
s Instrument Div, DCA Garden City . . . . N Y
ns Industries North America Ltd Jamaica . . . . N Y
ns Industries Ltd, Aviation Div Wembley, Mdsx . . England
y Rand Corp Electro Components Plant Durham . . . . N C
eam Electronics Fort Lauderdale . . . . Fla
tronic Instruments Inc New Ulm . . . . Minn
nson-CSF 78 Versailles . . . . France
smagnetics Inc Flushing . . . . N Y
Gauge Div Ametek Inc Sellersville . . . . Pa
ric Control Equipment Ltd Morden . . . . England
tron Corp Precision Comp Group Farmingdale . . . . . . N Y
tron Corp Torrance Div Torrance . . . . Cal
on-Transicoil, Weston Instruments Inc Worcester . . . . Pa

NCHROSCOPES

e Oscilloscopes

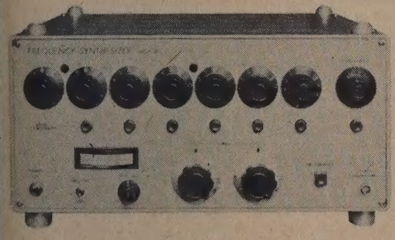
NTHESIZERS—FREQUENCY

ITSU ELECTRIC CO LTD TOKYO JAPAN . . . ADV PG 617
E MFG CO INC, JOHN SEATTLE WASH . . . ADV PG 617
LETT-PACKARD PALO ALTO CAL . . . . ADV PG 618
OK ELECTRICAL INSTRUMENT CO CLEVELAND . . . OHIO
SUREMENTS A MCGRAW-EDISON DIV BOONTON . . N J
ON ELECTRIC CO LTD TOKYO . . . . JAPAN
CTRA-ELECTRONICS INC MOUNTAIN VIEW . . . . CAL
TRON-DONNER CORP CONCORD . . . . CAL
COR INC AUSTIN . . . . TEX
nced Communications Inc Sub Conductron Corp
atsworth . . . . Cal
s Electronics Horten . . . . Norway
ar Div Adams-Russell Waltham . . . . Mass
tsu Electric Co Ltd Tokyo . . . . Japan
ied Research, Inc Port Washington . . . . N Y
dix Corp, Communications Div Towson . . . . Md
ornia Microw Ave, Inc. Sunnyvale . . . . Cal
oga Industries Los Angeles . . . . Cal
on Engineering Inc, Elctns Div Needham Heights . . . . Mass
a Laboratories Inc Irvine . . . . Cal
amco Ltd Chertsey Surrey . . . . Eng
Assoc Inc Scotch Plains . . . . N J
co Inc Westwood . . . . Mass

Anritsu

SYNTHESIZERS

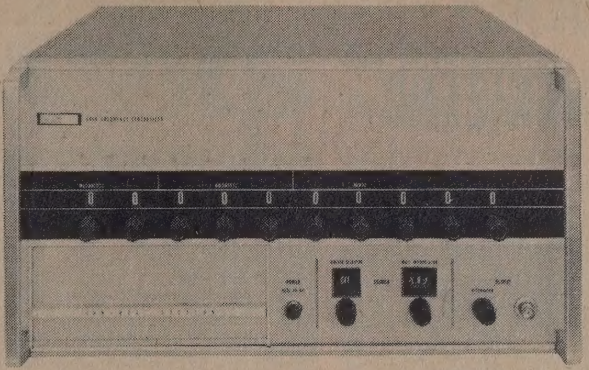
- **MG514A/B/C** 200Hz–100MHz
  A: 5×10^{-8}/day
  B: 5×10^{-9}/day
  C: 2×10^{-9}/day



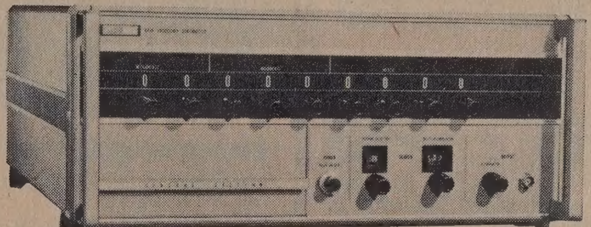
- **MG417A** 200Hz–30MHz
- **MG36A** 10Hz–2MHz

Anritsu Electric Co., Ltd.
12-20, Minamiazabu, 4-chome, Minato-ku, Tokyo, Japan.
Phone: Tokyo 442-8171/Telex: 0242-2353
Cable: ANRITDENKI TOKYO

Fluke Frequency Synthesizers



New **Model 645** offers, in addition to the specs listed below, a phase noise floor of 135 db/Hz at 5 Hz and close-in noise of 100 db/Hz at 10 Hz offset.



Model 644. Models 633 and 622 are similar except for fewer decades.

The Fluke family of frequency synthesizers offers outstanding performance in easy to use, functionally styled, relatively small packages. Four instruments cover the frequency range of DC to 50 MHz. Non-harmonic spurious content is as low as 100 db below the fundamental.

Model 645 covers DC to 50 MHz; Model 644, DC to 40 MHz; Model 633, DC to 11 MHz; and Model 622, DC to 2 MHz. All feature, in addition to exceptionally low spurious content, high signal-to-noise ratio, modern packaging, in-line, in-plane frequency readout, and fast remote programming. Frequency can be changed in microseconds.

Special Models. All Fluke synthesizers are modular in design, permitting customizing of individual units to meet special requirements quickly and economically. Such modifications include dual tracking outputs with fixed separation and separate fixed frequency outputs and 0.01 Hz increments on some models where this feature is not standard.

Specifications

Model	645	644	633	622
Frequency Range	DC to 50 MHz in 0.01 Hz Steps	DC - 40 MHz 0.1 Hz Steps	DC-11 MHz 0.1 Hz Steps	DC - 2 MHz 0.1 Hz Steps
Non-Harmonic Spurious	At least 100 db below the fundamental	−90 db	−90 db to 4.0 MHz −80 db to 6.5 MHz −60 db to 11 MHz	−90 db
Harmonics	At least 30 db below the fundamental	−30 db	−35 db	−35 db
Internal Standard		1 part in 10 to the 8th per day stability Higher stabilities optional		
Size	8¾" high x 17" wide x 23" deep	7" high, 17" wide, 23" deep		
Mounting ears fit standard 19" rack, slides included				
Power		100/115/200/230 VAC plus or minus 10% 50 - 400 Hz 125 watts max.		
Price	$13,500	$10,990	$7,490	$7,190

Fluke, Box 7428, Seattle, Washington 98133.
Phone: (206) 774-2211. TWX: 910-449-2850.
In Europe address Fluke Nederland (N.V.),
P.O. Box 5053, Tilburg, Holland. Phone
(04250) 70130. Telex: 884:50237. In the U.K.
address Fluke International Corp., Garnett
Close, Watford, WD2 4TT. Phone:
Watford 27769. Telex: 934583.

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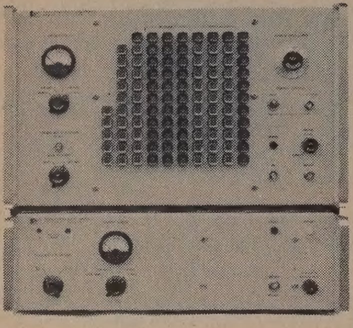
FREQUENCY SYNTHESIZERS



5105A

HP Frequency Synthesizers have been field proven in some of the most demanding commercial and military applications. Yet they are available at commercial instrument prices. Many people select them after exhaustive testing under environmental extremes, being the only ones tested that would provide adequately stable output frequencies and low output noise under shock and vibration.

HERE ARE SOME KEY CAPABILITIES:

- Frequency change by pushbutton or remote command (20 μs, typical).
- Frequency increments as small as 0.01 Hz.
- Search oscillator for continuous tuning or sweep capability.
- Low spurious signals, low phase noise, high spectral purity.
- Direct synthesis for best stability, fast switching, failsafe operation.

Model	Range	Minimum Increment	Price
5105A	100 kHz–500 MHz	0.1 Hz	$14,100.*
5100B	0.01 Hz–50 MHz	0.01 Hz	$12,500.*
5102A	0.01 Hz–100 kHz 0.1 Hz–1 MHz	0.01 Hz 0.1 Hz	$ 7,200.**
5103A	0.1 Hz–1 MHz 1–10 MHz	0.1 Hz 1 Hz	$ 7,800.**

*Includes required 5110B Driver ($4350) which operates up to four synthesizers.

**Dual range unit; has internal driver.

HEWLETT hp PACKARD

02917

Fluke Mfg Co Inc, John Seattle .... Wash
Frequency Electronics Inc New Hyde Park .... N Y
Frequency Engineering Labs Farmingdale .... N J
General Radio Co West Concord .... Mass
Hewlett-Packard Palo Alto .... Cal
Hickok Electrical Instrument Co Cleveland .... Ohio
Inet Power A Teledyne Co Gardena .... Cal
Karg Labs Inc South Norwalk .... Conn
Kay Electric Co Pine Brook .... N J
Lorch Electronics Corp Englewood .... N J
Measurements A McGraw-Edison Div Boonton .... N J
Micro Power Inc Long Island City .... N Y
Monsanto Electronic Instruments West Caldwell .... N J
Motorola Communications & Electronics Inc Chicago Ill
National Radio Co Inc Melrose .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .... N Y
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Racal Communications Inc Silver Spring .... Md
Racal Electronics Ltd Bracknell Berks .... England
Radio Engineering Labs, Div DCA Long Island City .... N Y
Resdel Engineering Corp Pasadena .... Cal
R F Communications Inc Rochester .... N Y
RMS Engineering Inc Atlanta .... Ga
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Smyth Research Associates San Diego .... Cal
Space Craft Inc Huntsville .... Ala
Spectra-Electronics Inc Mountain View .... Cal
Sperry Microwave Electronics Div Clearwater .... Fla
Squires-Sanders Inc Liberty Corner .... N J
Summit Engineering Corp Bozeman .... Mont
Systron-Donner Corp Concord .... Cal
Takeda Riken Industry Co Ltd Tokyo .... Japan
Technical Materiel Corp Mamaroneck .... N Y
Telstar Electronics Corp Southold .... N Y
Thomson-CSF 78 Versailles .... France
Topping Electronics Ltd Scarborough .... Ont
Tracor Inc Austin .... Tex
TRW Systems Group Redondo Beach .... Cal

SYNTHETIC MICA

***See* Mica**

TACHOMETERS—ELECTRONIC

AIRPAX ELECTRONICS INC SEMINOLE DIV FORT LAUDERDALE .... FLA
ALLIED ELECTRONICS CORP CHICAGO ILL
B & B MOTOR & CONTROL CORP NEW YORK .... N Y
BECKMAN INSTRUMENTS INC, HELIPOT DIV FULLERTON .... CAL
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC DREXEL HILL .... PA
DATA TECHNOLOGY, INC WATERTOWN .... MASS
ELECTRO-CRAFT CORP HOPKINS .... MINN
HEATH CO BENTON HARBOR .... MICH
HEWLETT-PACKARD PALO ALTO .... CAL
IDEAL PRECISION METER CO INC BROOKLYN .... N Y
INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV OGLESBY ILL
Airguide Instrument Co Chicago Ill
Airpax Electronics Inc, Cambridge Div Cambridge .... Md
Airpax Electronics Inc Seminole Div Fort Lauderdale .... Fla
Allied Electronics Corp Chicago Ill
American Machine & Foundry Co Alexandria Div Alexandria .... Va
Amstro Corp Fairfield .... N J
Amtron Inc Sub Republic Corp Midlothian Ill
Audn Corp Hamburg .... N Y
Autronics Corp Pasadena .... Cal
Baldwin Electronics Inc Little Rock .... Ark
B & B Motor & Control Corp New York .... N Y
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Inc, Helipot Div Fullerton .... Cal
Bendix Corp, Automotive Electronics Div Baltimore .... Md
Bendix Corp Electrical Components Div Sidney .... N Y
Bently Nevada Corp Minden .... Nev
Biocom, Inc Culver City .... Cal
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill .... Pa
Cole-Parmer Instrument Co Chicago Ill
Consolidated Airborne Systems Carle Place .... N Y
Cox Instruments Div Lynch Corp Detroit .... Mich
Data Technology, Inc Watertown .... Mass
Dawe Instruments Ltd London W3 .... England
Delta Products Inc Grand Junction .... Colo
Dixson Inc Meter Div Grand Junction .... Colo
Dowa Trading Co Ltd Kobe .... Japan
Dynalog Corp Fort Lauderdale .... Fla
Dynamic Precision Controls Corp Hagerstown .... Ind
Electro-Craft Corp Hopkins .... Minn
Electromatic Equipment Co Cedarhurst .... N Y
Electro Products Labs Inc Transducer Div Chicago Ill
EMD Components Inc Wickliffe .... Ohio
Executive Electronics Inc. Denver .... Colo
Flowcon Co Anaheim .... Cal
Foxboro Co Foxboro .... Mass
General Radio Co West Concord .... Mass
Hallmark Standards Inc Mount Vernon .... N Y
Heath Co Benton Harbor .... Mich
Hewlett-Packard Palo Alto .... Cal
Hill Inc E Vernon San Francisco .... Cal
Howell Instruments Co Fort Worth .... Tex
Ideal Precision Meter Co Inc Brooklyn .... N Y
Indiana General Corp Electro-Mechanical Div Oglesby Ill
Industrial Control Co Farmingdale .... N Y
J A C Electronics Ltd Camberley .... England
Kokuyo Electric Co Ltd Tokyo .... Japan
Kollsman Motor Corp Dublin .... Pa
Kyoritsu Electrical Instruments Works Ltd Tokyo .... Japan
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
Louis Allis Co Div Litton Industries Milwaukee .... Wisc
Mann Co, Henry Cornwell Heights .... Pa
Martin-Decker Corp Santa Ana .... Cal
Mastercraft Instrument Co Dubuque .... Iowa
Matrix Corp Beech Grove ....
Matsushita Electric Industrial Co Ltd Osaka .... J
Meteorology Research Inc Altadena ....
Metron Instruments, Inc Denver ....
Microdot, Inc South Pasadena ....
Nelson Electronic Labs Inc Plano ....
Optomechanisms Inc Plainview ....
Performance Measurements Co Detroit ....
Photocircuits Corp Glen Cove ....
Pioneer Electric & Research Corp Forest Park ....
Plessey Airborne Corp Hillside ....
Power Instruments Inc Skokie ....
P P M Inc Cleveland ....
Racal Electronics Ltd Bracknell Berks .... Eng
Radatron Inc North Tonawanda ....
Reliance Electric Co Cleveland ....
Richard Lee Co New Providence ....
Schauer Mfg Corp Cincinnati ....
Sensor Corp Greenwich ....
Simpson Electric Co Chicago ....
Slaughter Co Ardmore ....
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .... Eng
Solid State Electronics Corp Sepulveda ....
Sticht Co Inc, Herman H New York ....
Strandberg Engineering Labs Inc Greensboro ....
Sun Electric Corp Chicago ....
Sunshine Scientific Instruments Inc Philadelphia ....
Takeda Riken Industry Co Ltd Tokyo .... Ja
Techmetric Co Redwood City ....
Telstar Electronics Corp Southold ....
Triple A Specialty Co Chicago ....
Trump Ross Industrial Controls Inc North Billerica ....
Venner Electronics Ltd New Malden, Surrey ....
Voltron Products Inc Pasadena ....
Waters Mfg Inc Wayland ....
Watesta Electronics Ltd Loughton Essex .... Eng
Westberg Mfg Co Sonoma ....
Westinghouse Electric Corp, Relay & Instr Div Newark ....
Weston Instruments Div Weston Instr Inc Newark ....

TACHOMETERS—GENERATOR TYPE

B & B MOTOR & CONTROL CORP NEW YORK ....
BOWMAR INSTRUMENT CORP FORT WAYNE ....
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS I DREXEL HILL ....
ELECTRO-CRAFT CORP HOPKINS .... M
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV
GEORATOR CORP MANASSAS ....
HEWLETT-PACKARD PALO ALTO ....
IMC MAGNETICS CORP EASTERN DIV WESTBURY ....
INDIANA GENERAL CORP ELECTRO-MECHANICAL DIV OGLESBY ....
Aircraft Components Inc Benton Harbor ....
American Electronics, Inc Fullerton ....
Avionics, Inc South Bend ....
Avtron Mfg, Inc Cleveland ....
B & B Motor & Control Corp New York ....
Bendix Corp, Flight & Engine Instr Div South Montrose ....
Bowmar Instrument Corp Fort Wayne ....
Bristol Div, American Chain & Cable Co Waterbury ....
Canadian Research Institute Don Mills ....
Carter Motor Co Chicago ....
Cedar Div Control Data Corp Minneapolis ....
Clifton Div Litton Industries Litton Prec Prods Inc Drexel Hill ....
Curry Engineering Co N Hollywood ....
Dixson Inc Meter Div Grand Junction ....
Dowa Trading Co Ltd Kobe .... Ja
Eastern Air Devices Inc Dover ....
Electric Indicator Co Inc Wilton ....
Electric Tachometer Corp Philadelphia ....
Electro-Craft Corp Hopkins ....
Electro-Devices Inc Servospeed Div Paterson ....
Electromatic Equipment Co Cedarhurst ....
Electro-Pacific Inc Goleta ....
Esterline Angus Div Esterline Corp Indianapolis ....
Gaylord Rives Co Div Amer Elctns Inc Pasadena ....
General Electric Co, ECSO Schenectady ....
Georator Corp Manassas ....
Globe Industries Div TRW Inc Dayton ....
Harowe Servo Controls Inc West Chester ....
Hewlett-Packard Palo Alto ....
Ideal Industries Inc Sycamore ....
IMC Magnetics Corp Eastern Div Westbury ....
Indiana General Corp Electro-Mechanical Div Oglesby ....
Inland Motor Corp Radford ....
Jordan Controls Inc Milwaukee ....
Kearfott Div Singer-General Precision Inc Little Falls ....
Kollsman Instrument Corp Syosset ....
Kollsman Motor Corp Dublin ....
Lear Siegler Inc Santa Monica ....
Louis Allis Co Div Litton Industries Milwaukee ....
Magnetic Technology Inc Canoga Park ....
Martin-Decker Corp Santa Ana ....
Memcor Div LTV Electrosystems Inc Huntington ....
Metermaster, Inc Los Angeles ....
Metrological Data Corp Garfield ....
Metron Instruments, Inc Denver ....
Muirhead Instruments Inc Mountainside ....
Nelson Electronic Labs Inc Plano ....
Nichols Co Ltd, R H Downsview ....
Performance Measurements Co Detroit ....
Photocircuits Corp Glen Cove ....
Printed Motors Inc Glen Cove ....
Racal Electronics Ltd Bracknell Berks .... Eng
Reliance Electric Co Cleveland ....
Rotamec Inc Los Angeles ....
Servo-Tek Products Co Hawthorne ....
Siemon Mfg Co Wayne ....
Signet Scientific Co Burbank ....
Singer Co, Diehl Div Somerville ....
Skurka Engineering Co Los Angeles ....
Smiths Industries Ltd, Aviation Div Wembley, Mdsx .... Eng
Sperry Rand Corp Electro Components Plant Durham ....
Standard Electric Time Co Springfield ....
Sticht Co Inc, Herman H New York ....

randberg Engineering Labs Inc Greensboro .... N C
nbeam Electronics Fort Lauderdale .... Fla
n Electric Corp Chicago Ill
nshine Scientific Instruments Inc Philadelphia .... Pa
chtronic Instruments Inc New Ulm .... Minn
keda Riken Industry Co Ltd Tokyo .... Japan
sk Corp Anaheim .... Cal
omson-CSF 78 Versailles .... France
ump Ross Industrial Controls Inc North Billerica .... Mass
iel Corp Ronkonkoma .... NY
rnitron Corp Precision Comp Group Farmingdale .... N Y
rnitron Corp Torrance Div Torrance .... Cal
orac Corp Chelmsford .... Mass
estberg Mfg Co Sonoma .... Cal
estinghouse Electric Corp, Relay & Instr Div Newark .... N J
eston Instruments Div Weston Instr Inc Newark .... N J
eston-Transicoil, Weston Instruments Inc Worcester .... Pa
ro-Max Co Minneapolis .... Minn

ANKS—POLYETHELYNE

ILE DIV, NALGE CO ROCHESTER N Y .... ADV PG 619
ile Div, Nalge Co Rochester .... N Y
ean Room Products Inc Farmingdale .... N Y
le-Parmer Instrument Co Chicago Ill
EA Products Inc Tempe .... Ariz
errco Inc Lincoln .... Nebr
myr Mfg Co Buena Park .... Cal

ANTALUM

tive Alloys, Inc Elizabeth .... N J
nerican Silver Co Div Flushing .... N Y
omergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
Corp Carle Place .... N Y
elmont Smelting & Refng Wks Inc Sales Eng Ctr
Roslyn Heights .... NY
emol Corp Newton .... Mass
am Metallurgical Chemical Co Philadelphia .... Pa
erac Inc Butler .... Wis
ty Chemical Corp New York .... N Y
oss Co, H Weehawken .... N J
ectronic Space Products Inc Los Angeles .... Cal
ansteel Inc North Chicago Ill
amilton Precision Metals Div Hamilton Watch Co
Lancaster .... Pa
lton Inc, H H Glens Falls .... N Y
awecki Berylco Industries Inc New York .... N Y
ennametal Inc Latrobe .... Pa
och Light Labs Ltd Colnbrook, Bucks .... England
aterials Research Corp Orangeburg .... N Y
orton Co Metals Div Newton .... Mass
uclear Materials & Equipment Corp Apollo .... Pa
aul & Stein Bros Inc, F H New York .... N Y
embar Co Inc Dobbs Ferry .... N Y
emi-Alloys Inc Mt Vernon .... N Y
emi-Elements Inc Saxonburg .... Pa
nieldalloy Corp Newfield .... N J
ylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
vac Corp Tokyo .... Japan
niform Tubes Inc Collegeville .... Pa
nited Mineral & Chemical Corp New York .... N Y
ar-Lac-Oid Chemical Co Elizabeth .... N J
entron Electronics Corp, Controls/Matls Div Bradford .... Pa

APE DECKS—MAGNETIC TAPE

LLIED ELECTRONICS CORP CHICAGO ILL
ROWN INT'L RADIO & ELECTRONICS CORP ELKHART .. IND
EWLETT-PACKARD PALO ALTO .... CAL
ONEYWELL TEST INSTRUMENTS DIV DENVER
COLO .... ADV PG 8
3M, INDUSTRIAL PRODUCTS MARKETING NEW YORK .. NY
INELOGIC CORP PASADENA .... CAL
llied Electronics Corp Chicago Ill
mpex Corp Redwood City .... Cal
uricord Div Scovill Mfg Long Island City .... N Y
ell & Howell Co, Elctn Instr Grp Pasadena .... Cal
ionic Instruments Inc Bala Cynwyd .... Pa
org-Warner Controls Div Borg-Warner Corp Santa Ana .. Cal
roadcast Electronics Inc Silver Spring .... Md
ruce Industries Inc Gardena .... Cal
urroughs Corp Component Sales Dept Los Angeles .... Cal
urroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
asco Music Systems Inc Hyde Park .... Mass
laricon Products Elizabeth .... N J
oncord Electronics Corp Los Angeles .... Cal
rown Int'l Radio & Electronics Corp Elkhart .... Ind
ata Products Corp Woodland Hills .... Cal
igitronics Corp Albertson .... N Y
owa Trading Co Ltd Kobe .... Japan
ynamco Ltd Chertsey Surrey .... Eng
ICO Electronic Instrument Co Inc Brooklyn .... NY
MI Electronics Ltd Hayes .... Middlesex Eng
en-Tone Corp New York .... N Y
ates Radio Co Quincy Ill
eneral Electric Co, Information Devices Dept.
Oklahoma City .... Okla
eneral Electric Co Info Sys Equip Div Phoenix .... Ariz
enisco Technology Corp Compton .... Cal
otham Audio Corp New York .... N Y
regory Magnetic Industries Inc Pompano Beach .... Fla
athaway Instrument Div Denver .... Colo
ewlett-Packard Palo Alto .... Cal
immelstein & Co, S Elk Grove Village Ill
oneywell Test Instruments Div Denver .... Colo
BM, Industrial Products Marketing New York .... NY
nternational Computer Products Inc Dallas .... Tex
nternational Electro-Magnetics Inc Palatine Ill
etronic Industries Inc Philadelphia .... Pa
arg Labs Inc South Norwalk .... Conn
ennedy Co Altadena .... Cal
inelogic Corp Pasadena .... Cal
afayette Radio Electronics Syosset .... NY

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Lear Jet Industries Inc Detroit .... Mich
Magnasync/Moviola Corp North Hollywood .... Cal
Merchant Co, Robert C Carmel Valley .... Cal
Metrotech Div Dictaphone Corp Mountain View .... Cal
Midwestern Instruments Inc, Div Telex Corp Tulsa .... Okla
Mincom Div 3M Co Camarillo .... Cal
3M Company St Paul .... Minn
Oki Electric Industry Co Ltd Tokyo .... Japan
Pacific Electro Magnetics Co Inc Palo Alto .... Cal
Potter Instrument Co, Inc Plainview .... N Y
Precision Instrument Co Palo Alto .... Cal
Private Tele Communications Inc Chicago Ill
Recording Designs Ltd Camberley Surrey .... England
Scientific Data Systems Inc El Segundo .... Cal
Sony Corp Tokyo .... Japan
Sparta Electronic Corp Sacramento .... Cal
Stancil-Hoffman Corp Hollywood .... Cal
Stanford International San Carlos .... Cal
Stromberg Datagraphix Inc San Diego .... Cal
Stuart, Matthew & Co Inc Bronx .... NY
Studio Equipment Corp Paterson .... NJ
Superscope Inc Sun Valley .... Cal
Tape-Athon Inglewood .... Cal
Telectro Systems Corp Corona .... N Y
Telex Communications Div Minneapolis .... Minn
Texas Instruments Incorporated Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
Thermionic Products Electronics Ltd Southampton .... England
Video Research Corp Rockville .... Md
V-M Corp Benton Harbor .... Mich
Webster Electric Co Racine .... Wisc
Wiltek, Inc Wilton .... Conn

TAPE DECKS—MECHANISMS

ALLIED ELECTRONICS CORP CHICAGO ILL
CROWN INT'L RADIO & ELECTRONICS CORP ELKHART .. IND
HEWLETT-PACKARD PALO ALTO .... CAL
IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK .. NY
KINELOGIC CORP PASADENA .... CAL
Allied Electronics Corp Chicago Ill
Almond Instruments Co Covina .... Cal
Auricord Div Scovill Mfg Long Island City .... N Y
Broadcast Electronics Inc Silver Spring .... Md
Bruce Industries Inc Gardena .... Cal
Casco Music Systems Inc Hyde Park .... Mass
Crown Int'l Radio & Electronics Corp Elkhart .... Ind
Dowa Trading Co Ltd Kobe .... Japan
Dynamic Gear Co Inc Amityville .... N Y
EMI Electronics Ltd Hayes .... Middlesex Eng
Fen-Tone Corp New York .... N Y
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Genisco Technology Corp Compton .... Cal
Hewlett-Packard Palo Alto .... Cal
IBM, Industrial Products Marketing New York .... NY
International Computer Products Inc Dallas .... Tex
Jetronic Industries Inc Philadelphia .... Pa
Kennedy Co Altadena .... Cal
Kinelogic Corp Pasadena .... Cal
Lear Jet Industries Inc Detroit .... Mich
Magnasync/Moviola Corp North Hollywood .... Cal
Major Electronics Corp Brooklyn .... N Y
Merchant Co, Robert C Carmel Valley .... Cal
Metrotech Div Dictaphone Corp Mountain View .... Cal
Mincom Div 3M Co Camarillo .... Cal
Plessey Co Ltd Ilford Essex .... England
Potter Instrument Co, Inc Plainview .... N Y
Radio Corp of America, Comml Elctn Prods Div Camden .. N J
Recording Designs Ltd Camberley Surrey .... England
Sankyo Seiki Mfg Co, Ltd Tokyo .... Japan
Stuart, Matthew & Co Inc Bronx .... NY
Tape-Athon Inglewood .... Cal
Telectro Systems Corp Corona .... N Y
Telex Communications Div Minneapolis .... Minn
Texas Instruments Incorporated Dallas .... Tex
Thermionic Products Electronics Ltd Southampton .... England
Video Research Corp Rockville .... Md
Whiteford Lab Lynn .... Mass

TAPE DECKS—PAPER TAPE

IBM, INDUSTRIAL PRODUCTS MARKETING NEW YORK .. NY
Automatic Radio Sales Inc Melrose .... Mass
Bishop Graphics, Inc North Hollywood .... Cal
Chalco Engineering Corp Gardena .... Cal
Connecticut Technical Corp Hartford .... Conn
Cycle Equipment Co Los Gatos .... Cal
Data Products Corp Woodland Hills .... Cal
Decitek Inc Worcester .... Mass
Digitronics Corp Albertson .... N Y
Dowa Trading Co Ltd Kobe .... Japan
Dynamco Ltd Chertsey Surrey .... Eng
General Electric Co, Information Devices Dept.
Oklahoma City .... Okla
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Greentree Electronics Corp, A Bell & Howell Co Irvine .... Cal
IBM, Industrial Products Marketing New York .... NY
Industrial Timer Corp Parsippany .... N J
LAD Electro-Systems Inc Hicksville .... N Y
MDS Ohr-Tronics Montvale .... N J
Photologic Co Orange .... Cal
Potter Instrument Co, Inc Plainview .... N Y
Remex Electronics Hawthorne .... Cal
Scientific Data Systems Inc El Segundo .... Cal
Whiteford Lab Lynn .... Mass

TAPE ERASERS—BULK

***See* Erasers**

TAPE PERFORATORS

***See* Perforators**

TAPE READERS

See **Readers—Computer**

TAPE RECORDERS

See **Recorders—Magnetic Tape**

TAPE REEL FLANGE GAGE

See **Gages—Tape Reel Flange**

TAPE REELS

See **Reels**

TAPES—GLASS REINFORCED

ICA LABORATORIES INC FORT LEE . . . NJ
Acme Chemicals & Insulation New Haven . . . Conn
Actioncraft Products Inc Port Washington . . . N Y
Brown-Bridge Mills Inc Troy . . . Ohio
Budd Co Polychem Div Newark . . . Del
Chase & Sons Inc Randolph . . . Mass
Chemplast Inc Wayne . . . N J
Connecticut Hard Rubber Co New Haven . . . Conn
Crane Packing Co Morton Grove . . . Ill
Dixon Corp Bristol . . . R I
Dodge Industries Sub Oak Electro/Netics Corp
Hoosick Falls . . . N Y
Emerson Plastics Corp Bronx . . . New York
Engineered Plastics Inc Gibsonville . . . N C
Franklin Fibre-Lamitex Corp Wilmington . . . Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . Cal
General Plastics Corp Bloomfield . . . N J
Gentape Corp Bloomfield . . . N J
ICA Laboratories Inc Fort Lee . . . NJ
McMillan Radiation Labs Inc Ipswich . . . Mass
3M Company St Paul . . . Minn
Moxness Products Inc Racine . . . Wis
Mystik Tape Div Borden Chem Borden Inc Northfield . . . Ill
Natvar Corp Woodbridge . . . N J
Nitto Electric Industrial Co Ltd Osaka . . . Japan
Permacel New Brunswick . . . N J
Polyken Div The Kendall Co Chicago . . . Ill
Porter H K Co Inc, Thermoid Div Pittsburgh . . . Pa
Port Plastics Inc Montebello . . . Cal
Quantum-Joclin Wallingford . . . Conn
Saunders Corp Los Angeles . . . Cal
Tapecon Inc Rochester . . . N Y
US Polymeric Inc Parr Div Stamford . . . Conn
Universal Shellac & Supply Co Inc Brooklyn . . . N Y
Vitta Corp Wilton . . . Conn
Westinghouse Electric Corp, Industrial Plastics Div
West Mifflin . . . Pa

TAPES—HIGH TEMPERATURE (EXCEPT MICA)

GUDEBROD BROS SILK CO INC ELECTRONICS DIV
PHILADELPHIA . . . PA
ICA LABORATORIES INC FORT LEE . . . NJ
Acme Chemicals & Insulation New Haven . . . Conn
Actioncraft Products Inc Port Washington . . . N Y
Adhesive Engineering Co San Carlos . . . Cal
Auburn Mfg Co Middletown . . . Conn
Budd Co Polychem Div Newark . . . Del
Chase & Sons Inc Randolph . . . Mass
Chemplast Inc Wayne . . . N J
Connecticut Hard Rubber Co New Haven . . . Conn
Crane Packing Co Morton Grove . . . Ill
Dennison Mfg Co Framingham . . . Mass
Dilectrix Corp Farmingdale . . . N Y
Dixon Corp Bristol . . . R I
Dodge Industries Sub Oak Electro/Netics Corp
Hoosick Falls . . . N Y
Emerson Plastics Corp Bronx . . . New York
Engineered Plastics Inc Gibsonville . . . N C
Franklin Fibre-Lamitex Corp Wilmington . . . Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . Cal
General Plastics Corp Bloomfield . . . N J
Gudebrod Bros Silk Co Inc Electronics Div Philadelphia . . . Pa
Hitemp Div Simplex Wire & Cable Co Westbury . . . N Y
ICA Laboratories Inc Fort Lee . . . NJ
Insulating Shapes Inc Bronx . . . N Y
Lamart Corp Clifton . . . N J
Lash Labs, Inc San Diego . . . Cal
Markel & Sons Inc L Frank Norristown . . . Pa
3M Company St Paul . . . Minn
Moxness Products Inc Racine . . . Wis
Mystik Tape Div Borden Chem Borden Inc Northfield . . . Ill
Natvar Corp Woodbridge . . . N J
Nitto Electric Industrial Co Ltd Osaka . . . Japan
Permacel New Brunswick . . . N J
Permaluster Inc Burbank . . . Cal
Polyken Div The Kendall Co Chicago . . . Ill
Polymer Corp Reading . . . Pa
Porter H K Co Inc, Thermoid Div Pittsburgh . . . Pa
Port Plastics Inc Montebello . . . Cal
Saunders Corp Los Angeles . . . Cal
Tapecon Inc Rochester . . . N Y
Tensolite Div Carlisle Corp Tarrytown . . . N Y
Thermal American Fused Quartz Co Montville . . . N J
Thermal Wire & Electronics Corp South Hero . . . Vt
US Polymeric Inc Parr Div Stamford . . . Conn
Vitta Corp Wilton . . . Conn
Westinghouse Electric Corp, Industrial Plastics Div
West Mifflin . . . Pa

TAPES—INSULATING, HEAT SEALING

ICA LABORATORIES INC FORT LEE . . . NJ
Actioncraft Products Inc Port Washington . . . N Y
American Cable Electronic Supply Inc Sacramento . . . Cal
Arlin Mfg Co Inc Lowell . . . Mass
Auburn Mfg Co Middletown . . . Conn
Bishop Graphics, Inc North Hollywood . . . Cal
Budd Co Polychem Div Newark . . . Del
Chase & Sons Inc Randolph . . . Mass
Chemplast Inc Wayne . . . N J
Connecticut Hard Rubber Co New Haven . . . Conn
Crane Packing Co Morton Grove . . . Ill
Dennison Mfg Co Framingham . . . Mass
Dilectrix Corp Farmingdale . . . N Y
Dixon Corp Bristol . . . R I
Dodge Industries Sub Oak Electro/Netics Corp
Hoosick Falls . . . N Y
Dowa Trading Co Ltd Kobe . . . Japan
Electronized Chemicals Corp Burlington . . . Mass
Emerson Plastics Corp Bronx . . . New York
Fedtro Inc Rockville Centre . . . N Y
Flexible Products Inc Lakeville . . . Minn
Franklin Fibre-Lamitex Corp Wilmington . . . Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . Cal
Goodrich Industrial Prods Co, B F Akron . . . Ohio
Hitemp Div Simplex Wire & Cable Co Westbury . . . N Y
ICA Laboratories Inc Fort Lee . . . NJ
Insulating Shapes Inc Bronx . . . N Y
Lamart Corp Clifton . . . N J
Laminated Sheet Products Corp Norwood . . . Mass
Markel & Sons Inc L Frank Norristown . . . Pa
3M Company St Paul . . . Minn
Mystik Tape Div Borden Chem Borden Inc Northfield . . . Ill
New Jersey Machine Corp Hoboken . . . N J
Nitto Electric Industrial Co Ltd Osaka . . . Japan
Pervel Industries, Inc Plainfield . . . Conn
Polyken Div The Kendall Co Chicago . . . Ill
Polymer Corp Reading . . . Pa
Porter H K Co Inc, Thermoid Div Pittsburgh . . . Pa
Pres-On Products Co Addison . . . Ill
Saunders Corp Los Angeles . . . Cal
Schjeldahl Co, G T Northfield . . . Minn
Shamban & Co, W S Los Angeles . . . Cal
Smith Inc, Herman H Brooklyn . . . N Y
Star-A Electric Mfg Co Inc Brooklyn . . . N Y
Tapecon Inc Rochester . . . N Y
Tensolite Div Carlisle Corp Tarrytown . . . N Y
Thermal Wire & Electronics Corp South Hero . . . Vt
Trimtex Inc Williamsport . . . Pa
Tri-Point Industries Inc Commack . . . NY
Vitta Corp Wilton . . . Conn

TAPES—INSULATING, PRESSURE SENSITIVE

BRADY CO, W H MILWAUKEE . . . WIS
Acme Chemicals & Insulation New Haven . . . Conn
Acme Model Engineering Co Ridgefield . . . N J
Actioncraft Products Inc Port Washington . . . N Y
American Cable Electronic Supply Inc Sacramento . . . Cal
Arno Adhesive Tapes, Inc Michigan City . . . Ind
Auburn Mfg Co Middletown . . . Conn
Bishop Graphics, Inc North Hollywood . . . Cal
Brady Co, W H Milwaukee . . . Wis
Cable Electric Products Inc Providence . . . R I
Chase & Sons Inc Randolph . . . Mass
Chemplast Inc Wayne . . . N J
Connecticut Hard Rubber Co New Haven . . . Conn
Crane Packing Co Morton Grove . . . Ill
Crane Packing Co Morton Grove . . . Ill
Dilectrix Corp Farmingdale . . . N Y
Dodge Industries Sub Oak Electro/Netics Corp
Hoosick Falls . . . N Y
Dowa Trading Co Ltd Kobe . . . Japan
Eagle Electric Mfg Co Inc Long Island City . . . N Y
Emerson Plastics Corp Bronx . . . New York
Engineered Plastics Inc Gibsonville . . . N C
Franklin Fibre-Lamitex Corp Wilmington . . . Del
General Compounds Co, Div Kai R Kuhl Co Los Angeles . . . Cal
General Plastics Corp Bloomfield . . . N J
Insulating Shapes Inc Bronx . . . N Y
Lamart Corp Clifton . . . N J
Markel & Sons Inc L Frank Norristown . . . Pa
3M Company St Paul . . . Minn
Morgan Adhesives Co Stow . . . Ohio
Mystik Tape Div Borden Chem Borden Inc Northfield . . . Ill
National Laminating Mfg Co Beverly Hills . . . Cal
Nitto Electric Industrial Co Ltd Osaka . . . Japan
Permacel New Brunswick . . . N J
Pervel Industries, Inc Plainfield . . . Conn
Polyken Div The Kendall Co Chicago . . . Ill
Porter H K Co Inc, Thermoid Div Pittsburgh . . . Pa
Port Plastics Inc Montebello . . . Cal
Pres-On Products Co Addison . . . Ill
Products Research & Chemical Corp Burbank . . . Cal
Quantum-Joclin Wallingford . . . Conn
Ross Matthews Corp Fall River . . . Mass
Rye Industries, Inc Mamaroneck . . . N Y
Saunders Corp Los Angeles . . . Cal
Smith Inc, Herman H Brooklyn . . . N Y
Sparta Mfg Co Dover . . . Ohio
Staff Gasket Mfg Corp New York . . . N Y
Tapecon Inc Rochester . . . N Y
Technical Tape Corp New Rochelle . . . N Y
Technical Wire Products Inc Cranford . . . N J
United Mineral & Chemical Corp New York . . . N Y
Vitta Corp Wilton . . . Conn

TAPES—LACING

See **Cords—Lacing**

TAPES—MAGNETIC RECORDING, ENTERTAINMENT

TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO . . . JAPA
Aiwa Co Ltd Tokyo . . . Japa
Ampex Corp Redwood City . . . C
Astatic Corp Conneaut . . . Oh
Audio Devices Inc Sub Capitol Indus Glenbrook . . . Co
Audio Magnetics Corp Gardena . . . C
Broadcast Electronics Inc Silver Spring . . . M
Casco Music Systems Inc Hyde Park . . . Ma
Claricon Products Elizabeth . . . N
Dowa Trading Co Ltd Kobe . . . Japa
Duotone Co Inc Miami . . . F
Electronic Homes Co New York . . . N
EMI Electronics Ltd Hayes . . . Middlesex E
Fuji Photo Film Co Ltd Minato-Ku Tokyo 106 . . . Japa
Greentree Electronics Corp, A Bell & Howell Co Irvine . . . C
Marathon Products Corp West Boylston . . . Ma
Matsushita Electric Industrial Co Ltd Osaka . . . Japa
Miller Mfg Co, M A Libertyville . . .
3M Company St Paul . . . Mi
Realtone Electronics Div Soundesign Corp Jersey City . . . N
Recoton Corp Long Island City . . . N
Reeves Soundcraft Div, Reeves Industries Inc Danbury . . . Co
Robins Industries Corp Flushing . . . N
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington . . . I
Sarkes Tarzian Inc, Magnetic Tape Div Bloomington . . . I
S E C I Soc Elettrotecnica Chimica Italiana Milano . . . Ita
Show Sound, Inc New York . . . N
Sony Corp Tokyo . . . Japa
Sparta Electronic Corp Sacramento . . . C
Stanford International San Carlos . . . C
Stuart, Matthew & Co Inc Bronx . . . N
Superscope Inc Sun Valley . . . C
Tape-Athon Inglewood . . . C
TDK Electronics Co Ltd Chiyoda-ku, Tokyo . . . Japa
Telephone Dynamics Corp North Bellmore . . . N

TAPES—MAGNETIC RECORDING, INSTRUMENT & COMPUTER

TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO . . . JAPA
Aiwa Co Ltd Tokyo . . . Japa
Ampex Corp Redwood City . . . C
Audio Devices Inc Sub Capitol Indus Glenbrook . . . Co
Bell & Howell Co, Elctn Instr Grp Pasadena . . . C
Burroughs Corp Component Sales Dept Los Angeles . . . C
Casco Music Systems Inc Hyde Park . . . Ma
Dowa Trading Co Ltd Kobe . . . Japa
Electronic Homes Co New York . . . N
EMI Electronics Ltd Hayes . . . Middlesex E
Fuji Photo Film Co Ltd Minato-Ku Tokyo 106 . . . Japa
General Electric Co Info Sys Equip Div Phoenix . . . Ar
Honeywell EDP Div Wellesley Hills . . . Ma
IBM Corp White Plains . . . N
International Computer Products Inc Dallas . . . Te
Lash Labs, Inc San Diego . . . C
Marathon Products Corp West Boylston . . . Ma
Memorex Corp Santa Clara . . . C
Miller Mfg Co, M A Libertyville . . .
3M Company St Paul . . . Mi
Philips Electronic Instruments, Test & Measuring Inst
Mount Vernon . . . N
Reeves Soundcraft Div, Reeves Industries Inc Danbury . . . Co
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington . . . I
S E C I Soc Elettrotecnica Chimica Italiana Milano . . . Ita
TDK Electronics Co Ltd Chiyoda-ku, Tokyo . . . Japa
Telephone Dynamics Corp North Bellmore . . . N
Texas Instruments Incorporated Dallas . . . Te
Texas Instruments Inc Indl Prods Div Houston . . . Te
Univac Div, Sperry Rand Corp Philadelphia . . . P

TAPES—MAGNETIC RECORDING, VIDE

TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO . . . JAPA
Ampex Corp Redwood City . . . C
Audio Devices Inc Sub Capitol Indus Glenbrook . . . Co
Concord Electronics Corp Los Angeles . . . C
Diamond Electronics Unit, Babcock & Wilcox Lancaster . . . Oh
Dowa Trading Co Ltd Kobe . . . Japa
Electronic Homes Co New York . . . N
EMI Electronics Ltd Hayes . . . Middlesex E
Fuji Photo Film Co Ltd Minato-Ku Tokyo 106 . . . Japa
Gordon Enterprises Inc, Alan North Hollywood . . . C
Greentree Electronics Corp, A Bell & Howell Co Irvine . . . C
Hydro Products Div Dillingham Corp San Diego . . . C
Lake Systems Corp Newton . . . Ma
Lash Labs, Inc San Diego . . . C
Memorex Corp Santa Clara . . . C
3M Company St Paul . . . Mi
Multi Media Engineering Inc Rockville . . . M
Radio Corp of America, Comml Elctn Prods Div Camden . . . N
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington . . . I
Sarkes Tarzian Inc, Magnetic Tape Div Bloomington . . . I
Shiba Electric Co Ltd Woodside . . . N
Sony Corp Tokyo . . . Japa
TDK Electronics Co Ltd Chiyoda-ku, Tokyo . . . Japa
U S Magnetic Tape Co Huntley . . .

TAPES—NONINSULATING, PRESSURE SENSITIVE

BRADY CO, W H MILWAUKEE . . . W
Actioncraft Products Inc Port Washington . . . N
American Cable Electronic Supply Inc Sacramento . . . C
Arno Adhesive Tapes, Inc Michigan City . . . I
Bishop Graphics, Inc North Hollywood . . . C
Borden Chemical Div Borden Inc New York . . . N
Brady Co, W H Milwaukee . . . W

ad Precision Industries Inc New York .... N Y
tpak Rotex Div Avery Prods Corp Santa Ana .... Cal
e & Sons Inc Randolph .... Mass
munications Technology Corp Los Angeles .... Cal
necticut Hard Rubber Co New Haven .... Conn
nison Mfg Co Framingham .... Mass
rson Plastics Corp Bronx .... New York
klin Fibre-Lamitex Corp Wilmington .... Del
eral Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
s Inc Laramie .... Wyo
lating Shapes Inc Bronx .... N Y
elon Corp Canadaigua .... N Y
hanical Rubber Products Co, Inc Warwick .... NY
Company St Paul .... Minn
gan Adhesives Co Stow .... Ohio
tik Tape Div Borden Chem Borden Inc Northfield Ill
onal Laminating Mfg Co Beverly Hills .... Cal
o Electric Industrial Co Ltd Osaka .... Japan
nacel New Brunswick .... N J
ken Div The Kendall Co Chicago Ill
Plastics Inc Montebello .... Cal
-On Products Co Addison Ill
on Name Plate Corp New Haven .... Conn
npat Products Inc Port Washington .... N Y
econ Inc Rochester .... N Y
flight Corp York .... Pa
n Carbide Corp Chemicals & Plastics New York .... N Y
ed Minerai & Chemical Corp New York .... N Y
a Corp Wilton .... Conn

PES—PAPER, COMPUTER

ey Corp Chicago Ill
is Co, Inc Minneapolis .... Minn
itek Inc Worcester .... Mass
tronics Corp Albertson .... N Y
len Div Singer Co San Leandro .... Cal
eral Electric Co Info Sys Equip Div Phoenix .... Ariz
S Ohr-Tronics Montvale .... N J
ional Cash Register Co Dayton .... Ohio
ins Data Devices Inc Flushing .... N Y
y Corp Seattle .... Wash

PES—PRINTED OR COLOR CODED

ADY CO, W H MILWAUKEE .... WIS
INE INC CLIFTON .... NJ
ioncraft Products Inc Port Washington .... N Y
n Mfg Co Inc Lowell .... Mass
hop Graphics, Inc North Hollywood .... Cal
dy Co, W H Milwaukee .... Wis
rad Precision Industries Inc New York .... N Y
rtpak Rotex Div Avery Prods Corp Santa Ana .... Cal
se & Sons Inc Randolph .... Mass
nison Mfg Co Framingham .... Mass
ctrix Corp Farmingdale .... N Y
nklin Fibre-Lamitex Corp Wilmington .... Del
eral Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
tape Corp Bloomfield .... N J
ter Spring Div Ametek Inc Hatfield .... Pa
pelon Corp Canadaigua .... N Y
ster Tape Printers Inc Chicago Ill
Company St Paul .... Minn
stik Tape Div Borden Chem Borden Inc Northfield Ill
ine Inc Clifton .... NJ
helgraphic Corp Caldwell .... N J
bins Data Devices Inc Flushing .... N Y
anpat Products Inc Port Washington .... N Y
n Dial & Panel Corp Caldwell .... N J
oflight Corp York .... Pa

APES—SHIELDING

tioncraft Products Inc Port Washington .... N Y
erican Cable Electronic Supply Inc Sacramento .... Cal
in Mfg Co Inc Lowell .... Mass
no Adhesive Tapes, Inc Michigan City .... Ind
ase & Sons Inc Randolph .... Mass
emplast Inc Wayne .... N J
ectrix Corp Farmingdale .... N Y
ectronized Chemicals Corp Burlington .... Mass
exible Products Inc Lakeville .... Minn
neral Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
mart Corp Clifton .... N J
sh Labs, Inc San Diego .... Cal
agnetic Metals Co Camden .... N J
etal Ceram Inc Mount Vernon .... N Y
etex Corp Edison .... N J
M Company St Paul .... Minn
organ Adhesives Co Stow .... Ohio
ystik Tape Div Borden Chem Borden Inc Northfield Ill
rter H K Co Inc, Thermoid Div Pittsburgh .... Pa
ssell Industries Inc Lynbrook .... N Y
aunders Corp Los Angeles .... Cal
chjeldahl Co, G T Northfield .... Minn
emi-Alloys Inc Mt Vernon .... N Y
apecon Inc Rochester .... N Y
echnical Wire Products Inc Cranford .... N J

APES—TEMPERATURE SENSITIVE

RADY CO, W H MILWAUKEE .... WIS
TINE INC CLIFTON .... NJ
ckerman Gould Co, Inc Oceanside .... N Y
dhesive Engineering Co San Carlos .... Cal
shop Graphics, Inc North Hollywood .... Cal
rady Co, W H Milwaukee .... Wis
eneral Compounds Co, Div Kai R Kuhl Co Los Angeles .... Cal
M Corp White Plains .... N Y
aster Tape Printers Inc Chicago Ill
etal Ceram Inc Mount Vernon .... N Y
inco Products Inc Minneapolis .... Minn

3M Company St Paul .... Minn
Nitine Inc Clifton .... NJ
Semi-Alloys Inc Mt Vernon .... N Y
Tempil Div Big Three Ind Gas & Equip Co New York .... N Y

TAPE-TO-PUNCHED CONVERTERS

***See* Converters—Computer**

TEACHING MACHINES

ELCO CORP WILLOW GROVE .... PA
KINELOGIC CORP PASADENA .... CAL
Allegri-Tech Inc Nutley .... N J
Auricord Div Scovill Mfg Long Island City .... N Y
Avco Electronics Div Cincinnati .... Ohio
A V Electronics, Inc Fresno .... Cal
Burtek Inc Tulsa .... Okla
Cognitronics Corp Mount Kisco .... NY
Cook Co, Ken Milwaukee .... Wis
Data Mate Computer Systems Inc Big Spring .... Tex
Elco Corp Willow Grove .... Pa
Electronic Futures Inc Div KMS Indus Inc North Haven .... Conn
Fairchild Industrial Products Plainview .... N Y
General Electronic Labs Div Sippican Corp Boston .... Mass
Gregory Magnetic Industries Inc Pompano Beach .... Fla
Hickok Teaching Systems Inc Woburn .... Mass
JaMac Products Co Portland .... Ore
Jetronic Industries Inc Philadelphia .... Pa
Kinelogic Corp Pasadena .... Cal
Mast Development Co Davenport .... Iowa
McElroy Electronics Corp Shirley .... Mass
McMahon Electronic Engineering Res & Dev Lab San Pedro .... Cal
Micro Metrics Inc Paterson .... N J
Nuclear Research Instruments Berkeley .... Cal
Pastoriza Div Analog Devices Cambridge .... Mass
P & H Electronics Lafayette .... Ind
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
P M & E Electronics Inc East Providence .... R I
Radio Corp of America, Comml Elctn Prods Div Camden .... N J
Sony Corp Tokyo .... Japan
Spitz Labs Inc Yorklyn .... Del
Sylvania Electric Prods Inc, Coml Elctns Div Waltham .... Mass
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Telex Communications Div Minneapolis .... Minn
Vitro Labs Div Sub Automation Ind Inc Silver Spring .... Md

TEES—COAXIAL

AMPHENOL DANBURY .... CONN
HEWLETT-PACKARD PALO ALTO .... CAL
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ILL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD .... ADV PG 49
Alford Mfg Co Winchester .... Mass
Alpha Industries Inc Newton Upper Falls .... Mass
Americon Corp Waltham .... Mass
Amphenol Danbury .... Conn
Anaren Microwave Inc Syracuse .... N Y
Applied Engineering Prods Div Samarius Inc Ansonia .... Conn
Arra, Inc Bay Shore .... NY
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Ava Electronics & Machine Corp Upper Darby .... Pa
Compagnie Generale de Metrologie Haute Savoie .... France
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Dow-Key Co Broomfield .... Colo
Engelmann Microwave Co Montville .... NJ
General Microwave Corp Farmingdale .... N Y
General Radio Co West Concord .... Mass
Gombos Microwave Inc Clifton .... N J
Greenpar Engineering Ltd, Electronics Div Essex .... England
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Indit Corp Albertson .... N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Lunkenheimer Co Div Conval Corp Cincinnati .... Ohio
Maury Microwave Corp Cucamonga .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Merrimac Research & Development Inc West Caldwell, ... N J
Microlab/F X R Livingston .... N J
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Filter Co Inc East Syracuse .... NY
Microwave Labs of America Brooklyn .... N Y
Nanosecond Systems Inc Fairfield .... Conn
Neico Microwave Co Waltham .... Mass
Omega Laboratories Inc Rowley .... Mass
Omni Spectra Inc Farmington .... Mich
Phelps Dodge Communications Co North Haven .... Conn
Rantec Div Emerson Electric Co Calabasas .... Cal
RLC Electronics Inc Port Chester .... N Y
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Solitron/Microwave Long Island City .... N Y
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Ted Mfg Corp Shawnee Mission .... Kans
Transco Products Inc Venice .... Cal
Trompeter Electronics Inc Chatsworth .... Cal
Tru-Connector Corp Peabody .... Mass
Universal Ad-Yu Electronics Inc Passaic .... N J
Vector Industries A Teledyne Co Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass
Weinschel Engineering Co Inc Gaithersburg .... Md
Western Int'l Inc., Connector Div. Yonkers .... NY

TEES—WAVEGUIDE

ALUMINUM DESIGN CORP BROOKFIELD ILL
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS .... ADV PG 372
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
Ainslie Corp Braintree .... Mass
Airtec Inc Roselle .... N J
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Allied Research & Engineering Co Los Angeles .... Cal
Alpha Industries Inc Newton Upper Falls .... Mass
Aluminum Design Corp Brookfield Ill
Amperex Electronic Corp, Professional Tube Div Hicksville .... NY
Andrew Corp Orland Park Ill
Arra, Inc Bay Shore .... NY
Astrolab Inc Linden .... N J
Cardwell Condenser Corp Lindenhurst .... N Y
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Fenwick Paris 10 .... France
General Microwave Corp Farmingdale .... N Y
Gombos Microwave Inc Clifton .... N J
Guide Industries Inc Sun Valley .... Cal
Harris-Intertype Corp Cleveland .... Ohio
Herley Industries, Inc Syosset .... N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Lieco Inc West Babylon .... N Y
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microlab/F X R Livingston .... N J
Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Labs of America Brooklyn .... N Y
3M Company St Paul .... Minn
Neico Microwave Co Waltham .... Mass
O'Dell Brothers Mountain View .... Cal
Omega Laboratories Inc Rowley .... Mass
Premier Microwave Corp Port Chester .... NY
Radiation Systems Inc McLean .... Va
Radiatronics Div Tasker Industries Newport Beach .... Cal
Rantec Div Emerson Electric Co Calabasas .... Cal
R F Systems Inc Cohasset .... Mass
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst .... NY
Specialty Waveguide Corp Burlington .... Mass
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Transco Products Inc Venice .... Cal
Vector Industries A Teledyne Co Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass
Waveline Inc West Caldwell .... N J
Western Int'l Inc., Connector Div. Yonkers .... NY

TELEGRAPHS

***See* Communications Systems**

TELEMETERING

***See* Communication Systems; Commutators—Switching; Converters—Signal; Decommutators—Filters—Telemetering; Generators—Signal; Oscillators—A-F; Oscillators—R-F; Receivers—Radio Communication; Recorders—Graphic; Recorders—Magnetic Tape; Switches—Multi-Contact; Transducers; Translators—Telemetering; Transmitters—Radio Communication**

TELEPHONE RECORDERS

***See* Recorders—Telephone**

TELEPHONE REPEATERS

***See* Repeaters—Telephone-Line**

TELEPHONES—HANDSETS

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PRIMO CO LTD TOKYO .... JAPAN
Action Systems Co Div Conn Consolidated Inds Inc Meriden .... Conn
ADEC Inc Newark .... N J
Audiosears Corp Stamford .... N Y
Automatic Electric Co Northlake Ill
Bogen Communications Div Lear Siegler Inc Paramus .... N J
Continental Electronics Corp Brooklyn .... N Y
DuKane Corp St Charles Ill
Electrospace Corp Westbury .... NY
Fujitsu Ltd Tokyo .... Japan
Gai-Tronics Corp Reading .... Pa
ITT Telecommunications, Apparatus Dept Corinth .... Miss
ITT Terryphone Corp Harrisburg .... Pa
Iwatsu Electric Co Ltd Suginami-ku Tokyo .... Japan
Midwest Audio Corp Chicago Ill

Murdock Corp Chelsea .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Nitsuko Ltd Kanagawa-Pref .... Japan
North Electric Co Galion .... Ohio
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .. Ont
Plessey Co Ltd Ilford Essex .... England
Primo Co Ltd Tokyo .... Japan
Private Tele Communications Inc Chicago Ill
Roanwell Corp New York .... N Y
Rowe Co, L L Boston .... Mass
Shure Brothers Inc Evanston Ill
Simplex Time Recorder Co Gardner .... Mass
Simpson Electronics, Inc Miami .... Fla
Standard Telephones & Cables Ltd London WC 2 .... England
Stromberg-Carlson Sub Gen Dynamics Rochester .... N Y
Stuart, Matthew & Co Inc Bronx .... NY
Tele-Norm Corp Woodside .... N Y
Telephone Components Inc Northport .... NY
Telephone Dynamics Corp North Bellmore .... N Y
Webster Electric Co Racine .... Wisc

TELEPRINTER SYSTEMS

See **Communication Systems**

TELETYPEWRITER EQUIPMENT

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TEMPO INSTRUMENT INC IND DIV PLAINVIEW .... N Y
TUCK ELECTRONICS NEW CUMBERLAND .... PA
AC Electronics Co Los Angeles .... Cal
Advanced Space Age Products Inc Alexandria .... Va
Alltronics-Howard Co Boston .... Mass
Anderson-Jacobson Inc Mountain View .... Cal
Aquadyne Inc East Falmouth .... Mass
Berkeley/Dynamics Hillsboro .... Cal
Century Electronics & Instruments Inc Tulsa .... Okla
Codamite Corp Stanton .... Cal
Connecticut Technical Corp Hartford .... Conn
Di/An Controls Inc Boston .... Mass
Dimensions Inc Hempstead .... N Y
Fisher-Akin Co Manhattan Beach .... Cal
Frederick Electronics Corp Frederick .... Md
General Electric Co Info Sys Equip Div Phoenix .... Ariz
Kleinschmidt, Div SCM Corp Deerfield Ill
Mite Corp New Haven .... Conn
Motorola Instrumentation & Control Inc Phoenix .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
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See **TV Listings**

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See **Intermetallics**

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TEMPERATURE CHAMBERS

See **Chambers—Environmental**

TEMPERATURE CONTROL

See **Controls—Temperature**

TEMPERATURE INDICATORS

See **Crayons, Indicators—Temperature; Paints—Temperature**

TEMPERATURE MEASURING DEVICES

See **Meters—Thermocouple; Pyrometers; Thermocouples; Thermometers**

TEMPERATURE RECORDERS

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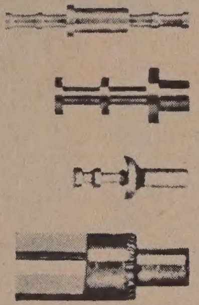

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ZIERICK MFG CORP MOUNT KISCO . . .
Abacus Electronics Corp Dobbs Ferry . . .
Accurate Electronics Corp Elyria . . .
Acme Model Engineering Co Ridgefield . . .
Alden Products Co, Inc Brockton . . .
Anritsu Electric Co Ltd Tokyo . . . J
Armel Electronics, Inc North Bergen . . .
Auto-Swage Products, Inc Shelton . . .
Bead Chain Mfg Co Bridgeport . . .
BeMan Mfg, Inc New Cumberland . . .
Berg Electronics, Inc New Cumberland . . .
Birnbach Co Inc Freeport . . .
Burndy Corp Norwalk . . .
Cambridge Thermionic Corp Cambridge . . .
Cole-Hersee Co S Boston . . .
Concord Electronics Corp New York . . .
Daburn Electronics & Cable Corp Bronx . . .
Dante Electric Mfg Co Bantam . . .
Davis & Hemphill Inc Elkridge . . .
Dowa Trading Co Ltd Kobe . . . J
Eastern Specialty Co Philadelphia . . .
Elco Corp Willow Grove . . .
Electric Terminal Corp Warwick . . .
Emporium Specialties Co Inc Chagrin Falls . . .
Emtec Inc, Empire Spring Div Elyria . . .
Ercona Corp Bellmore . . .
Fastex Div Illinois Tool Works Des Plaines . . .
Federal Screw Products Inc Chicago . . .
Force Electronics Inglewood . . .
G C Electronics Div, Hydrometals Inc Rockford . . .
Goe Engineering Co City-of-Industry . . .
Hermetite Corp Avon . . .
Jan Engineering Santa Monica . . .
Javex Electronics Cherry Valley . . .
Jones Electronics, Hiram Burbank . . .
Keystone Electronics Corp New York . . .
Kolton Electric Mfg Co Newark . . .
Malco Mfg Co Inc Chicago . . .
Metox Paris 20 . . . F
Molex Products Co Downers Grove . . .
National Tel-Tronics Corp Yonkers . . .
Network Industries Inc Bayonne . . .
Norton Co Chemical Process Prods Div Orrville . . .
Patton-MacGuyer Co Providence . . .
Penn Engineering & Mfg Corp Doylestown . . .
Penn-Union Electric A Teledyne Co Edinboro . . .
Permonite Mfg Co Chicago . . .
Positive Connector Co Derby . . .
Precision Metal Products Co of Malden Inc Stoneham . . .
Robinson-Nugent Inc New Albany . . .
Semi-Alloys Inc Mt Vernon . . .
Smith Inc, Herman H Brooklyn . . .
Teale Machine Co Inc Rochester . . .
Transitron Electronic Corp Wakefield . . .
Triple A Specialty Co Chicago . . .
U S Terminals Inc Cincinnati . . .
USECO Div, Litton Industries Van Nuys . . .
Vector Electronic Co Inc Sylmar . . .
Virginia Panel Corp Waynesboro . . .
Waldom Electronics Inc Chicago . . .
Zierick Mfg Corp Mount Kisco . . .

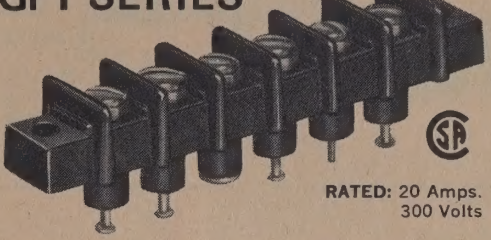
TERMINALS—WIRE, SOLDERLESS

ACCURATE ELECTRONICS CORP ELYRIA . . .
ART WIRE & STAMPING CO NEWARK . . .
BURNDY CORP NORWALK . . .
DABURN ELECTRONICS & CABLE CORP BRONX . . .
ELCO CORP WILLOW GROVE . . .
MITSUMI ELECTRIC CO LTD TOKYO . . . JA
ZIERICK MFG CORP MOUNT KISCO . . .
Accurate Electronics Corp Elyria . . .
AMP Incorporated Harrisburg . . .
Ark-Les Switch Corp Watertown . . .

Wire & Stamping Co Newark .... N J
o-Swage Products, Inc Shelton .... Conn
d Chain Mfg Co Bridgeport .... Conn
C Inc Brooklyn .... NY
Aan Mfg, Inc New Cumberland .... Pa
g Electronics, Inc New Cumberland .... Pa
ibach Co Inc Freeport .... N Y
hanan Electrical Products Corp Union .... NJ
ndy Corp Norwalk .... Conn
ile Electric Products Inc Providence .... R I
e-Hersee Co S Boston .... Mass
ourn Electronics & Cable Corp Bronx .... N Y
ite Electric Mfg Co Bantam .... Conn
iglas Div Scott & Fetzer Co Bronson .... Mich
va Trading Co Ltd Kobe .... Japan
tern Specialty Co Philadelphia .... Pa
o Corp Willow Grove .... Pa
ctric Terminal Corp Warwick .... R I
ctrix Corp Esmond .... R I
ctronic Training Aids Co Cambridge .... Mass
porium Specialties Co Inc Chagrin Falls .... Ohio
tec Inc, Empire Spring Div Elyria .... Ohio
ona Corp Bellmore .... NY
ex Intl Corp, Terminal Sales Chicago Ill
es Engineering Co Gardena .... Cal
C Inc Cleveland .... Ohio
tex Div Illinois Tool Works Des Plaines Ill
ce Electronics Inglewood .... Cal
Electronics Div, Hydrometals Inc Rockford Ill
ieral Staple Co. Connectrol Div New York .... N Y
metite Corp Avon .... Mass
lingsworth Solderless Terminal Co Phoenixville .... Pa
al-Hellerman Canada Ltd Ajax .... Ontario
vex Electronics Cherry Valley .... Cal
nt Corp Mundelein Ill
ystone Electronics Corp New York .... N Y
ton Electric Mfg Co Newark .... N J
lco Mfg Co Inc Chicago Ill
adows Terminal Boards Cupertino .... Cal
cro Contacts, Inc Hicksville .... N Y
tsumi Electric Co Ltd Tokyo .... Japan
lecu-Wire Corp Farmingdale .... N J
lex Products Co Downers Grove Ill
tional Tel-Tronics Corp Yonkers .... N Y
twork Industries Inc Bayonne .... N J
tton-MacGuyer Co Providence .... R I
nn-Union Electric A Teledyne Co Edinboro .... Pa
rmonite Mfg Co Chicago Ill
sitive Connector Co Derby .... Conn
binson-Nugent Inc New Albany .... Ind
mi-Alloys Inc Mt Vernon .... N Y
ith Inc, Herman H Brooklyn .... N Y
uare D Co Park Ridge Ill
ale Machine Co Inc Rochester .... N Y
omas & Betts Co Elizabeth .... N J
ansitron Electronic Corp Wakefield .... Mass
ple A Specialty Co Chicago Ill
in Lock Inc Los Angeles .... Cal
ECO Div, Litton Industries Van Nuys .... Cal
co Products Co Chicago Ill
ctor Electronic Co Inc Sylmar .... Cal
ginia Panel Corp Waynesboro .... Va
aldom Electronics Inc Chicago Ill
itso Inc Schiller Park Ill
rick Mfg Corp Mount Kisco .... N Y

ERMINAL STRIPS—BOARDS, FLAT

CCURATE ELECTRONICS CORP ELYRIA OHIO .. ADV PG 625
RNDY CORP NORWALK CONN .... ADV PG 625
NCH MFG CO ELK GROVE VILLAGE ILL . ADV PGS 162, 163
NCORD ELECTRONICS CORP NEW YORK .... N Y
ABURN ELECTRONICS & CABLE CORP BRONX .... N Y
ECTRICAL INSULATION CO INC COPIAGUE .... N Y
DERAL SCREW PRODUCTS INC CHICAGO ILL
NERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
LKA ELECTRIC CORP MOUNT VERNON N Y ... ADV PG 626
ANDEX MFG CO INC CHICAGO ILL
IOWA MUSEN KOGYO CO LTD TOKYO .... JAPAN
bacus Electronics Corp Dobbs Ferry .... N Y
curate Electronics Corp Elyria .... Ohio
me Model Engineering Co Ridgefield .... N J
ronautical Electric Co Chicago Ill
co Electronic Products, Inc Lawrence .... Mass
legri-Tech Inc Nutley .... N J
natom Electronic Hardware New Rochelle .... N Y
ahouser Corp of N E Boston .... Mass
k-Les Switch Corp Watertown .... Mass
mel Electronics, Inc North Bergen .... N J
omite Electronics Corp Roosevelt .... N Y
ionics Ltd Niagara-on-the-Lake .... Ont
ead Chain Mfg Co Bridgeport .... Conn
erg Electronics, Inc New Cumberland .... Pa
uchanan Electrical Products Corp Union .... NJ
urndy Corp Norwalk .... Conn
ambridge Thermionic Corp Cambridge .... Mass
nch Mfg Co Elk Grove Village Ill
omco Plastics Inc Richmond Hill .... N Y
oncord Electronics Corp New York .... N Y
onnector Corp Chicago Ill
ontinental Connector Corp Woodside .... N Y
aburn Electronics & Cable Corp Bronx .... N Y
-Cemco Inc Burbank .... Cal
eSoto Electrical Products DeSoto .... Mo
oran Mfg Co Cincinnati .... Ohio
owa Trading Co Ltd Kobe .... Japan
lectrical Insulation Co Inc Copiague .... N Y
lectro-Etch Circuits Inc Los Angeles .... Cal
lectro-Sonics, Inc Spofford .... N H
lgin Electronics Inc Erie .... Pa
merson Plastics Corp Bronx .... New York
ngineered Plastics Inc Gibsonville .... N C
pco Plastics Corp Glen Cove .... NY
rcona Corp Bellmore .... NY
ederal Screw Products Inc Chicago Ill
idelity Amplifier Co Chicago Ill
isher & Crome, Inc Philadelphia .... Pa



TERMINAL BLOCKS

CURTIS

INSULATED FEED-THRU
GFT SERIES

RATED: 20 Amps.
300 Volts

Versatile, compact GFT Series eliminate costly insulating and mounting procedures to meet UL and CSA requirements. Fully insulated inserts give 1/4" solder terminal to ground clearance on 1/8" thick chassis.

SURFACE TERMINALS: 7/16" center-to-center spacing of #6 or #8 screws take up to #12 AWG wire.

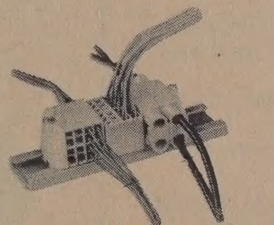
INTERNAL CONNECTIONS: Variations include turret-type solder posts, printed circuit pin (.062 dia.), #6-32 screws, or turret-type posts with axial #53 taper pin receptacle.

AVAILABLE: 1-18 bright tin plated terminals per block with end mounting positions or flush ends with Tinnerman nut mounting.

FREE! Full details, descriptions and prices in Curtis 24-page illustrated catalog.

NEMA MEMBER

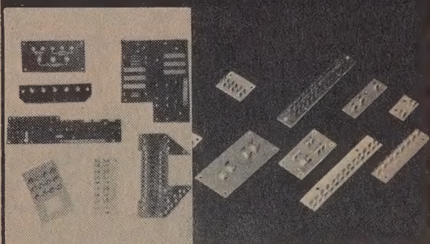
CURTIS DEVELOPMENT & MFG. CO.
3226 N. 33rd St., Milwaukee, Wis. 53216



MINILOK® • MODULOK® • CRABLOK®
TERMINAL BLOCKS
For Your Specific Needs

Standard and miniature-sized terminal blocks are of versatile modular design for terminating and feeding three standard single conductor wire, standard and coax cables. MINILOK and MODULOK permit unlimited numbers of conductors to be accommodated in tracks of any length. CRABLOK assures ruggedness, high strength and temperature resistance.

BURNDY
Richards Avenue
Norwalk, Connecticut 06852

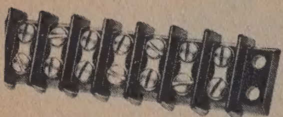


TERMINAL STRIPS, BOARDS & BLOCKS

- "Kwik-Tab" Terminal Boards
- Screw-Lug Strips and Boards
- Heavy Duty Junction Blocks
- Turret Terminal Boards
- Fuse Holders and Blocks
- Insulated Terminal Assemblies
- Contacts and Contact Assemblies
- Molded Connectors
- Panels and Panel Assemblies
- Silkscreening, Hotstamping
- Rubber or Steel Die Marking
- 1 Piece or Millions
- Low Cost to High Volume Tools
- Fabricated Plastic Parts
- Stamped Metal Parts
- Send for Catalog

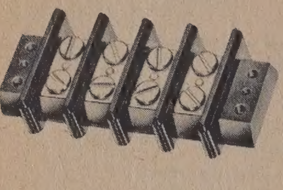
ACCURATE
ELECTRONICS
CORPORATION
169 S. ABBE RD. ELYRIA, OHIO 44035
216-365-1211

Kulka TERMINAL BOARDS



STANDARD

410, 600, 600A, 601, 602 Series. Current range 5 thru 30 Amps; Voltage Range 1000 thru; 600 RMS; Wire sizes 20-14 Ga.; 1 thru 26 Terminals.

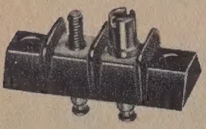


HEAVY DUTY

603, 604, 605 Series, Current range 50 thru 90 Amps, Voltage 1700 thru 2100 RMS; Wire Sizes #6 to 2 ga.; 1 thru 12 terminals.

SINGLE ROW

599, 699, 8T2 Series. Current range 15 thru 30 Amps; Voltage range 1100 thru 1600 RMS; Wire sizes: #22 to #12 ga.; 1 thru 23 terminals.

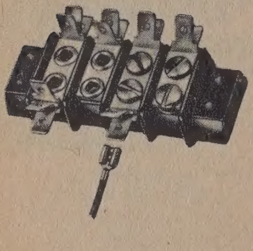


STUD and TURRET

For greater wiring convenience. Choice of terminals:

- Regular Screw Type
- Solder Turret
- Feedthru
- Threaded Stud, etc.

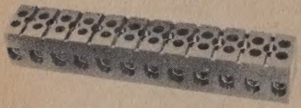
Also, choice of finishes: electro-tinned, silver-plated, even gold over silver. Our design facilities are available for your special requirements.



"KLIPTITE"

For fast connect and disconnect. Available on Kulka's full line of terminal boards.

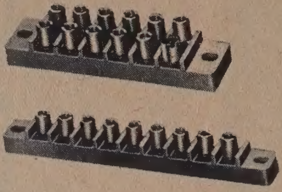
- Just clip on wire terminal fast for tight connection.
- Up to 6 connections per stage.
- Vari-angled tabs.
- Available rivetted to terminal hardware or with screw assembly.



PRESSURE CONTACT

9-85 SERIES

Ideal for power equipment. One-piece molded plastic for industrial or military use. Extra-safe, completely enclosed. 2 to 12 terminals. Rated at 85 Amps, 8000 Volts.

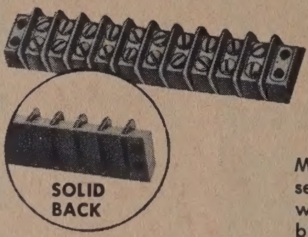


MILITARY BOARDS

Per MIL-T-16784B

Designed by the Bureau of Ships according to MIL-T-16784B, superseding MIL-T-16784A (Ships). They are made to BUSHIPS 9000-S6505-73214 drawings, with the latest revisions, and BUORD S64101.

MOLDED MATERIAL: MAI-60, in accordance with MIL-M-14F.



MILITARY BOARDS

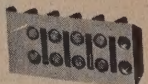
SOLID BACK

MADE to MEET or EXCEED

MIL-T-55164

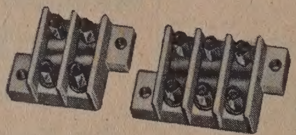
Molded-in Terminals. Equal molded sections. Kulka improved design, for weight saving, greater strength, flexibility. All sizes available, classes 37TB thru 42TB.

CLOSED BACK TERMINAL BOARDS



CLOSED BACK

670, 670A, 671, 672 Series. Current range 15 to 30 Amps, Voltage range 2500 to 3300 Volts RMS. Wire sizes #22 thru #12 ga.; 1 thru 30 terminals.



HIGH HEAT

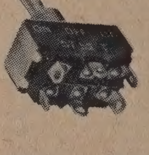
1215 SERIES

For temperatures up to 850°. Made in two and three terminal units with incremental configuration. Stainless steel stud type terminals.

TOGGLE SWITCHES

SCREW Terminals

SOLDER Terminals



KLIPTITE* Terminals

Made to Military Specifications: JAN-S-23, MIL-S-21195, MIL-S-6745 and MIL-S-3950B. Available in SPST, SPDT, DPST and DPDT types. DA and AC up to 1600 cps. Your choice of terminals: Screw, solder or tab. See Switches Section for Detailed Listing of Kulka Switches.

Also, MINIATURE, SUBMINIATURE, TAPER PIN, PRINTED CIRCUIT, WIRE-WRAP, SCREW CLAMP TERMINAL BOARDS AND ACCESSORIES. Available in a variety of Military and Commercial Grade materials.

Manufacturers of
Wiring Devices
for more than a
Quarter Century

Kulka Electric Corporation
520 South Fulton Avenue, Mount Vernon, N.Y. 10551
TEL: 914 664 4024 TWX: 710 562-0104 TELEX: 137413

KULKA COMPLETE TERMINAL BOARD CATALOG 17A ON REQUEST

Electronics Div, Hydrometals Inc Rockford Ill
ral Electric Co, ECSO Schenectady .... N Y
ral Products Corp Union Springs .... N Y
Electrical Mfg Co Sub Bell Elctn Corp Gardena .... Cal
hill Moldtronics Inc Downers Grove Ill
ne Electronics Inc Cranston .... R I
craft Inc Fort Wayne .... Ind
iar Labs Inc Bradenton .... Fla
a Co Inc Schoharie .... N Y
strial Electronic Hardware Corp New York .... N Y
ating Fabricators Inc East Rutherford .... N J
ating Shapes Inc Bronx .... N Y
on Mfg Co Chicago Ill
eco Electronics Ltd. Montreal .... Que
Corp Mundelein Ill
tone Electronics Corp New York .... N Y
a Electric Corp Mount Vernon .... N Y
Engineering Co Ltd Scarborough .... Ont
inated Fabricators San Bruno .... Cal
Insulator Corp Los Angeles .... Cal
hart Industries Inc Paramount .... Cal
Inc, Thomas J Carle Place .... N Y
o Mfg Co Inc Chicago Ill
dex Mfg Co Inc Chicago Ill
yland Lava Co Inc Bel Air .... Md
lroy Electronics Corp Shirley .... Mass
dows Terminal Boards Cupertino .... Cal
n Mfg Co Inc, James Malden .... Mass
x Products Co Downers Grove Ill
dock Corp Chelsea .... Mass
onal Tel-Tronics Corp Yonkers .... N Y
hwoods Electronics Corp West Chicago Ill
Fibre & Specialty Co Philadelphia .... Pa
-Union Electric A Teledyne Co Edinboro .... Pa
nonite Mfg Co Chicago Ill
tive Connector Co Derby .... Conn
able Electric Co Franklin Park Ill
nson-Nugent Inc New Albany .... Ind
nthal-Isolatoren GMBH 8672 Selb .... W Germany
Co, Milton Southampton .... Pa
Industries, Inc Mamaroneck .... N Y
urter AG, H 6002 Lucerne .... Switzerland
ectro Corp Mamaroneck .... N Y
strom Mfg Co Inc Glendale .... Cal
on Name Plate Corp New Haven .... Conn
ioto Industries Ltd New York .... N Y
wa Musen Kogyo Co Ltd Tokyo .... Japan
th Inc, Herman H Brooklyn .... N Y
ulding Fibre Co Inc Tonawanda .... N Y
ere Co Inc Little Falls .... N J
ice Pine Mica Co Inc Spruce Pine .... N C
are D Co Park Ridge Ill
mptronics Inc Azusa .... Cal
mas & Betts Co Elizabeth .... N J
nsitron Electronic Corp Wakefield .... Mass
Dex Co Visalia .... Cal
CO Div, Litton Industries Van Nuys .... Cal
tor Electronic Co Inc Sylmar .... Cal
tron West Inc Chatsworth .... Cal
inia Panel Corp Waynesboro .... Va
dom Electronics Inc Chicago Ill

RMINAL STRIPS—MOLDED

URATE ELECTRONICS CORP ELYRIA .... OHIO
NDY CORP NORWALK .... CONN
CH MFG CO ELK GROVE VILLAGE ILL . ADV PGS 162,163
TIS DEVELOPMENT & MFG CO MILWAUKEE .... WIS
O CORP WILLOW GROVE .... PA
ERAL SCREW PRODUCTS INC CHICAGO ILL
IERAL ELECTRIC CO, ECSO SCHENECTADY
Y .... ADV PG 7
KA ELECTRIC CORP MOUNT VERNON N Y . . ADV PG 626
SUMI ELECTRIC CO LTD TOKYO .... JAPAN
urate Electronics Corp Elyria .... Ohio
Products Minneapolis .... Minn
n-Bradley Co Milwaukee .... Wis
nel Electronics, Inc North Bergen .... N J
Man Mfg, Inc New Cumberland .... Pa
g Electronics, Inc New Cumberland .... Pa
ish Radio Electronics (BREL) Washington .... D C
hanan Electrical Products Corp Union .... NJ
ndy Corp Norwalk .... Conn
nbridge Thermionic Corp Cambridge .... Mass
bil Corp Chatsworth .... Cal
ch Mfg Co Elk Grove Village Ill
ectron Corp New York .... N Y
tinental Connector Corp Woodside .... N Y
tis Development & Mfg Co Milwaukee .... Wis
va Trading Co Ltd Kobe .... Japan
o Corp Willow Grove .... Pa
erson Plastics Corp Bronx .... New York
ona Corp Bellmore .... NY
C Inc Cleveland .... Ohio
deral Screw Products Inc Chicago Ill
nklin Fibre-Lamitex Corp Wilmington .... Del
neral Electric Co, ECSO Schenectady .... N Y
neral Products Corp Union Springs .... N Y
yhill Moldtronics Inc Downers Grove Ill
ulating Shapes Inc Bronx .... N Y
nes Inc, Norman South Merrimack .... N H
meco Electronics Ltd. Montreal .... Que
nt Corp Mundelein Ill
ssler-Ellis Products Co Atlantic Highlands .... N J
lka Electric Corp Mount Vernon .... N Y
chinery Electrification Inc Northboro .... Mass
dwest Molding & Mfg Co Gurnee Ill
tsumi Electric Co Ltd Tokyo .... Japan
nn-Union Electric A Teledyne Co Edinboro .... Pa
binson-Nugent Inc New Albany .... Ind
e Industries, Inc Mamaroneck .... N Y
astrom Mfg Co Inc Glendale .... Cal
igoto Industries Ltd New York .... N Y
rra Electric Div Sola Basic Ind Gardena .... Cal
nith Inc, Herman H Brooklyn .... N Y
uare D Co Park Ridge Ill
omas & Betts Co Elizabeth .... N J
ansitron Electronic Corp Wakefield .... Mass

Trimm Inc Libertyville Ill
USECO Div, Litton Industries Van Nuys .... Cal
Vernitron Electrical Components, Beau Prods Div Laconia . NH

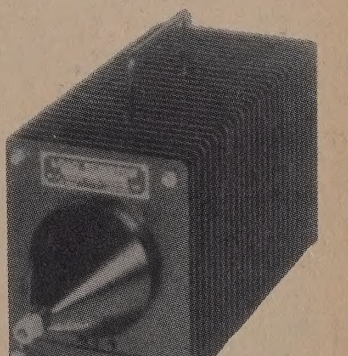
TERMINATIONS (LOADS)—DUMMY

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN IND .... ADV PG 627
BIRD ELECTRONIC CORP CLEVELAND (SOLON) .... OHIO
BURNDY CORP NORWALK .... CONN
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS .... ADV PG 372
HEWLETT-PACKARD PALO ALTO .... CAL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SYSTRON-DONNER CORP CONCORD .... CAL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
TEXSCAN CORP INDIANAPOLIS .... IND
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD .... ADV PG 49
Aircom Inc Union .... N H
Airtec Inc Roselle .... N J
Allen Aircraft Radio Inc Elk Grove Village Ill
Americon Corp Waltham .... Mass
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Applied Research, Inc Port Washington .... N Y
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Auto-Swage Products, Inc Shelton .... Conn
Aviation Electric Ltd St Laurent, Montreal .... Que
Aviel Electronics, Inc Burbank .... Cal
Bendix Corp, Microwave Devices Div Franklin .... Ind
Bird Electronic Corp Cleveland (Solon) .... Ohio
Burndy Corp Norwalk .... Conn
Cardwell Condenser Corp Lindenhurst .... N Y
Chemalloy Electronics Corp Santee .... Cal
Coax Devices Chelsea .... Mass
Compagnie Generale de Metrologie Haute Savoie .... France
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Corning Glass Works Corning .... N Y
Custom Materials Inc Chelmsford .... Mass
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Eastern Microwave Corp Winchester .... Mass
Electro Impulse Lab Inc Red Bank .... N J
Electro-Metrics Corp Sub Fairchild Cam & Instr Corp Amsterdam .... N Y
EMC Technology Inc Philadelphia .... Pa
Emerson & Cuming Inc Canton .... Mass
Engelmann Microwave Co Montville .... NJ
Fenwick Paris 10 .... France
Film Components Div Reon Resister Corp Yonkers .... N Y
General Radio Co West Concord .... Mass
Gombos Microwave Inc Clifton .... N J
Greenpar Engineering Ltd, Electronics Div Essex .... England
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Holland Electronics Brooklyn .... N Y
Horlick Co Inc, William I Boston .... Mass
Inet Power A Teledyne Co Gardena .... Cal
Jerrold Electronics Corp Philadelphia .... Pa
Kikusui Electronics Corp Kanagawa City .... Kanagawa Pref Japan
LDV Electro Science Industries Syracuse .... N Y
Lieco Inc West Babylon .... N Y
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meca Electronics, Inc Denville .... N J
Meridian Metalcraft Inc Whittier .... Cal
Merrimac Research & Development Inc West Caldwell, ... N J
Microlab/F X R Livingston .... N J
Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Filter Co Inc East Syracuse .... NY
Mi-Kro Connector Corp Long Island City .... N Y
Mobil Electronics Inc Anderson .... Ind
Montedoro Corp San Luis Obispo .... Cal
Nanosecond Systems Inc Fairfield .... Conn
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Ohmite Mfg Co Skokie Ill
Oki Electric Industry Co Ltd Tokyo .... Japan
Pabst Engineering Equipment Co Inc Elizabeth .... NJ
Phelps Dodge Communications Co North Haven .... Conn
Radio Corp of America, Comml Elctn Prods Div Camden .. N J
Ramcor Inc Huntington .... NY
Reeve Electronics Inc Chicago Ill
RLC Electronics Inc Port Chester .... N Y
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst .... NY
Sealectro Corp Mamaroneck .... N Y
S E C I Soc Elettrotecnica Chimica Italiana Milano .... Italy
Solitron/Microwave Long Island City .... N Y
Sonoma Engineering & Rsch Inc Santa Rosa .... Cal
Star Tronics Inc Georgetown .... Mass
Stoddart Electro Systems Gardena .... Cal
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Technical Materiel Corp Mamaroneck .... N Y
Texscan Corp Indianapolis .... Ind
Trim Line Connectors Ltd Weston .... Ont
Trompeter Electronics Inc Chatsworth .... Cal
Tru-Connector Corp Peabody .... Mass
Trylon Inc Elverson .... Pa
Waveline Inc West Caldwell .... N J
Weinschel Engineering Co Inc Gaithersburg .... Md
Winslow Tele-Tronics Inc Eatontown .... N J
Workman Electronic Products Inc Sarasota .... Fla

TERMINATIONS (LOADS)—MICROWAVE, FIXED

AMPHENOL DANBURY .... CONN
BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN IND .... ADV PG 627
BIRD ELECTRONIC CORP CLEVELAND (SOLON) .... OHIO
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS .... ADV PG 372
HEWLETT-PACKARD PALO ALTO .... CAL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SYSTRON-DONNER CORP CONCORD .... CAL
TEXSCAN CORP INDIANAPOLIS .... IND
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD .... ADV PG 49
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park .... N Y
Aircom Inc Union .... N H
Airtec Inc Roselle .... N J
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Alford Mfg Co Winchester .... Mass
Altronic Research Corp Cleveland .... Ohio
American Technical Ceramics Huntington Station .... N Y
Americon Corp Waltham .... Mass
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Amphenol Danbury .... Conn
Angstrohm Precision, Inc Van Nuys .... Cal
Arra, Inc Bay Shore .... NY
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Aviel Electronics, Inc Burbank .... Cal
Barth Electronics, Inc Cleveland .... Ohio
Bendix Corp, Microwave Devices Div Franklin .... Ind
Bird Electronic Corp Cleveland (Solon) .... Ohio
Cardwell Condenser Corp Lindenhurst .... N Y
Chemalloy Electronics Corp Santee .... Cal
Coax Devices Chelsea .... Mass
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Custom Components Inc Caldwell .... N J
Custom Materials Inc Chelmsford .... Mass
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Eastern Microwave Corp Winchester .... Mass
Electro Impulse Lab Inc Red Bank .... N J
Electro-Metrics Corp Sub Fairchild Cam & Instr Corp Amsterdam .... N Y
EMC Technology Inc Philadelphia .... Pa
Emerson & Cuming Inc Canton .... Mass
E & M Labs Westlake Village .... Cal
Engelmann Microwave Co Montville .... NJ
Fenwick Paris 10 .... France
Film Components Div Reon Resister Corp Yonkers .... N Y
Film Microelectronics, Inc Burlington .... Mass
General Microwave Corp Farmingdale .... N Y
General Radio Co West Concord .... Mass

COAXIAL
terminations



For full information,
call or write:
Microwave Devices Division,
The Bendix Corporation
Hurricane Road,
Franklin, Indiana 46131
Tel: 317/736-6136

Bendix

Greenpar Engineering Ltd, Electronics Div Essex .... England
Guide Industries Inc Sun Valley .... Cal
Harris-Intertype Corp Cleveland .... Ohio
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Jerrold Electronics Corp Philadelphia .... Pa
LDV Electro Science Industries Syracuse .... N Y
Lieco Inc West Babylon .... N Y
Marconi Co Ltd Chelmsford .... England
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meca Electronics, Inc Denville .... N J
Meridian Metalcraft Inc Whittier .... Cal
Merrimac Research & Development Inc West Caldwell, ... N J
Microlab/F X R Livingston .... N J
Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Filter Co Inc East Syracuse .... NY
Microwave Labs of America Brooklyn .... N Y
Microwave Products Inc Chatsworth .... Cal
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Nytronics Inc Berkeley Heights .... N J
Oki Electric Industry Co Ltd Tokyo .... Japan
Omni Spectra Inc Farmington .... Mich
Pabst Engineering Equipment Co Inc Elizabeth .... NJ
Philco-Ford Corp Washington .... D C
Polyphase Instrument Co Bridgeport .... Pa
Portchester Instrument Corp Port Chester .... N Y
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Ramcor Inc Huntington .... NY
Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
Reeve Electronics Inc Chicago Ill
R F Systems Inc Cohasset .... Mass
RLC Electronics Inc Port Chester .... N Y
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Sanders Assoc Inc, Microwave Div Nashua .... N H
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst .... NY
Solitron/Microwave Long Island City .... N Y
Sonoma Engineering & Rsch Inc Santa Rosa .... Cal
Specialty Waveguide Corp Burlington .... Mass
Stoddart Electro Systems Gardena .... Cal
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach .... Cal
Texscan Corp Indianapolis .... Ind
Transco Products Inc Venice .... Cal
Tru-Connector Corp Peabody .... Mass
Universal Ad-Yu Electronics Inc Passaic .... N J
Vector Industries A Teledyne Co Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass
Waveline Inc West Caldwell .... N J
Weinschel Engineering Co Inc Gaithersburg .... Md

TERMINATIONS (LOADS)— MICROWAVE, VARIABLE

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS .... ADV PG 372
HEWLETT-PACKARD PALO ALTO .... CAL
SYSTRON-DONNER CORP CONCORD .... CAL
WEINSCHEL ENGINEERING CO INC GAITHERSBURG MD .... ADV PG 49
Aircom Inc Union .... N H
Airtec Inc Roselle .... N J
Alford Mfg Co Winchester .... Mass
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Astrolab Inc Linden .... N J
Automatic Metal Products Corp Brooklyn .... N Y
Automation Dynamics Corp Northvale .... N J
Aviation Electric Ltd St Laurent, Montreal .... Que
Coax Devices Chelsea .... Mass
Control Data Corp. Boston Sp & Def Sys Div East Boston .... Mass
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Engelmann Microwave Co Montville .... NJ
General Microwave Corp Farmingdale .... N Y
General Radio Co West Concord .... Mass
Guide Industries Inc Sun Valley .... Cal
Harris-Intertype Corp Cleveland .... Ohio
Herley Industries, Inc Syosset .... N Y
Hewlett-Packard Palo Alto .... Cal
Insulating Shapes Inc Bronx .... N Y
LDV Electro Science Industries Syracuse .... N Y
Lieco Inc West Babylon .... N Y
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microlab/F X R.Livingston .... N J
Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Filter Co Inc East Syracuse .... NY
Microwave Labs of America Brooklyn .... N Y
Narda Microwave Corp Plainview .... N Y
Neico Microwave Co Waltham .... Mass
Pabst Engineering Equipment Co Inc Elizabeth .... NJ
Philco-Ford Corp Washington .... D C
Portchester Instrument Corp Port Chester .... N Y
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Ramcor Inc Huntington .... NY
Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
R F Systems Inc Cohasset .... Mass
RLC Electronics Inc Port Chester .... N Y
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck .... N Y
Systron-Donner Corp Concord .... Cal
Varian Palo Alto .... Cal
Vector Industries A Teledyne Co Palo Alto .... Cal
Victor Microwave Inc Wakefield .... Mass

Waveline Inc West Caldwell .... N J
Weinschel Engineering Co Inc Gaithersburg .... Md

TEST CHAMBERS

***See* Chambers—Environmental**

TESTERS

***See* Analyzers; *Also* Specific Equipment**

TESTERS—BATTERY

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN .... MO
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND .... OHIO
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN .... N Y
Aerotronic Associates, Inc Contoocook .... N H
Aircraft Components Inc Benton Harbor .... Mich
Anchor Specialty Mfg Co Inc Teterboro .... N J
Canadian Research Institute Don Mills .... Ont
Christie Electric Corp Los Angeles .... Cal
Dixson Inc Meter Div Grand Junction .... Colo
Dowa Trading Co Ltd Kobe .... Japan
Eagle-Picher Industries Inc, Electronics Div Joplin .... Mo
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Associates Inc West Long Branch .... N J
Electronic Measurements Corp New York .... N Y
Ferranti, Ltd Lancashire .... England
Forney Industries Inc Fort Collins .... Colo
General Radio Co West Concord .... Mass
General Scientific Equipment Co Philadelphia .... Pa
Harris Mfg Co Inc Cambridge .... Mass
Hickok Electrical Instrument Co Cleveland .... Ohio
Kahl Scientific Instrument Corp El Cajon .... Cal
Kyoritsu Electrical Instruments Works Ltd Tokyo .... Japan
Macarr Inc Bronx .... N Y
Mercury Electronics Inc Mineola .... N Y
Modern Mfg Co Inc Willow Grove .... Pa
New York Testing Labs Inc Westbury .... N Y
Nichols Co Ltd, R H Downsview .... Ont
Non-Linear Systems Inc Del Mar .... Cal
Philmore Mfg Co Inc Richmond Hill .... N Y
Q V S Inc East Orange .... N J
Schauer Mfg Corp Cincinnati .... Ohio
Scope Inc Reston .... Va
Servo-Tek Products Co, Marine Div Hawthorne .... N J
Servo-Tek Products Co Hawthorne .... N J
Shurite Meters New Haven .... Conn
Simpson Electric Co Chicago Ill
Sterling Mfg Co Cleveland .... Ohio
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn .... N Y
Triple A Specialty Co Chicago Ill

TESTERS—CABLE

ASSOCIATED RESEARCH, INC CHICAGO ILL
CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS .... N Y
GAR ENTERPRISES INC PASADENA CAL .... ADV PG 631
HEWLETT-PACKARD PALO ALTO .... CAL
INTRONICS INC NEWTON .... MASS
SPEDCOR ELECTRONICS INC GLENDALE N Y .... ADV PG 636
TEKTRONIX INC BEAVERTON .... ORE
A D Data Systems Inc Rochester .... N Y
Aerospace Avionics Inc Bohemia .... NY
Anchor Specialty Mfg Co Inc Teterboro .... N J
Associated Research, Inc Chicago Ill
Automation Dynamics Corp Northvale .... N J
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Biddle Co, James G Plymouth Meeting .... Pa
Cablemaster Div Accurate Elctns Corp North Hollywood .... Cal
Campbell/Taylor Inc Salem .... Mass
Canadian Research Institute Don Mills .... Ont
Carol Electronics Div Weeco Inc Martinsburg .... W Va
Cleverly Electrical Works Inc Philadelphia .... Pa
Clinton Instrument Co Clinton .... Conn
Communications Technology Corp Los Angeles .... Cal
Condor Industrial Corp Wheaton Ill
Cunningham Corp Sub Gleason Wks Honeoye Falls .... N Y
Dalmo Victor, A Textron Div Belmont .... Cal
Davidson Electronic Development Co Erie .... Pa
Dit-Mco International Kansas City .... Mo
Dowa Trading Co Ltd Kobe .... Japan
Dynalectron Corp Aerospace Prods Div San Leandro .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electrospace Corp Westbury .... NY
Elgiloy Co Elgin Ill
Fedtro Inc Rockville Centre .... N Y
Ferranti, Ltd Lancashire .... England
Gar Enterprises Inc Pasadena .... Cal
General Radio Co West Concord .... Mass
Giannini-Voltex-Radex-Irvine Whittier .... Cal
Hewlett-Packard Palo Alto .... Cal
Hipotronics Inc Brewster .... N Y
Industrial Winding Machinery Corp River Edge .... N J
Instrument Labs Corp Chicago Ill
Intronics Inc Newton .... Mass
Kyoritsu Electrical Instruments Works Ltd Tokyo .... Japan
Lab Electro-Acoustique 92 Rueil-Malmaison .... France
Lane Industries, Electronics Div North Hollywood .... Cal
Martin-Decker Corp Santa Ana .... Cal
Measuring Instrument Controls Inc Berkeley Heights .... N J
Micro Metrics Inc Paterson .... N J
3M Company St Paul .... Minn
Neptune Electronics Co New York .... N Y
Peschel Instruments Inc Cape Coral .... Fla
P P M Inc Cleveland .... Ohio
Reaction Research Labs of America Groton .... Conn

Rycom Instruments Raytown ....
Simpson Electric Co Chicago ....
Slaughter Co Ardmore ....
Spedcor Electronics Inc Glendale ....
Sunshine Scientific Instruments Inc Philadelphia ....
Tektronix Inc Beaverton ....
Telesciences Inc Moorestown ....
Tinius Olsen Testing Machine Co Willow Grove ....
Weitermann Electronics Milwaukee ....
Western Technical Products Corp North Hollywood ....
Wickes Industries Inc Camden ....

TESTERS—CAPACITOR & DIELECTRIC

***See Also* Machines—Capacitor Manufacturi**

Sorting

ASSOCIATED RESEARCH, INC CHICAGO ....
DRANETZ ENGINEERING LABS INC PLAINFIELD ....
GAR ENTERPRISES INC PASADENA CAL .... ADV PG
HEATH CO BENTON HARBOR ....
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ....
KILOVOLT CORP HACKENSACK N J .... ADV PG
SPEDCOR ELECTRONICS INC GLENDALE N Y .... ADV PG
TEKTRONIX INC BEAVERTON ....
Advanced Technology & Systems Corp Riverside ....
Anchor Specialty Mfg Co Inc Teterboro ....
Associated Research, Inc Chicago ....
Beckman Instruments Inc Fullerton, ...
Beckman Instruments Intl SA 1207 Geneva .... Switzer
B & K Mfg Co Div Dynascan Corp Chicago ....
Boonton Electronics Corp Parsippany ....
Canadian Research Institute Don Mills ....
Consolidated Airborne Systems Carle Place ....
Continental Device Corp Hawthorne ....
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark ....
Davidson Electronic Development Co Erie ....
Del Electronics Corp Mt Vernon ....
Dit-Mco International Kansas City ....
D M Research Corp Lakewood ....
Dowa Trading Co Ltd Kobe .... Ja
Dranetz Engineering Labs Inc Plainfield ....
E G & G Inc Laboratory Prods Div Goleta ....
EICO Electronic Instrument Co Inc Brooklyn ....
Fairchild Instrumentation Sunnyvale ....
Gar Enterprises Inc Pasadena ....
General Radio Co West Concord ....
Graham Testers Inc Minneapolis ....
Heath Co Benton Harbor ....
Hickok Electrical Instrument Co Cleveland ....
Hipotronics Inc Brewster ....
Inca Engineering Corp San Gabriel ....
Industrial Test Equipment Co Port Washington ....
Kahl Scientific Instrument Corp El Cajon ....
Kilovolt Corp Hackensack ....
Landis & Gyr, Inc New York ....
London Co Westlake ....
Mercury Electronics Inc Mineola ....
Micro Instrument Co Hawthorne ....
Optimized Devices, Inc Pleasantville ....
Peschel Instruments Inc Cape Coral ....
Racal Electronics Ltd Bracknell Berks .... Eng
Reaction Research Labs of America Groton ....
Rohde & Schwarz Sales Co USA Inc Passaic ....
Sanwa Electric Instrument Co, Ltd Tokyo .... Ja
Simpson Electric Co Chicago ....
Singer Co Instr Div Ballantine Oper Boonton ....
Slaughter Co Ardmore ....
Spectrum Control Inc Fairview ....
Spedcor Electronics Inc Glendale ....
Sprague Electric Co North Adams ....
Tektronix Inc Beaverton ....
Teradyne Inc Boston ....
Trott Electronics Inc Rochester ....
Vestal Modern Design Corp Vestal ....
Wayne Kerr Co c/o Southfield Electronics Southfield ....

TESTERS—CATHODE-RAY

***See* Testers—Tube**

TESTERS—CIRCUIT

ASSOCIATED RESEARCH, INC CHICAGO ....
CGS UNITS INC ROCHESTER ....
CIRCON COMPONENT CORP GOLETA CAL .... ADV PG
CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS ....
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV
HEWLETT-PACKARD PALO ALTO ....
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ....
INTRONICS INC NEWTON ....
SPEDCOR ELECTRONICS INC GLENDALE N Y .... ADV PG
TEKTRONIX INC BEAVERTON ....
AAI Corp Baltimore ....
Adar Associates Inc Cambridge ....
A D Data Systems Inc Rochester ....
Aerospace Avionics Inc Bohemia ....
American Machine & Foundry Co Alexandria Div Alexandria ....
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook ....
Anchor Specialty Mfg Co Inc Teterboro ....
Applied Control Co Cedar Grove ....
Associated Research, Inc Chicago ....
Automated Measurements Corp Oakland ....
Automation Dynamics Corp Northvale ....
Aviation Electric Ltd St Laurent, Montreal ....
Avtron Mfg, Inc Cleveland ....
Bacharach Instrument Co Pittsburgh ....
Beckman Instruments Inc Fullerton, ...
Biddle Co, James G Plymouth Meeting ....
Birtcher Corp Instrument Div Monterey Park ....

onics Inc Bethlehem .... Pa
ht Star Industries Inc Clifton .... N J
worth Tester Co El Cerrito .... Cal
-Brown Research Corp Tucson .... Ariz
e Electric Products Inc Providence .... R I
emaster Div Accurate Elctns Corp North Hollywood ... Cal
adian Research Institute Don Mills .... Ont
Industries Inc Philadelphia .... Pa
Units Inc Rochester .... N Y
on Component Corp Goleta .... Cal
on Instrument Co Clinton .... Conn
ponents Specialties Inc Freeport .... N Y
puter Test Corp Cherry Hill .... N J
inental Device Corp Hawthorne .... Cal
ingham Corp Sub Gleason Wks Honeoye Falls .... N Y
dson Electronic Development Co Erie .... Pa
o Mfg Co Glendale .... Cal
gn Automation Inc Lexington .... Mass
oto Electrical Products DeSoto .... Mo
Mco International Kansas City .... Mo
a Trading Co Ltd Kobe .... Japan
0 Electronic Instrument Co Inc Brooklyn .... NY
tronics Communications Div Atlantic Research Corp
exandria .... Va
trospace Corp Westbury .... NY
child Instrumentation Sunnyvale .... Cal
anti, Ltd Lancashire .... England
er-Akin Co Manhattan Beach .... Cal
eral Dynamics, Electronics Div Rochester .... N Y
eral Electric Co, ECSO Schenectady .... N Y
Electronics Hillsdale .... N J
nam Testers Inc Minneapolis .... Minn
mark Standards Inc Mount Vernon .... N Y
lett-Packard Palo Alto .... Cal
ok Electrical Instrument Co Cleveland .... Ohio
eywell Inc Apparatus Controls Div Minneapolis .... Minn
ter Industries Santa Fe Springs .... Cal
l Industries Inc Sycamore Ill
rument Labs Corp Chicago Ill
onics Inc Newton .... Mass
rfott Div Singer-General Precision Inc Little Falls .... NJ
pp Inc Oakland .... Cal
uyo Electric Co Ltd Tokyo .... Japan
ritsu Electrical Instruments Works Ltd Tokyo .... Japan
e Industries, Electronics Div North Hollywood .... Cal
Donald & Co Glendale .... Cal
n Co, Henry Cornwell Heights .... Pa
in Controls Co Div FRL Inc Belmont .... Cal
tindale Electric Co Cleveland .... Ohio
sushita Electric Industrial Co Ltd Osaka .... Japan
Electronics A Textron Co New Haven .... Conn
asurement Technology Corp Canoga Park .... Cal
cury Electronics Inc Mineola .... N Y
rodyne Instruments Burlington .... Mass
ro Instrument Co Hawthorne .... Cal
ro Metrics Inc Paterson .... N J
Company St Paul .... Minn
Instrument Products Camarillo .... Cal
itor Systems Inc an Aydin Co Fort Washington .... Pa
tune Electronics Co New York .... N Y
theast Electronics Corp Concord .... N H
imized Devices, Inc Pleasantville .... N Y
formance Measurements Co Detroit .... Mich
brick/Nexus Research A Teledyne Co Dedham .... Mass
lco-Ford Corp Washington .... D C
M Inc Cleveland .... Ohio
lcor Corp Canoga Park .... Cal
lale Electronics Inc Garden City .... NY
o Electronics Corp Hopkins .... Minn
niconductor Circuits, Inc Woburn .... Mass
si-Tronics Inc Williamsville .... N Y
netics Corp Sunnyvale .... Cal
ronics Inc Oakmont .... Pa
pson Electric Co Chicago Ill
ughter Co Ardmore .... Okla
edcor Electronics Inc Glendale .... N Y
cht Co Inc, Herman H New York .... N Y
shine Scientific Instruments Inc Philadelphia .... Pa
fet Electronics Inc Woodside .... N Y
tronix Inc Beaverton .... Ore
esciences Inc Moorestown .... N J
adyne Inc Boston .... Mass
as Instruments Incorporated Dallas .... Tex
as Instruments Inc Indl Prods Div Houston .... Tex
co Products Co Chicago Ill
i Tech Co Grand Rapids .... Mich
Co Pasadena .... Cal
stern Technical Products Corp North Hollywood .... Cal
ston Instruments Div Weston Instr Inc Newark .... N J
ckes Industries Inc Camden .... N J
ntel, Inc Berkeley .... Cal

STERS—COIL

R ENTERPRISES INC PASADENA CAL ..... ADV PG 631
RONICS INC NEWTON .... MASS
EDCOR ELECTRONICS INC GLENDALE N Y ... ADV PG 636
chor Specialty Mfg Co Inc Teterboro .... N J
tron Mfg, Inc Cleveland .... Ohio
ckman Instruments Inc Fullerton, ... Cal
nadian Research Institute Don Mills .... Ont
rol Electronics Div Weeco Inc Martinsburg .... W Va
vidson Electronic Development Co Erie .... Pa
wa Trading Co Ltd Kobe .... Japan
CO Electronic Instrument Co Inc Brooklyn .... NY
eed Transformer Co Inc Brooklyn .... N Y
r Enterprises Inc Pasadena .... Cal
aham Testers Inc Minneapolis .... Minn
dustrial Test Equipment Co Port Washington .... N Y
strument Labs Corp Chicago Ill
tronics Inc Newton .... Mass
Omega Co Mountain View .... Cal
rtron Huntington Beach .... Cal
artindale Electric Co Cleveland .... Ohio
w Product Engineering Inc. Wabash .... Ind
hauer Mfg Corp Cincinnati .... Ohio
mpson Electric Co Chicago Ill
aughter Co Ardmore .... Okla

Spedcor Electronics Inc Glendale .... N Y
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Wabash Magnetics Inc Electro Magnetic Prods Div
Wabash .... Ind

TESTERS—CRYSTAL DIODE

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV
JOPLIN .... MO
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
SPEDCOR ELECTRONICS INC GLENDALE N Y ... ADV PG 636
TEKTRONIX INC BEAVERTON .... ORE
Advanced Technology Corp Chambersburg .... Pa
Aerotronic Associates, Inc Contoocook .... N H
Automated Measurements Corp Oakland .... Calif
Beckman Instruments Inc Fullerton, ... Cal
Birtcher Corp Instrument Div Monterey Park .... Cal
Components Corp Denville .... NJ
Continental Device Corp Hawthorne .... Cal
Davidson Electronic Development Co Erie .... Pa
Dowa Trading Co Ltd Kobe .... Japan
Eagle-Picher Industries Inc, Electronics Div Joplin .... Mo
Fairchild Instrumentation Sunnyvale .... Cal
Harris Mfg Co Inc Cambridge .... Mass
Instrument Research Co Lincoln .... Mass
J-Omega Co Mountain View .... Cal
Kokuyo Electric Co Ltd Tokyo .... Japan
Mastech Inc Syracuse .... N Y
Non-Linear Systems Inc Del Mar .... Cal
Optimized Devices, Inc Pleasantville .... N Y
Quaker Electronics Hunlock Creek .... Pa
Rantec Div Emerson Electric Co Calabasas .... Cal
Schauer Mfg Corp Cincinnati .... Ohio
Scientific Instruments Co Chatsworth .... Cal
Simpson Electric Co Chicago Ill
Solitron Devices Inc Tappan .... NY
Spedcor Electronics Inc Glendale .... N Y
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur .. Switzerland
Tektronix Inc Beaverton .... Ore
Teradyne Inc Boston .... Mass
Test Equipment Corp Dallas .... Tex
Texas Instruments Incorporated Dallas .... Tex
Trott Electronics Inc Rochester .... N Y
Versatek Industries Inc Indianapolis .... Ind

TESTERS—DIGITAL MODULE

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
DREXEL HILL .... PA
HEWLETT-PACKARD PALO ALTO .... CAL
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
SPEDCOR ELECTRONICS INC GLENDALE N Y ... ADV PG 636
TEKTRONIX INC BEAVERTON .... ORE
AAI Corp Baltimore .... Md
Adar Associates Inc Cambridge .... Mass
Alessi Industries El Segundo .... Cal
AMBAC Industries Inc Garden City .... N Y
Automated Measurements Corp Oakland .... Calif
Bendix Corp Navigation & Control Div Teterboro, ... N J
Birtcher Corp Instrument Div Monterey Park .... Cal
Clifton Div Litton Industries Litton Prec Prods Inc
Drexel Hill .... Pa
Continental Device Corp Hawthorne .... Cal
Control Logic Inc Natick .... Mass
Datatron Inc Santa Ana .... Cal
Davidson Electronic Development Co Erie .... Pa
Design Automation Inc Lexington .... Mass
Digital Equipment Corp Maynard .... Mass
Dit-Mco International Kansas City .... Mo
Dowa Trading Co Ltd Kobe .... Japan
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando .. Fla
E & L Instruments Inc Derby .... Conn
Fairchild Instrumentation Sunnyvale .... Cal
Fisher-Akin Co Manhattan Beach .... Cal
Gap Instrument Corp Westbury .... N Y
General Dynamics, Electronics Div Rochester .... N Y
Heidelex Corp. Chelmsford .... Mass
Hewlett-Packard Palo Alto .... Cal
Honeywell Inc, Computer Control Div Framingham .... Mass
Logic Corp Haddonfield .... N J
Measurement Technology Corp Canoga Park .... Cal
Metric Systems Corp Fort Walton Beach .... Fla
Microdyne Instruments Burlington .... Mass
Micro Instrument Co Hawthorne .... Cal
3M Company St Paul .... Minn
3M Instrument Products Camarillo .... Cal
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Navcor Inc Div KDI Corp Norristown .... Pa
Non-Linear Systems Inc Del Mar .... Cal
Optimized Devices, Inc Pleasantville .... N Y
Philco-Ford Corp Washington .... D C
Randam Electronics Inc Cincinnati .... Ohio
Scientific Data Systems Inc El Segundo .... Cal
Signetics Corp Sunnyvale .... Cal
Spedcor Electronics Inc Glendale .... N Y
Sperry Microwave Electronics Div Clearwater .... Fla
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Tektronix Inc Beaverton .... Ore
Telesciences Inc Moorestown .... N J
Teradyne Inc Boston .... Mass
Texas Instruments Incorporated Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
Trott Electronics Inc Rochester .... N Y
Wyle Laboratories El Segundo .... Cal
Zehntel, Inc Berkeley .... Cal

TESTERS—DISTORTION

***See* Analyzers—Distortion**

Pain Killer.

If vendors have you in a pinch and another source of supply will help, turn to the Electronics Buyers' Guide. You'll find all the information you need on over 1,363 sources of power supplies, listed under 11 headings from *AC Regulated Power Supplies to Laser Power Supplies.*

Electronics Buyers' Guide

TESTERS—GYRO

NORTH ATLANTIC INDUSTRIES INC PLAINVIEW .... N Y
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
POLY SCIENTIFIC DIV LITTON INDUSTRIES
BLACKSBURG .... VA
THETA INSTRUMENT CORP FAIRFIELD .... N J
Advanced Energy Conversion Menlo Park .... Cal
Aircraft Components Inc Benton Harbor .... Mich
Allied Research Assoc Inc Eng Sys Div Concord .... Mass
AMBAC Industries Inc Garden City .... N Y
Anchor Specialty Mfg Co Inc Teterboro .... N J
Aviation Electric Ltd St Laurent, Montreal .... Que
Bendix Corp Navigation & Control Div Teterboro, ... N J
California Instruments Corp San Diego .... Cal
Carco Electronics Menlo Park .... Cal
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme .... France
Dowa Trading Co Ltd Kobe .... Japan
Electronic Brazing Co Montclair .... N J
Ferranti, Ltd Lancashire .... England
Genisco Technology Corp Compton .... Cal
Goerz Optical Co Inc Inwood .... N Y
Gyrotron Corp Waterbury .... Conn
Hamilton Standard Div UAC Elctns Systems
Windsor Locks .... Conn
Ideal Aerosmith Cheyenne .... Wyo
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh .... Pa
Kahl Scientific Instrument Corp El Cajon .... Cal
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Larson Aero Development Concord .... Cal
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
Ling Electronics Div LTV Altec Inc Anaheim .... Cal
Litton Industries, Guidance & Controls Sys Div
Woodland Hills .... Cal
Litton Systems (Canada) Ltd Rexdale .... Ont
McFadden Electronics Co South Gate .... Cal
Micro Metrics Inc Paterson .... N J
North Atlantic Industries Inc Plainview .... N Y
North Hills Electronics Inc Glen Cove .... N Y
Northrop Corp, Electronics Div Palos Verdes Peninsula .... Cal
Nortronics Div, Northrop Corp, Prec Prods Dept
Norwood .... Mass
Poly Scientific Div Litton Industries Blacksburg .... VA
Razdow Labs Inc Newark .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Sanders Assoc Inc, Instrument Div Manchester .... N H
Sperry Flight Systems Div Sperry Rand Corp Phoenix .... Ariz
Theta Instrument Corp Fairfield .... N J
Winslow Tele-Tronics Inc Eatontown .... N J

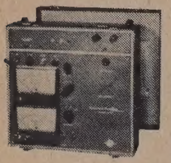
TESTERS—HEARING

***See* Audiometers**

INSULATION TESTING INSTRUMENTS

ASSOCIATED RESEARCH, INC.

Portable DC HYPOTS® to 100 KV



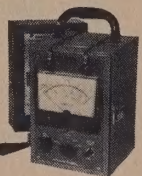
Output of the several portable DC HYPOTS is continuously variable from 0 to maximum with the voltage metered directly in the output. Leakage current measurements are on four range meters reading down to as low as 0.05 microamps. Features: 2% metering accuracies, electronic circuit protection, by-pass and metered return terminals, grounded steel cases, silicon rectifiers, plug-in high voltage leads, etc.

Model	Output Voltage	Output Current	Price
5205	0-5 KV	2.0	$ 550
5212	0-10 KV	2.0	675
5220	0-15 KV	2.0	735
5271	0-50 KV	2.5	2250
5321	0-100 KV	5.0	3115

Request Portable DC HYPOT Bulletins

Insulation Resistance Testers

Ranges from 100 to 10 million megohms at test potentials to 10 KV.



The VIBROTEST megohmmeter provides a wide selection of battery and line-powered instruments for accurate insulation resistance measurements of circuits, components, cables, motors, etc. They are direct reading and push button operated requiring no cranking or leveling.

Select from 17 models ranging from pocket-size to portable 10 KV with variable voltage. Some models combine megohm with ohm and AC-DC volt scales in one instrument. Five popular models are:

Model	DC Test Voltage	Max. Megohms	Features	Price
2000	500	100	Pocket-size	$ 95
201	500	200	Includes 2K ohm and six AC-DC volt scales	148
211	1000	2000	200 K ohm range	255
2850	500/50	10 Million	Constant test voltage through 6 decades	345
2955	0-2,500	50,000	Adjustable test voltage	890

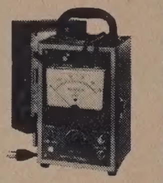
Request VIBROTEST Megohmmeter Bulletins by model number.

Testing Manual Available

This 60 page collection of Bulletins covers specs, prices and applications of insulation resistance testers, AC HYPOT Juniors, portable and mobile DC test sets, corona and materials test equipment, kilovoltmeters, precision ohmmeter, current transformers, phase sequence indicators.

Request Manual 2900 on company letterhead

A-C HYPOT Jrs. . . to 10 KV, limited current



Portable a-c dielectric strength testers providing outputs continuously variable from 0-1500 V up to 10,000 V a-c. Use of neon breakdown and leakage current indicators in conjunction with collapsing field-type high voltage transformers assures rapid and safe production testing.

The leakage current indicator is adjustable from 0.3 to 3 ma. A 4½" kilovoltmeter provides high accuracy. Short-circuit current cannot exceed 18 ma.

Three popular models are:

Model	Output Voltage	Price
411	0-2,500	$155
404	0-4,000	170
422	0-10,000	245

HYPOT Jr. Automatic "Squawker" Models

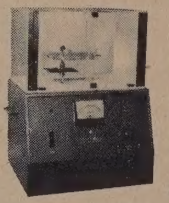
Available with output voltages from 0-1500 volts to 0-6000 volts a-c. Similar to the standard HYPOT Jr. models but include an audible signal unit and external control terminals.

DC and Combined AC/DC HYPOT Jrs.

offer same features as described above, plus test potentials to 5 KV.

Request AC & DC HYPOT Jr. Bulletins.

Insulating Materials Testers



A full range of testers for solid and liquid insulating materials to 100 KV and higher is available. Due to the rapid progress of insulating materials and testing techniques, new equipment is added whenever required to meet ASTM, MIL and Federal test specifications.

Model 4501 Materials Testing HYPOT 0-35 KV at 2 KVA

This popular model meets dielectric strength testing requirements of Specification D-149, ASTM Standards on Electrical Insulation Materials. Output continuously variable from 0-35 KV a-c at 2 KVA (intermittent rating). Magnetic breaker trips when specimen breaks down. Output termination in jacks at center of the lucite cabinet top accepts the interchangeable ARI materials testing fixtures. Optional features: interlocked clear lucite test cage and selection of ARI plug-in materials testing fixtures, automatic rate of rise, dual sensitivity circuit breaker, etc.

Request Insulation Materials Tester Bulletin

High Voltage Test Equipment to 500 KV AC and 1,000 KV DC

A full range of instruments for extra high voltage dielectric strength testing. AC or DC potentials at capacities of up to 150 KVA or more. Control and measurement features include: automatic rate of voltage rise, memory circuit to record breakdown voltage, output current metering, separate low voltage control and high voltage test cabinets and many others.

AR has over 30 years experience in the design and manufacture of heavy duty very high voltage test equipment. All instruments are ruggedly constructed and fully tested in our own high voltage laboratory.

Corona Testing Equipment

New instruments detect, display and measure corona caused by voids, surface or other conditions in insulation sample or equipment under test.

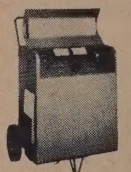
Instruments include: specially constructed corona-free HYPOT test set, a pickup network to extract the true corona signal and the corona detection display module. The detector also incorporates a calibrator to make quantitative corona measurements down to 0.1 picocoulombs.

These modules are available as individual units or as a complete integrated instrument. Standard models with test potentials of 10 to 100 KV AC include these two popular models:

Model	Output KV	KVA Capacity	Cabinet Style	Price
4074	10	0.25	Bench	$2250
4309	35	1.0	Console	3950

Request Bulletin 4-1.9.

Mobile HYPOTS . . . to 150 KV DC



Heavy-duty mobile test sets for determining insulation leakage and dielectric strength of cables, bushings, switchgear, transformers, motors and generators.

Outputs continuously variable from 0 to 45 KV and on up to 150 KV, with ratings of 2.5, 5, 10 ma. at full voltage.

Features include: 4½" kilovoltmeter connected directly across the high voltage output; three-range 4½" microammeter electronically protected against overload; zero return interlock; connector for remote safety interlock; fast-acting magnetic circuit breaker in output to protect high voltage circuits and external load; thermal overload breaker to protect input circuits; long-life silicon high voltage rectifiers; metered return and bypass return terminals for measurement of load (leakage) or bypass (guard) currents.

Request Mobile DC HYPOT Bulletin 5-1.16

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VOLT CORP HACKENSACK N J	**ADV PG 443**
D ELECTRIC CO, INC NEW YORK	**N Y**
DCOR ELECTRONICS INC GLENDALE N Y	**ADV PG 636**
LLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX	**N Y**
HNICAL APPARATUS BUILDERS DIV POWER LTERNATING DIRECT CORP BROOKLYN	**N Y**
VERSAL VOLTRONICS CORP MOUNT KISCO Y	**ADV PG 631**
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omation Dynamics Corp Northvale	N J
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lmark Standards Inc Mount Vernon	N Y
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Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn	N Y
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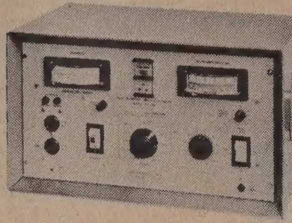
Fast

acting.

The Electronics Buyers' Guide can get you on the right frequency in a hurry. For example, there are 14 different kinds of oscillators listed. Everything from AF oscillators to voltage controlled crystal oscillators. There are three sections in your EBG, devoted to products, manufacturers and trade names. So see your fast-acting EBG.

Electronics Buyers' Guide

GAR Performance Tester



MODEL HPT-100 HIGH POTENTIAL INSULATION TESTER

- Tests insulation of transformers, capacitors, cables, motors, rectifiers, insulation materials, etc.
- Measures DC or AC dielectric strength.
- Measures DC or AC leakage current.
- Measures insulation resistance.
- Detects and measures corona levels.

Input: 115 VAC. 60 Hz. Output test voltages: 0 to 10 KVDC and 0 to 5 KVAC. Insulation resistance is measured in 5 ranges from 1 to 5000 megohms; DC leakage in 5 ranges from 0 to 500 microamps; AC leakage in 4 ranges from 0 to 5 milliamp. Corona detected visually and audibly. Dim.: 9½" high x 17" wide x 11" deep.

Send for literature today.

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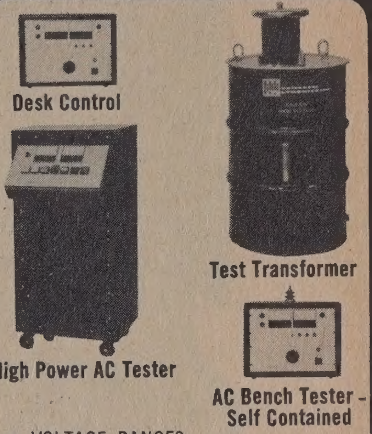
Phone: (213) 798-0785

UVC AC INSULATION TESTERS



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- OPTIONAL TEST FACILITY ORIENTED CONTROL FEATURES

Recognizing the rapidly changing field of high voltage and its demand for leadership in the production of test equipment, Universal Voltronics is proud to make available one of the most comprehensive product lines of AC testers. Designed for applications requiring AC testing of materials, these testers find wide use in the cable, transformer, bushing, pothead and other industries.

UVC AC testers are available in a wide choice of voltage and KVA capability ranging from "small" sample tests up to "large" run tests.

Virtually all UVC AC testers are available with a variety of optional features such as memory meter, automatic programming of voltage, special mechanical arrangements and many other features specifically oriented to the AC tester field. This flexibility provides an important advantage in economy, since there is no necessity to pay for features which may not be used in certain installations.

Write for Catalog INB which contains complete specifications and options available.

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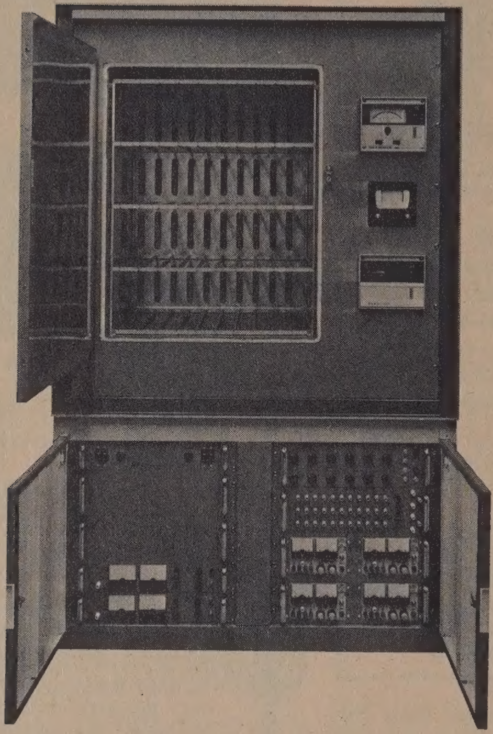
LSI Testing Systems and Instruments
Complete LSI Array Testers
Word Pattern Generators
Multiphase Clock Systems

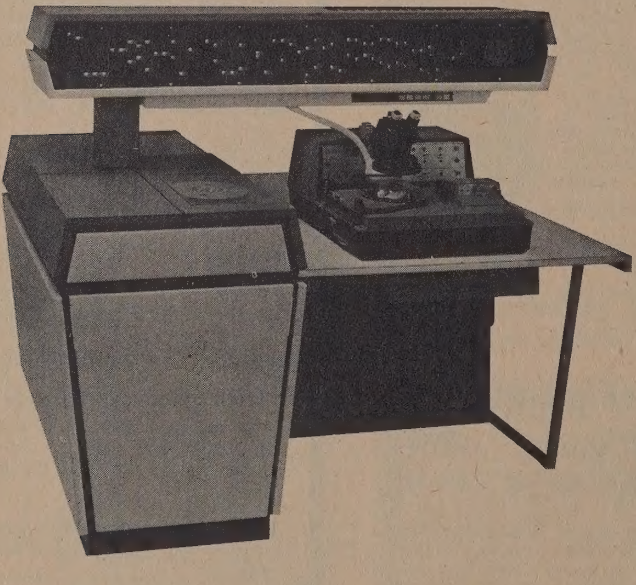
LSI Testing and Aging Systems



NLS Modular Aging Systems - The NLS Modular Aging System meets MOS-LSI industry requirements for versatile and reliable environmental testing equipment. The system contains equipment to power and stimulate LSI while the devices are subjected to precise environmental stress. Worst-case conditions are fully programmable. Pin translation and device output load conditions are easily changed to meet any testing requirement.

NLS Manual Array Tester - The Manual Array Test Set performs function test on LSI devices up to 40 leads. It features 2.5 MHz operation and digital patterns to 100 bits. Special features include: Digital Set Levels, 4-Phase Clocking System, and system control options.

NLS Semi-Automatic Array Tester - The Semi-Automatic Tester performs function tests on LSI devices with up to 42 leads. This Tester has a card program Word Generator with word-bit length capabilities in multiples of 256 bits. Features include: 2.5 MHz operation, internal pin translation, external sync from Device Under Test, and digital control of 4-phase clock. Real time device performance read out and failure analysis are standard to meet your testing requirements.



Automatic Large-Scale Array Tester
The Automatic Large-Scale Array Tester performs all functional tests on complex MOS devices at rates to 2 MHz, 40-bit word patterns to 1,000 words-per-test. Gross leakage, voltage breakdown, and input protection tests available. The system tests wafers, ambient devices, or environmentally stressed units.

Call COLLECT (714) 755-1134 to request detailed brochures and/or applications engineering assistance.

NLS
Originator of the Digital Voltmeter
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any testy problems ?

integrated circuits ?

Microcircuit Tester

- Both DC and functional measurements
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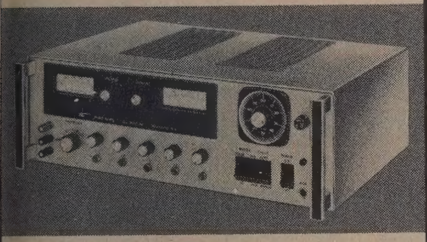
dc / pulse power ?



Versatile Power Sources

- All purpose regulated DC supply
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Telesciences Inc Moorestown .... N J
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***See* Detectors—Leak**

TESTERS—METER

***See* Calibrators—Meter**

TESTERS—MULTI-FUNCTION

***See* Volt-Ohm-Milliammeters**

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VP Co Pasadena .... Cal
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Muirhead Instruments Inc Mountainside .... N J
North Atlantic Industries Inc Plainview .... N Y

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Components Specialties Inc Freeport .... N Y
Dowa Trading Co Ltd Kobe .... Japan
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Measurements Corp New York .... N Y
Fairchild Instrumentation Sunnyvale .... Cal
Heath Co Benton Harbor .... Mich
Hewlett-Packard Palo Alto .... Cal
Hickok Electrical Instrument Co Cleveland .... Ohio
Western Technical Products Corp North Hollywood .... Cal
Workman Electronic Products Inc Sarasota .... Fla

TESTERS—SYNCHRO ERROR

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Singer Co Instru Div Gertsch Oper Los Angeles .... Cal
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Theta Instrument Corp Fairfield .... N J
Voltron Products Inc Pasadena .... Cal

TESTERS—TAPE-PROGRAMMED

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E D P CORP ORLANDO .... FLA
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HEWLETT-PACKARD PALO ALTO .... CAL
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A D Data Systems Inc Rochester .... N Y
Automated Measurements Corp Oakland .... Calif
Automation Dynamics Corp Northvale .... N J
Bendix Corp Navigation & Control Div Teterboro, ... N J
Computer Test Corp Cherry Hill .... N J
Conductron-Missouri St Charles .... Mo
Connecticut Technical Corp Hartford .... Conn
Continental Device Corp Hawthorne .... Cal
Control Logic Inc Natick .... Mass
Cunningham Corp Sub Gleason Wks Honeoye Falls .... N Y
Dalmo Victor, A Textron Div Belmont .... Cal
Data Automation Inc Scottsdale .... Ariz
Davidson Electronic Development Co Erie .... Pa
Dit-Mco International Kansas City .... Mo
Dowa Trading Co Ltd Kobe .... Japan
E D P Corp Orlando .... Fla
Fairchild Instrumentation Sunnyvale .... Cal
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co, ECSO Schenectady .... N Y
General Kinetics Inc Reston .... Va
Goodyear Aerospace Corp Akron .... Ohio
Hamilton Standard Div UAC Elctns Systems Windsor Locks .... Conn
Hartman Systems Co Inc Huntington Station .... N Y
Hewlett-Packard Palo Alto .... Cal
Industrial Timer Corp Parsippany .... N J
Julie Research Labs, Inc New York .... N Y
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Litton Systems (Canada) Ltd Rexdale .... Ont
Logic Corp Haddonfield .... N J
Measurement Technology Corp Canoga Park .... Cal
Microdyne Instruments Burlington .... Mass
Micro Metrics Inc Paterson .... N J
3M Company St Paul .... Minn
3M Instrument Products Camarillo .... Cal
Non-Linear Systems Inc Del Mar .... Cal
Optimized Devices, Inc Pleasantville .... N Y
Optomechanisms Inc Plainview .... N Y
P P M Inc Cleveland .... Ohio
Rodale Electronics Inc Garden City .... NY
Slaughter Co Ardmore .... Okla
Spedcor Electronics Inc Glendale .... N Y
Sperry Microwave Electronics Div Clearwater .... Fla
Tektronix Inc Beaverton .... Ore
Telesciences Inc Moorestown .... N J
Teradyne Inc Boston .... Mass
Test Equipment Corp Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
Zehntel, Inc Berkeley .... Cal

TESTERS—TORQUE

Anchor Specialty Mfg Co Inc Teterboro .... N J
Bendix Corp Fluid Power Div Utica .... N Y
Bergen Lab, Inc Paterson .... N J
B & F Instruments, Inc Cornwells Heights .... Pa
Chatillon & Sons, John Kew Gardens .... N Y
Consolidated Airborne Systems Carle Place .... N Y
Dillon & Co Inc, W C Van Nuys .... Cal
Doric Scientific Corp San Diego .... Cal
Dowa Trading Co Ltd Kobe .... Japan
Dynamics Research Corp Stoneham .... Mass
General Thermodynamics Corp North Wilmington .... Mass
Himmelstein & Co, S Elk Grove Village Ill
Industrial Electronetics Corp Satellite Beach .... Fla
Jo-Line Tools Inc Anaheim .... Cal
Kahn & Co Inc Wethersfield .... Conn
Martin-Decker Corp Santa Ana .... Cal
McFadden Electronics Co South Gate .... Cal
MPB Corp Keene .... N H
Performance Measurements Co Detroit .... Mich
Power Instruments Inc Skokie Ill
Sturtevant Div. Dresser Industries Inc. Addison Ill
Sweeney Mfg Co, B K Denver .... Colo
Waters Mfg Inc Wayland .... Mass
West Coast Research Corp Los Angeles .... Cal

TESTERS—TRANSISTOR

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
HEATH CO BENTON HARBOR .... MICH
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ... OHIO
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON .. N J
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
SPEDCOR ELECTRONICS INC GLENDALE N Y ... ADV PG 636
TEKTRONIX INC BEAVERTON .... ORE
A D Data Systems Inc Rochester .... N Y
Aerotronic Associates, Inc Contoocook .... N H
Allen Aircraft Radio Inc Elk Grove Village Ill
American Electronic Labs Inc Lansdale .... Pa
Ando Electric Co Ltd Ohta-ku, Tokyo .... Japan
Automated Measurements Corp Oakland .... Calif
Avo Ltd Dover Kent .... England
Baird-Atomic, Inc Cambridge .... Mass
Beckman Instruments Inc Fullerton, ... Cal
Birtcher Corp Instrument Div Monterey Park .... Cal
B & K Mfg Co Div Dynascan Corp Chicago Ill
Canadian Research Institute Don Mills .... Ont
Compagnie Generale de Metrologie Haute Savoie .... France
Components Corp Denville .... NJ
Components Specialties Inc Freeport .... N Y
Continental Device Corp Hawthorne .... Cal
Custom Scientific Instruments Inc Whippany .... N J
Davidson Electronic Development Co Erie .... Pa
Desco Mfg Co Glendale .... Cal
Dowa Trading Co Ltd Kobe .... Japan
E-H Research Labs Inc Oakland .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Measurements Corp New York .... N Y
Fairchild Instrumentation Sunnyvale .... Cal
General Electric Co, ECSO Schenectady .... N Y
Gralex Industries Inc Copiague .... N Y
Heath Co Benton Harbor .... Mich
Hickok Electrical Instrument Co Cleveland .... Ohio
International Energy Conversion Div Nuclear Sys Inc Garland .... Tex
Iwatsu Electric Co Ltd Suginami-ku Tokyo .... Japan
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Kokuyo Electric Co Ltd Tokyo .... Japan
Lafayette Radio Electronics Syosset .... NY
Lectrotech, Inc Chicago Ill
Logic Corp Haddonfield .... N J
Marin Controls Co Div FRL,Inc Belmont .... Cal
Mastech Inc Syracuse .... N Y
Measurements A McGraw-Edison Div Boonton .... N J
Metermaster, Inc Los Angeles .... Cal
Microdyne Instruments Burlington .... Mass
Micro Instrument Co Hawthorne .... Cal
Miracle-Hill Electronics Santa Clara .... Cal
Nichols Co Ltd, R H Downsview .... Ont
Non-Linear Systems Inc Del Mar .... Cal
Optimized Devices, Inc Pleasantville .... N Y
Philco-Ford Corp Washington .... D C
Philips Electronic Instruments, Test & Measuring Inst Mount Vernon .... NY
Quan-Tech Labs Inc Whippany .... N J
Rantec Div Emerson Electric Co Calabasas .... Cal
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Seco Electronics Corp Hopkins .... Minn
Semiconductor Circuits, Inc Woburn .... Mass
Sencore Inc Addison Ill
Siliconix Inc Sunnyvale .... Cal
Simpson Electric Co Chicago Ill
Spedcor Electronics Inc Glendale .... N Y
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur .. Switzerland
Taft Electrosystems Inc Applied Elctns Div Metuchen .... N J
Tektronix Inc Beaverton .... Ore
Teradyne Inc Boston .... Mass
Test Equipment Corp Dallas .... Tex
Texas Instruments Incorporated Dallas .... Tex
Texas Instruments Inc Indl Prods Div Houston .... Tex
Trio-Tech Inc of California Burbank .... Cal
Triplett Electrical Instrument Co Bluffton .... Ohio
Trott Electronics Inc Rochester .... N Y
Wakefield Engineering Inc Wakefield .... Mass
Wayne Kerr Co c/o Southfield Electronics Southfield ...
Western Technical Products Corp North Hollywood ...

TESTERS, TUBE—MICROWAVE TUBE (INCL. KLYSTRON)

KILOVOLT CORP HACKENSACK N J .... ADV PG
NIPPON ELECTRIC CO LTD TOKYO .... JA
WHITTAKER CORP GEN COM DIV PLAINVIEW ....
Alto Scientific Co, Inc Palo Alto ....
Cober Electronics Inc Stamford ....
Dowa Trading Co Ltd Kobe .... Ja
Griffiths Electronics Inc Linden ....
J-Omega Co Mountain View ....
Kilovolt Corp Hackensack ....
Litton Industries, Electron Tube Div San Carlos ....
Mercury Electronics Inc Mineola ....
Nippon Electric Co Ltd Tokyo .... Ja
Raytheon Co, Microwave & Power Tube Div Waltham ... N
Triplett Electrical Instrument Co Bluffton ....
Whittaker Corp Gen Com Div Plainview ....
Wiltron Co Palo Alto ....

TESTERS, TUBE—SELF-SERVICE

HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ...
Compagnie Generale de Metrologie Haute Savoie .... Fra
Dowa Trading Co Ltd Kobe .... Ja
Fedtro Inc Rockville Centre ....
Hickok Electrical Instrument Co Cleveland ....
Kyoritsu Electrical Instruments Works Ltd Tokyo .... Ja
Mercury Electronics Inc Mineola ....
RIL Electronics Inc Southampton ....
Scaico Div, Wavetronics Industries Inc West Pittston ....
Seco Electronics Corp Hopkins .... M
Sencore Inc Addison ....
Sunshine Scientific Instruments Inc Philadelphia ....
Wavetronics Industries Inc West Pittston ....

TESTERS, TUBE—THYRATRON

HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ... O
KILOVOLT CORP HACKENSACK N J .... ADV PG
B & K Mfg Co Div Dynascan Corp Chicago ....
Canadian Research Institute Don Mills ....
Cober Electronics Inc Stamford C
Dowa Trading Co Ltd Kobe .... Ja
Gilardoni S p A Mandello Lario Como I
Hickok Electrical Instrument Co Cleveland C
Kilovolt Corp Hackensack ....
Kokuyo Electric Co Ltd Tokyo .... Ja

TESTERS—ULTRASONIC EQUIPMENT

DRANETZ ENGINEERING LABS INC PLAINFIELD ....
Automation Industries Inc Matls Evaluation Grp Danbury C
Dranetz Engineering Labs Inc Plainfield ....
MTI- Mechanical Technology Inc Latham ....

TESTERS—VACUUM TUBE

HEATH CO BENTON HARBOR .... M
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ... O
KILOVOLT CORP HACKENSACK N J .... ADV PG
Allen Aircraft Radio Inc Elk Grove Village ....
Avo Ltd Dover Kent .... Engl
B & K Mfg Co Div Dynascan Corp Chicago ....
Canadian Research Institute Don Mills ....
Cober Electronics Inc Stamford C
Compagnie Generale de Metrologie Haute Savoie .... Fra
Controlomag Labs Roslyn ....
Dowa Trading Co Ltd Kobe .... Ja
EICO Electronic Instrument Co Inc Brooklyn ....
Electronic Measurements Corp New York ....
Griffiths Electronics Inc Linden ....
Heath Co Benton Harbor .... M
Hickok Electrical Instrument Co Cleveland .... O
Kilovolt Corp Hackensack ....
Kokuyo Electric Co Ltd Tokyo .... Ja
Kyoritsu Electrical Instruments Works Ltd Tokyo .... Ja
Lafayette Radio Electronics Syosset ....
Lectrotech, Inc Chicago ....
Lynn Electronics Corp Philadelphia ....
Mercury Electronics Inc Mineola ....
Nichols Co Ltd, R H Downsview ....
Research Industrolectronics Roslyn ....
RIL Electronics Inc Southampton ....
Seco Electronics Corp Hopkins .... M
Sencore Inc Addison ....
Sunshine Scientific Instruments Inc Philadelphia ....
Triplett Electrical Instrument Co Bluffton .... O

TESTERS—VIBRATOR

Agac-Derritron Inc Alexandria ....
All American Tool & Mfg Co Inc Skokie ....
Bell & Howell Co, Elctn Instr Grp Pasadena ....
Chadwick Helmuth Co Inc Monrovia ....
Dowa Trading Co Ltd Kobe .... Ja
EICO Electronic Instrument Co Inc Brooklyn ....
General Oceonology Inc Cambridge .... M
Kinetic Systems Inc Concord .... M
Knopp Inc Oakland ....
Kokusai Electric Co Ltd Tokyo-105 .... Ja
L A B Corp Div Redford Corp Skaneateles .... N
Ling Electronics Div LTV Altec Inc Anaheim ....

ectronics A Textron Co New Haven ....Conn
ry Electronics Inc Mineola ....N Y
Mechanical Technology Inc Latham ....NY
Technical Labs Cincinnati ....Ohio

TERS—VOLTAGE

▸Voltmeters

T LEADS

▸Leads

T RECORDS—DISK

▸Records

T SETS

▸Testers

T SYSTEMS, AUTOMATIC IECKOUT—AVIONIC

CIATED RESEARCH, INC CHICAGO ILL
INGHAM CORP SUB GLEASON WKS
IEOYE FALLS ....N Y
IN CORP FORT LAUDERDALE ....FLA
CORP ORLANDO ....FLA
RONIC NAVIGATION INDUSTRIES INC ROCHESTER .NY
ETT-PACKARD PALO ALTO ....CAL
LINEAR SYSTEMS INC DEL MAR ....CAL
H ATLANTIC INDUSTRIES INC PLAINVIEW
..................................ADV PG 635
SCIENTIFIC DIV LITTON INDUSTRIES
CKSBURG ....VA
D CORP OF AMERICA HICKSVILLE ....N Y
COR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
RON-DONNER CORP CONCORD ....CAL
orp Baltimore ....Md
ata Systems Inc Rochester ....N Y
al Systems Corp Chicago Ill
pace Avionics Inc Bohemia ....NY
AC Industries Inc Garden City ....N Y
r Specialty Mfg Co Inc Teterboro ....N J
iated Research, Inc Chicago Ill
data Inc Anaheim ....Cal
Lab Westminster ....Cal
systems Inc New Hyde Park ....N Y
nated Measurements Corp Oakland ....Calif
nation Dynamics Corp Northvale ....N J
ietics Div North American Rockwell Corp Anaheim . . . Cal
ion Electric Ltd St Laurent, Montreal ......Que
, Inc Woodside ....N Y
n Mfg, Inc Cleveland ....Ohio
Brothers Research Corp Boulder ....Colo
Howell Co, Elctn Instr Grp Pasadena ....Cal
x Corp Navigation & Control Div Teterboro, ...N J
ey Ltd G & E London NW 10 ....England
n Engineering-A Teledyne Co Huntsville .....Ala
er-Ramo Corp Defense Systems Div Canoga Park . . . . Cal
ga Industries Los Angeles ....Cal
on Electronics Div Gen Signal Corp Woodbury ......N Y
e Signaux Et D'Entreprises Electriques
ris 17eme ....France
s Radio Co Dallas ....Tex
udyne Corp Hatboro ....Pa
uctron-Missouri St Charles ....Mo
olidated Airborne Systems Carle Place ......N Y
ol Technology Co Inc Long Island City ......N Y
os Industries Inc Brooklyn ....N Y
ingham Corp Sub Gleason Wks Honeoye Falls ......N Y
Research & Devel Corp Huntington ....N Y
n Corp Fort Lauderdale ....Fla
Mco International Kansas City ....Mo
mco Ltd Chertsey Surrey ....Eng
tronics Oper Elctns Div Gen Dynamics Corp Orlando . . Fla
P Corp Orlando ....Fla
ronic Communications Inc Div NCR St Petersburg . . . . Fla
ronic Navigation Industries Inc Rochester ....NY
Corp San Diego ....Cal
utive Electronics Inc. Denver ....Colo
hild Hiller Corp, Space & Elctns Sys Div Germantown . Md
hild Space & Defense Sys Div Fairchild Cam & Instr Corp
ramus ....N J
er-Akin Co Manhattan Beach ....Cal
M Systems Co, Div Fischbach & Moore, Inc Dallas . . . Tex
Instrument Corp Westbury ....N Y
ral Aviation Electronics Inc Indianapolis ..Ind
ral Dynamics, Electronics Div Rochester ....N Y
ral Microwave Corp Farmingdale ....N Y
lyear Aerospace Corp Akron ....Ohio
is-Intertype Corp Cleveland ....Ohio
man Systems Co Inc Huntington Station ......N Y
ett-Packard Palo Alto ....Cal
strial Control Co Farmingdale ....N Y
red Industries Inc Santa Barbara ....Cal
Corp Lexington ....Mass
Aerospace, Optical Div Fort Wayne ....Ind
Research Labs, Inc New York ....N Y
n & Co Inc Wethersfield ....Conn
fott Div Singer-General Precision Inc Little Falls . . . . . NJ
e & Co Inc, Walter Belleville ....N J
Industries, Electronics Div North Hollywood ....Cal
Siegler Inc Santa Monica ....Cal
Siegler Inc, Instrument Div Grand Rapids ...Mich
ex Div Ledex Inc Dayton ....Ohio
Electronics Waltham ....Mass
on Industries, Guidance & Controls Sys Div
oodland Hills ....Cal
on Systems (Canada) Ltd Rexdale ....Ont
l Electronic Systems, Div Loral Corp New York ......NY
aker Corp High Bridge ....N J

Measurement Technology Corp Canoga Park ....Cal
Micro Metrics Inc Paterson ....N J
3M Instrument Products Camarillo ....Cal
NanoFast, Inc Chicago Ill
Nanosecond Systems Inc Fairfield ....Conn
Non-Linear Systems Inc Del Mar ....Cal
North Atlantic Industries Inc Plainview ....N Y
Optronics Labs Div Columbia Scientific Corp Waltham . . . Mass
Performance Measurements Co Detroit ....Mich
Philco-Ford Corp Washington ....D C
Poly Scientific Div Litton Industries Blacksburg ....VA
PRD Electronics Inc, Sub H-I Corp Westbury .N Y
Quantic Industries Inc San Carlos ....Cal
Randam Electronics Inc Cincinnati ....Ohio
RCA, Defense Electronic Products Moorestown .N J
Reeves Instrument Div, DCA Garden City .....N Y
Resdel Engineering Corp Pasadena ....Cal
Rodale Electronics Inc Garden City ....NY
Sanders Assoc Inc, Geospace Elctns Div Plainview ....N Y
Servo Corp of America Hicksville ....N Y
Sierra Research Corp Buffalo ....N Y
Siltronics Inc Oakmont ....Pa
Space Craft Inc Huntsville ....Ala
Spedcor Electronics Inc Glendale ....N Y
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
Sperry Microwave Electronics Div Clearwater ....Fla
Sylvania Electronic Systems Waltham ....Mass
Symetrics Engineering Corp Satellite Beach .Fla
Systron-Donner Corp Concord ....Cal
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Teledyne Telemetry Co Los Angeles ....Cal
Telesciences Inc Moorestown ....N J
Texas Instruments Incorporated Dallas ......Tex
Transval Electronics Div Jetronic Indus Inc Gardena ......Cal
Tridea Electronics, Sub Conductron Corp El Monte ......Cal
Trott Electronics Inc Rochester ....N Y
TRW Systems Group Redondo Beach ....Cal
Tyco Instrument Div Waltham ....Mass
Westinghouse Electric Corp, Aerospace Electrical Div
Lima ....Ohio

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SYNCHRO-TO-DIGITAL CONVERTERS
- *20,000°/second tracking*
- *.01° BCD*
- *16 Bit binary*

DIGITAL-TO-SYNCHRO CONVERTERS
- *11 to 16 Bits*
- *30 arc seconds accuracy*
- *short-circuit proof*

DIGITAL ANGLE GENERATORS
- *1 arc minute/second to 20,000°/second*
- *provide digital rate data for D/S Converters*

PHASE-SENSITIVE AC-TO-DC CONVERTERS
- *fully programmable*
- *0.1% linearity*
- *sensitivity 10 mv for 10VDC output*

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PLAINVIEW, NEW YORK 11803 516—681-8600

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E D P CORP ORLANDO ....FLA
HEWLETT-PACKARD PALO ALTO ....CAL
HONEYWELL TEST INSTRUMENTS DIV DENVER
COLO ....ADV PG 8
NON-LINEAR SYSTEMS INC DEL MAR ....CAL
SERVO CORP OF AMERICA HICKSVILLE ....N Y
SIEMENS AMERICA INC NEW YORK ....N Y
SPEDCOR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
SYSTRON-DONNER CORP CONCORD ....CAL
TEKTRONIX INC BEAVERTON ....ORE
AAI Corp Baltimore ....Md
Adage Inc Boston ....Mass
Adar Associates Inc Cambridge ....Mass
A D Data Systems Inc Rochester ....N Y
Aerotronic Associates, Inc Contoocook ......N H
AMBAC Industries Inc Garden City ....N Y
Applied Control Co Cedar Grove ....NJ
Arizona Modular Electronic Systems Tempe ...Ariz
Associated Research, Inc Chicago Ill
Astrodata Inc Anaheim ....Cal
Astro Lab Westminster ....Cal
Automated Measurements Corp Oakland ....Calif
Automation Dynamics Corp Northvale ....N J
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Avtron Mfg, Inc Cleveland ....Ohio
Ball Brothers Research Corp Boulder ....Colo
Beckman Instruments Inc Fullerton, ...Cal
Bio-Medical Electronics Inc Rockville ......Md
Brown Engineering-A Teledyne Co Huntsville .Ala
California Computer Products Inc Anaheim ...Cal
Canoga Industries Los Angeles ....Cal
Cardion Electronics Div Gen Signal Corp Woodbury ......N Y
Chrysler Corp, Space Div, Huntsville Oper Huntsville ......Ala
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme ....France
Cohu Electronics Inc San Diego ....Cal
Compton Industries, Inc Vestal ....N Y
Compudyne Corp Hatboro ....Pa
Computer Central Detroit ....Mich
Computer Logic Corp Santa Monica ....Cal
Computer Test Corp Cherry Hill ....N J
Conductron-Missouri St Charles ....Mo
Connecticut Technical Corp Hartford ....Conn
Consolidated Airborne Systems Carle Place ..N Y
Continental Device Corp Hawthorne ....Cal
Cunningham Corp Sub Gleason Wks Honeoye Falls ......N Y
Darcy Industries Inc Santa Monica ....Cal
Data Trends Inc Mountain Lakes ....NJ
Datum Inc Anaheim ....Cal
Davidson Electronic Development Co Erie ....Pa
Defense Electronics Div DEI Industries Rockville ....Md
Dero Research & Devel Corp Huntington ......N Y
Design Automation Inc Lexington ....Mass
Digital Equipment Corp Maynard ....Mass
Discon Corp Fort Lauderdale ....Fla
Dit-Mco International Kansas City ....Mo
Doric Scientific Corp San Diego ....Cal
Dynamco Ltd Chertsey Surrey ....Eng
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando . . Fla
E D P Corp Orlando ....Fla
Electronic Communications Inc Div NCR St Petersburg . . . Fla
Electronics Communications Div Atlantic Research Corp
Alexandria ....Va
Electro Scientific Industries Inc Portland .Ore
Elgar Corp San Diego ....Cal
E N M Co Chicago Ill
Fairchild Instrumentation Sunnyvale ....Cal
Fisher-Akin Co Manhattan Beach ....Cal
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Frequency Engineering Labs Farmingdale .....N J
Gap Instrument Corp Westbury ....N Y
General Dynamics, Electronics Div Rochester .N Y
General Resistance Inc Div Chronetics Inc Mount Vernon . . N Y
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Hamilton Standard Div UAC Elctns Systems
Windsor Locks ....Conn
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Heidelex Corp. Chelmsford ....Mass
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Kahn & Co Inc Wethersfield ....Conn
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Kuwano Electrical Instruments Co Ltd
Kawasaki ....Kanagawa Pref
Lear Siegler Inc, Cimron Div San Diego .....Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim . . Cal
Litton Industries, Guidance & Controls Sys Div
Woodland Hills ....Cal
Logic Corp Haddonfield ....N J
Loral Electronic Systems, Div Loral Corp New York ......NY
LTV Electrosystems Inc, Garland Div Dallas .Tex
Measurement Technology Corp Canoga Park ....Cal
Microdyne Inc Rolling Meadows Ill
Microdyne Instruments Burlington ....Mass
Micro Instrument Co Hawthorne ....Cal
Micro Metrics Inc Paterson ....N J
Microtest Corp Northridge ....Cal
Microwave/Systems Inc East Syracuse ....N Y
3M Company St Paul ....Minn
3M Instrument Products Camarillo ....Cal
Monitor Systems Inc an Aydin Co Fort Washington ....Pa
Moore Associates Div Rucker Co San Carlos ..Cal
NanoFast, Inc Chicago Ill
Nanosecond Systems Inc Fairfield ....Conn
Non-Linear Systems Inc Del Mar ....Cal
Northeast Electronics Corp Concord ....N H
Nortronics Div, Northrop Corp, Prec Prods Dept
Norwood ....Mass
Novatronics Inc Pompano Beach ....Fla
Optimized Devices, Inc Pleasantville ....N Y
Pacific Electro Dynamics Inc Bellevue ......Wash
Performance Measurements Co Detroit ....Mich
Philco-Ford Corp Washington ....D C
P P M Inc Cleveland ....Ohio
PRD Electronics Inc, Sub H-I Corp Westbury .N Y
Randam Electronics Inc Cincinnati ....Ohio
Razdow Labs Inc Newark ....N J
RCA, Defense Electronic Products Moorestown .N J
RC-95 Inc New York ....N Y

spedcor

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INSTRUMENT DIVISION

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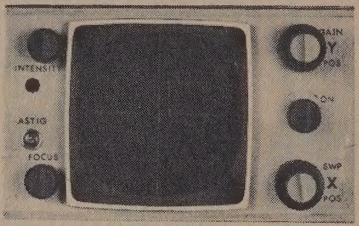
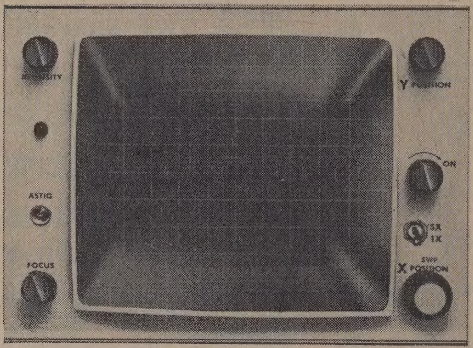
BENRUS CRT DISPLAYS

- **Bandwidths to 25 MHz**
- **Sensitivities to 1 mv/div**
- **Meet MIL SPEC Environmental Requirements**





1. You select panel height.

Units mount on standard 3½", 5¼", 7" rack panels.

2. You select amplifier characteristics.

Many bandwidths and sensitivities are available, for either or both channels.

3. You select sweep, if desired.

Either "A" or "B" channel may be swept; choice of 40 speed ranges.

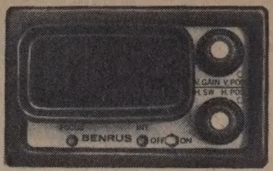
To the combination of your choice you may now add, if desired, any of many optional features. The result is a standard, off-the-line instrument, custom-assembled to meet your exact requirements.

For optimum panel-mounting efficiency, the units have been designed to exact modular dimensions.

The CRT Displays have integral power supplies and are fully self contained. Complete description, specifications, and ordering information are given in Catalog #802. Ask your rep for a copy, or write direct.

BENRUS SOLID STATE, LOW COST. COMPACT

X-Y INDICATOR



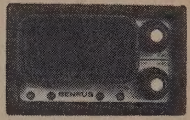
3" Type RA840C

- Bandwidth: DC to 200 KHz (3 db).
- Sensitivity: 1 v/cm to 10 v/cm.
- Rise time: 1.5 μs.
- DC coupled blanking provided.
- Compact—behind panel depth less than 10½".
- Identical X and Y amplifier characteristics.
- Complete—ready to operate.

BENRUS SOLID STATE, PANEL MOUNTING

MONITOR OSCILLOSCOPES

DC to 500 KHz


3" Type RA840B

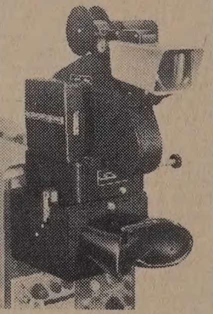
5" Type RA850

These instruments are ideal for applications where economical, stable, dependable monitors are needed. They are compact, light in weight, low in heat dissipation, require only AC line power. Units with on-off blanking and grey scale modulation are available. Up to three 3" models can be mounted on a standard 3½" panel; two 5" models on a standard 5¼" panel. **Conform with MIL SPEC environmental requirements.**

While designed primarily for panel mounting, the units are fully cased and may be safely operated on the bench.

Plug-in Flexibility—A full line of plug-in vertical and horizontal amplifiers, trigger and sweep circuits are available, and may be used interchangeably on either the Type RA840B or the Type RA850 scopes. The range includes X and Y amplifier channels from DC to 500 KHz with 10 mv/cm to 2 v/cm sensitivity, free-running sweep circuits with sweep frequency rates from 0.2 Hz to 10 KHz, and triggered sweeps with speeds from 1 sec/cm to 10μsec/cm.

Data Recording Camera Systems



TYPES 3800-C
For Continuous Motion Film Advance
3800-P
For Pulse Motion Film Advance

FEATURING:

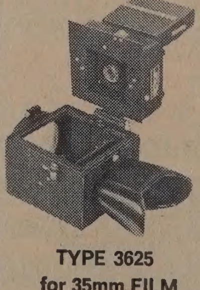
RAPROMATIC® 35mm processing with On-Camera developing, fixing and viewing.

Adaptable for recording a wide variety of visible phenomena such as: Oscilloscope Traces • Large Screen Radar Displays • Ionosphere Patterns.

RAPROMATIC PROCESSING provides built-in film processing and viewing "On-Camera" within 60 seconds of exposure. Development and fixing are fast and thorough. Film is processed and fed thru "On-Camera" viewer where it can be evaluated within one minute of shooting.

FEATURES

- Automatically develops and fixes up to 100 feet of 35mm film.
- Produces high quality negatives viewable in 60 seconds. No loss of resolution.
- No pumps, applicators, time/temperature devices, free fluids.
- Mounts on Type 3625 cameras.



TYPE 3625
for 35mm FILM

FEATURES

- Binocular viewing through dichroic mirror—no parallactic errors.
- Flat-field, non-distorting optics; slip hinge construction for quick access to exposure controls.
- Able to photograph fast transients by holding shutter open until the transient occurs.
- Data chamber permits simultaneous recording of data and scope traces.
- Can be used with most oscilloscopes.
- Negligible camera-to-scope RF and inductive interference, with RFI suppressed models.

And a complete line of camera accessories.
Request Catalog No. 603A

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lel Engineering Corp Pasadena .... Cal
arch Industrolectronics Roslyn .... Pa
n Electronics Inc Silver Spring .... Md
ale Electronics Inc Garden City .... NY
ntific Data Systems Inc El Segundo .... Cal
or Corp Greenwich .... Conn
o Corp of America Hicksville .... N Y
ens America Inc New York .... N Y
th Research Associates San Diego .... Cal
rtron Electronic Group Ltd Farnbrough .... England
ce Craft Inc Huntsville .... Ala
dcor Electronics Inc Glendale .... N Y
ry Microwave Electronics Div Clearwater .... Fla
ma Inc Stamford .... Conn
e Laboratories Inc Boston .... Mass
ania Electronic Systems Waltham .... Mass
etrics Engineering Corp Satellite Beach .... Fla
ems Engineering Labs. Ft Lauderdale .... Fla
ron-Donner Corp Concord .... Cal
Electrosystems Inc Applied Elctns Div Metuchen .... N J
eda Riken Industry Co Ltd Tokyo .... Japan
-Sel Labs Inc Saddle Brook .... N J
tronix Inc Beaverton .... Ore
dyne Telemetry Co Los Angeles .... Cal
sciences Inc Moorestown .... N J
adyne Inc Boston .... Mass
as Instruments Incorporated Dallas .... Tex
as Instruments Inc Indl Prods Div Houston .... Tex
ea Electronics, Sub Conductron Corp El Monte .... Cal
t Electronics Inc Rochester .... N Y
V Systems Group Redondo Beach .... Cal
o Instrument Div Waltham .... Mass
ed Systems Corp Dayton .... Ohio
Tech Co Grand Rapids .... Mich
tal Modern Design Corp Vestal .... N Y
ar Corp Mountain View .... Cal
tern Technical Assoc Miraleste .... Cal
ntel, Inc Berkeley .... Cal

ST SYSTEMS, AUTOMATIC HECKOUT—FACSIMILE

PON ELECTRIC CO LTD TOKYO .... JAPAN
Y SCIENTIFIC DIV LITTON INDUSTRIES
LACKSBURG .... VA
DCOR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
en Electronic & Impulse Recording Equip Co Inc
/estboro .... Mass
wn Engineering-A Teledyne Co Huntsville .... Ala
De Signaux Et D'Entreprises Electriques
aris 17eme .... France
npudyne Corp Hatboro .... Pa
mos Industries Inc Brooklyn .... N Y
o Research & Devel Corp Huntington .... N Y
amco Ltd Chertsey Surrey .... Eng
M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
eral Dynamics, Electronics Div Rochester .... N Y
nore Industries Inc Cleveland .... Ohio
dyear Aerospace Corp Akron .... Ohio
omax Palo Alto .... Cal
r Siegler Inc, Electronic Instrumentation Div Anaheim .... Cal
/ Electrosystems Inc, Garland Div Dallas .... Tex
rin Controls Co Div FRL Inc Belmont .... Cal
irhead Instruments Inc Mountainside .... N J
pon Electric Co Ltd Tokyo .... Japan
y Scientific Div Litton Industries Blacksburg .... VA
ndam Electronics Inc Cincinnati .... Ohio
edcor Electronics Inc Glendale .... N Y
netrics Engineering Corp Satellite Beach .... Fla
W Systems Group Redondo Beach .... Cal
o Instrument Div Waltham .... Mass

ST SYSTEMS, AUTOMATIC HECKOUT—MICROWAVE

CTRONIC NAVIGATION INDUSTRIES INC ROCHESTER . NY
WLETT-PACKARD PALO ALTO .... CAL
PON ELECTRIC CO LTD TOKYO .... JAPAN
EMIER MICROWAVE CORP PORT CHESTER .... NY
RVO CORP OF AMERICA HICKSVILLE .... N Y
EDCOR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
STRON-DONNER CORP CONCORD .... CAL
I Corp Baltimore .... Md
o Scientific Co, Inc Palo Alto .... Cal
aren Microwave Inc Syracuse .... N Y
tomation Dynamics Corp Northvale .... N J
tonetics Div North American Rockwell Corp Anaheim .... Cal
ndix Corp Electrodynamics Div North Hollywood .... Cal
lifornia Microw Ave, Inc. Sunnyvale .... Cal
noga Industries Los Angeles .... Cal
De Signaux Et D'Entreprises Electriques
aris 17eme .... France
ro Research & Devel Corp Huntington .... N Y
ctronic Navigation Industries Inc Rochester .... NY
irchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
equency Engineering Labs Farmingdale .... N J
neral Dynamics, Electronics Div Rochester .... N Y
neral Microwave Corp Farmingdale .... N Y
odyear Aerospace Corp Akron .... Ohio
rris-Intertype Corp Cleveland .... Ohio
wlett-Packard Palo Alto .... Cal
k Corp Lexington .... Mass
T Aerospace, Optical Div Fort Wayne .... Ind
easurement Technology Corp Canoga Park .... Cal
rda Microwave Corp Plainview .... N Y
ppon Electric Co Ltd Tokyo .... Japan
rtheast Electronics Corp Concord .... N H
ilco-Ford Corp Washington .... D C
D Electronics Inc, Sub H-I Corp Westbury .... N Y
emier Microwave Corp Port Chester .... NY
antec Div Emerson Electric Co Calabasas .... Cal

Reeves Instrument Div, DCA Garden City .... N Y
Resdel Engineering Corp Pasadena .... Cal
Sanders Assoc Inc, Geospace Elctns Div Plainview .... N Y
Servo Corp of America Hicksville .... N Y
Somerset Radiation Lab Inc Arlington .... Va
Spedcor Electronics Inc Glendale .... N Y
Sperry Microwave Electronics Div Clearwater .... Fla
Sylvania Electronic Systems Waltham .... Mass
Systron-Donner Corp Concord .... Cal
Watkins-Johnson Co Palo Alto .... Cal
Wayne Electronic Products Co Oklahoma City .... Okla
Wiltron Co Palo Alto .... Cal

TEST SYSTEMS, AUTOMATIC CHECKOUT—MISSILE & DRONE

CUNNINGHAM CORP SUB GLEASON WKS
HONEOYE FALLS .... N Y
E D P CORP ORLANDO .... FLA
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
SPEDCOR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
VEGA PRECISION LABS VIENNA .... VA
AAI Corp Baltimore .... Md
AMBAC Industries Inc Garden City .... N Y
Anchor Specialty Mfg Co Inc Teterboro .... N J
Astrodata Inc Anaheim .... Cal
Automated Measurements Corp Oakland .... Calif
Automation Development Co Culver City .... Cal
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Avco Electronics Div Cincinnati .... Ohio
Aviation Electric Ltd St Laurent, Montreal .... Que
Babcock Electronic Corp Costa Mesa .... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena .... Cal
Bendix Corp Electrodynamics Div North Hollywood .... Cal
Bendix Corp Navigation & Control Div Teterboro, ... N J
Canoga Industries Los Angeles .... Cal
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Chrysler Corp, Missile Div Detroit .... Mich
Chrysler Corp, Space Div, Huntsville Oper Huntsville .... Ala
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme .... France
Compudyne Corp Hatboro .... Pa
Conductron-Missouri St Charles .... Mo
Consolidated Airborne Systems Carle Place .... N Y
Control Technology Co Inc Long Island City .... N Y
Cunningham Corp Sub Gleason Wks Honeoye Falls .... N Y
Dero Research & Devel Corp Huntington .... N Y
Dit-Mco International Kansas City .... Mo
Dynamco Ltd Chertsey Surrey .... Eng
E D P Corp Orlando .... Fla
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
General Dynamics, Electronics Div Rochester .... N Y
General Electric Co Ordnance Systems Pittsfield .... Mass
Gilmore Industries Inc Cleveland .... Ohio
Goodyear Aerospace Corp Akron .... Ohio
Ground/data Corp Fort Lauderdale .... Fla
Harris-Intertype Corp Cleveland .... Ohio
Hycon Monrovia .... Cal
Information Control Corp El Segundo .... Cal
Infrared Industries Inc Santa Barbara .... Cal
Inland Controls Inc Sub Kollmorgen Corp Pittsburgh .... Pa
ITT Aerospace, Optical Div Fort Wayne .... Ind
Kahn & Co Inc Wethersfield .... Conn
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
Kidde & Co Inc, Walter Belleville .... N J
Lear Siegler Inc Santa Monica .... Cal
Lear Siegler Inc, Electronic Instrumentation Div Anaheim .... Cal
Lear Siegler Inc, Instrument Div Grand Rapids .... Mich
Lockheed Electronics Co Plainfield .... N J
Measurement Technology Corp Canoga Park .... Cal
Micro Metrics Inc Paterson .... N J
3M Instrument Products Camarillo .... Cal
Monitor Systems Inc an Aydin Co Fort Washington .... Pa
Neptune Electronics Co New York .... N Y
Non-Linear Systems Inc Del Mar .... Cal
Philco-Ford Corp Washington .... D C
Randam Electronics Inc Cincinnati .... Ohio
RCA, Defense Electronic Products Moorestown .... N J
RC-95 Inc New York .... N Y
Redcor Corp Canoga Park .... Cal
Reeves Instrument Div, DCA Garden City .... N Y
Resdel Engineering Corp Pasadena .... Cal
Rodale Electronics Inc Garden City .... NY
Space Craft Inc Huntsville .... Ala
Spedcor Electronics Inc Glendale .... N Y
Teledyne Telemetry Co Los Angeles .... Cal
Transval Electronics Div Jetronic Indus Inc Gardena .... Cal
TRW Systems Group Redondo Beach .... Cal
Tyco Instrument Div Waltham .... Mass
Vega Precision Labs Vienna .... Va

TEST SYSTEMS, AUTOMATIC CHECKOUT—RADAR

HEWLETT-PACKARD PALO ALTO .... CAL
SPEDCOR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
VEGA PRECISION LABS VIENNA .... VA
AAI Corp Baltimore .... Md
Admiral Systems Corp Chicago Ill
Automated Measurements Corp Oakland .... Calif
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Bendix Corp Electrodynamics Div North Hollywood .... Cal
California Microw Ave, Inc. Sunnyvale .... Cal
Canoga Industries Los Angeles .... Cal
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme .... France
CMC/Rutherford San Fernando .... Cal
Cosmos Industries Inc Brooklyn .... N Y
Data-Design Labs Cucamonga .... Cal
Dero Research & Devel Corp Huntington .... N Y
Dewey Corp, G C New York .... N Y
Dynamco Ltd Chertsey Surrey .... Eng
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md

F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
Frequency Engineering Labs Farmingdale .... N J
General Dynamics, Electronics Div Rochester .... N Y
General Microwave Corp Farmingdale .... N Y
Goodyear Aerospace Corp Akron .... Ohio
Harris-Intertype Corp Cleveland .... Ohio
Hewlett-Packard Palo Alto .... Cal
Information Control Corp El Segundo .... Cal
ITT Gilfillan Inc Van Nuys .... Cal
Kearfott Div Singer-General Precision Inc Little Falls .... NJ
LFE Electronics Waltham .... Mass
Loral Electronic Systems, Div Loral Corp New York .... NY
Measurement Technology Corp Canoga Park .... Cal
NanoFast, Inc Chicago Ill
Narda Microwave Corp Plainview .... N Y
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Randam Electronics Inc Cincinnati .... Ohio
Razdow Labs Inc Newark .... N J
RCA, Defense Electronic Products Moorestown .... N J
Reeves Instrument Div, DCA Garden City .... N Y
Resdel Engineering Corp Pasadena .... Cal
Sanders Assoc Inc, Geospace Elctns Div Plainview .... N Y
Sierra Research Corp Buffalo .... N Y
Space Craft Inc Huntsville .... Ala
Spedcor Electronics Inc Glendale .... N Y
Sperry Microwave Electronics Div Clearwater .... Fla
Sylvania Electronic Systems Waltham .... Mass
Texas Instruments Incorporated Dallas .... Tex
Tridea Electronics, Sub Conductron Corp El Monte .... Cal
TRW Systems Group Redondo Beach .... Cal
Tyco Instrument Div Waltham .... Mass
Vega Precision Labs Vienna .... Va
Wiltron Co Palo Alto .... Cal

TEST SYSTEMS, AUTOMATIC CHECKOUT—SONAR

DRANETZ ENGINEERING LABS INC PLAINFIELD .... N J
HEWLETT-PACKARD PALO ALTO .... CAL
SPEDCOR ELECTRONICS INC GLENDALE N Y . . . ADV PG 636
AAI Corp Baltimore .... Md
Alcatel Paris 8eme .... France
Automated Measurements Corp Oakland .... Calif
Autonetics Div North American Rockwell Corp Anaheim .... Cal
Bendix Corp Electrodynamics Div North Hollywood .... Cal
Cardion Electronics Div Gen Signal Corp Woodbury .... N Y
Control Technology Co Inc Long Island City .... N Y
Dewey Corp, G C New York .... N Y
Dranetz Engineering Labs Inc Plainfield .... N J
Dynamco Ltd Chertsey Surrey .... Eng
Empire Scientific Corp Garden City .... N Y
F & M Systems Co, Div Fischbach & Moore, Inc Dallas .... Tex
General Dynamics, Electronics Div Rochester .... N Y
Goodyear Aerospace Corp Akron .... Ohio
Hewlett-Packard Palo Alto .... Cal
Information Control Corp El Segundo .... Cal
Measurement Technology Corp Canoga Park .... Cal
NanoFast, Inc Chicago Ill
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Randam Electronics Inc Cincinnati .... Ohio
Reeves Instrument Div, DCA Garden City .... N Y
Sierra Research Corp Buffalo .... N Y
Space Craft Inc Huntsville .... Ala
Spedcor Electronics Inc Glendale .... N Y
Tyco Instrument Div Waltham .... Mass

THERMAL CELLS

***See* Cells—Thermal**

THERMAL SHOCK CHAMBERS

***See* Chambers—Environmental**

THERMISTOR BRIDGES

***See* Bridges**

THERMISTORS

GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
INTERELECTRONICS CORP CONGERS .... N Y
SERVO CORP OF AMERICA HICKSVILLE .... N Y
SIEMENS AMERICA INC NEW YORK .... N Y
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO . . . JAPAN
VICTORY ENGINEERING CORP SPRINGFIELD
N J .... ADV PGS Facing Pg 1,638
WEINSCHEL ENGINEERING CO INC GAITHERSBURG . . . . MD
Advance Carbon Products, Inc San Francisco .... Cal
Amiproducts Corp New York .... N Y
Amperex Electronic Corp, Component Div Hauppauge .... N Y
Athena Controls Inc West Conshohocken .... Pa
Atkins Technical, Inc Gainesville .... Fla
Carbone Corp Boonton .... N J
Carborundum Co Electrical & Elctns Br Niagara Falls .... NY
Conax Corp Buffalo .... N Y
Control Products Corp Chicago Ill
Dowa Trading Co Ltd Kobe .... Japan
Fenwal Electronics Inc Framingham .... Mass
Fujitsu Ltd Tokyo .... Japan
G C Electronics Div, Hydrometals Inc Rockford Ill
General Electric Co, ECSO Schenectady .... N Y
General Electric Co Magnetic Matls Bus Sect Edmore .... Mich
Genisco Technology Instrument Div Compton .... Cal
Glesco Electronics Inc Rockford Ill
Gulton Industries Inc Metuchen .... N J
Hayakawa Electric Co Ltd Osaka .... Japan
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
Interelectronics Corp Congers .... N Y
Keystone Carbon Co Thermistor Div St Marys .... Pa
Kidde & Co Inc, Walter Belleville .... N J

VICTORY ENGINEERING CORPORATION

VICTORY ROAD
SPRINGFIELD, NEW JERSEY 07081
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A special thermistor designed into an electric heat sink for surge protection of high wattage loads. Protects or lengthens life of high inrush devices having steady-state dissipations up to 4,000 watts. Effectively applied in filamentary loads, capacitor charging circuits power supplies, transmitters, modulators.

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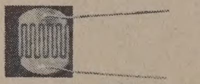

The latest advance in thermistor technology... two basic types... 5 micron thick films and 20 micron free-standing... both featuring relatively high dissipation constants, short thermal response times, extreme sensitivity... for application in microcircuitry, gas chromatography, infrared energy detection, medical instrumentation, many, many more.

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BUTT-MOUNTED THERMISTORS

BEAD-IN-GLASS BULB

INDIRECTLY HEATED BEAD THERMISTOR

BEAD-IN-GLASS RODS

THERMISTOR SENSOR ASSEMBLIES

THERMISTOR DISCS, RODS & WASHERS

VARISTORS

FOR DETAILS ON THE COMPLETE VICTORY LINE, SEE PAGE FACING INSIDE FRONT COVER, OR WRITE FOR CATALOGS.

La Radiotechnique Compelec Paris 11e ....France
Marconi Co Ltd Chelmsford ....England
Microlab/F X R Livingston ....N J
Narda Microwave Corp Plainview ....N Y
Nichicon Capacitor Ltd Nakagyo-ku, Kyoto.....Kyoto Japan
Oki Electronics of America, Inc Fort Lauderdale ....Fla
Palmer Electronics Inc Garfield.......................N J
Pennsylvania Electronics Technology, Inc Pittsburgh......Pa
Power Control Corp Pittsburgh ....Pa
PRD Electronics Inc, Sub H-I Corp Westbury ....N Y
Priester Corp, H E Hartsdale ....N Y
S E C I Soc Elettrotecnica Chimica Italiana Milano .....Italy
Sensitron Inc Costa Mesa ....Cal
Servo Corp of America Hicksville ....N Y
Siemens America Inc New York ....N Y
Simpson Electric Co Chicago..........................Ill
Solitron/Microwave Long Island City ....N Y
Standard Telephones & Cables Ltd London WC 2 ....England
TDK Electronics Co Ltd Chiyoda-ku, Tokyo..........Japan
Telefunken Sales Corp Garden City...................N Y
Texas Instruments Incorporated Dallas...............Tex
Thermotronic Devices Conshohocken ....Pa
United Systems Corp Dayton.........................Ohio
Victory Engineering Corp Springfield.................N J
Vitta Corp Wilton ....Conn
Weinschel Engineering Co Inc Gaithersburg ....Md
Workman Electronic Products Inc Sarasota ....Fla
Yellow Springs Instrument Co Inc Yellow Springs ....Ohio

THERMOCOUPLE REFERENCE JUNCTIONS

Acromag Inc Wixom..............................Mich
Aeromarine Electronics, Inc San Diego ....Cal
Alnor Instrument Co Div Ill Testing Labs Chicago Ill
Bristol Div, American Chain & Cable Co Waterbury .....Conn
Consolidated Controls Corp Bethel ....Conn
Consolidated Ohmic Devices Inc Carle Place ....N Y
Control Products Corp Chicago Ill
Dynamco Ltd Chertsey Surrey ....Eng
Dynatech Products Co Div Dynatech Corp Burlington ...Mass
Eon Instrumentation Inc Van Nuys ....Cal
General Resistance Inc Div Chronetics Inc Mount Vernon ..N Y
Glesco Electronics Inc Rockford Ill
Gordon Co Claud S Richmond Ill
Gulton Industries Inc Metuchen ....N J
Howell Instruments Co Fort Worth ....Tex
Hy-Cal Engineering Santa Fe Springs ....Cal
Kaye & Co Inc, Joseph Cambridge ....Mass
Marlin Mfg Corp Cleveland ....Ohio
Mepco Inc Morristown ....N J
Motorola Instrumentation & Control Inc Phoenix........Ariz
Nanmac Corp Framingham Centre ....Mass
National Beryllia Corp Haskell ....N J
Omega Engineering Inc Stamford ....Conn
Pall Trinity Micro Corp Cortland.....................N Y
Plessey Airborne Corp Hillside ....NJ
RdF Corp Hudson ....N H
Research Inc, R-I Controls Div Minneapolis ....Minn
Rosemount Engineering Co Minneapolis ....Minn
Rosemount Plug-In Inc Nashville.....................Tenn
Scientific Engrg Mfg Co Div Gen Devices Inc
  North Hollywood ....Cal
Teledyne Systems Control Sys A Teledyne Co El Segundo ..Cal
West Instrument Div Gulton Ind Inc Schiller Park.........Ill
Weston Instruments Div Weston Instr Inc Newark ....N J
Whittaker Corp Instrument Sys Div Chatsworth.........Cal

THERMOCOUPLES

GENERAL ELECTRIC CO, ECSO SCHENECTADY
  N Y ....ADV PG 7
J-B-T INSTRUMENTS INC NEW HAVEN ....CONN
Advanced Dynamics Inc Div Alco Std Corp Cleveland ....Ohio
Advanced Products Co North Haven ....Conn
Aero Research Instrument Dept American Standard
  Franklin Park Ill
Aircraft Components Inc Benton Harbor ....Mich
Alcor Aviation, Inc San Antonio...................Texas
Amperex Electronic Corp, Professional Tube Div Hicksville .NY
Athena Controls Inc West Conshohocken ....Pa
Aviation Electric Ltd St Laurent, Montreal............Que
Bailey Meter Co Wickliffe ....Ohio
BLH Electronics Inc Sub Baldwin-Lima-Hamilton
  Waltham ....Mass
Bram Metallurgical Chemical Co Philadelphia ....Pa
Bristol Div, American Chain & Cable Co Waterbury .....Conn
Canadian Research Institute Don Mills ....Ont
C M Mfg Co Bloomfield ....N J
Conax Corp Buffalo ....N Y
Consolidated Controls Corp Bethel ....Conn
Control Products Corp Chicago Ill
Device Seals Inc Sun Valley ....Cal
Diversified Electronics Inc Evansville ....Ind
Edison, Thomas A Industries, Instr Div West Orange .....N J
Electric Thermometers, Inc Norwalk..................Conn
Electroglas Inc Menlo Park ....Cal
Electronic Control Systems Inc Fairmont ....W Va
Electronic Development Labs Inc Plainview ....N Y
Electro-Standards Labs Inc Miami ....Fla
En-Cer Inc South Holland Ill
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div
  Newark ....N J
Foxboro Co Foxboro ....Mass
General Electric Co, ECSO Schenectady...............N Y
General Electric Co, Lamp Glass Dept Willoughby ....Ohio
General Laboratory Assoc Inc Norwich ....N Y
General Resistance Inc Div Chronetics Inc Mount Vernon ..N Y
Genisco Technology Instrument Div Compton ....Cal
Glesco Electronics Inc Rockford Ill
Gordon Co Claud S Richmond Ill
Gulton Industries Inc Metuchen ....N J
High Temperature Instruments Corp Philadelphia ....Pa
Honeywell Inc Apparatus Controls Div Minneapolis ......Minn
Honeywell Industrial Div Fort Washington ....Pa
Huppert Co, K H South Holland ....
Hy-Cal Engineering Santa Fe Springs ....
J-B-T Instruments Inc New Haven C
Keith Co Inc, W P Pico Rivera......................
Kidde & Co Inc, Walter Belleville ....
Korfund Dynamics Corp Westbury ....
Leeds & Northrup Co North Wales...................
Lewis Engineering Co Naugatuck C
Marlin Mfg Corp Cleveland ....O
Mastercraft Instrument Co Dubuque.................I
McHugh Thermodynamics Div CGS Scientific Corp Trevose
Microdot, Inc South Pasadena ....
3M Company St Paul ....M
Nanmac Corp Framingham Centre ....M
Narda Microwave Corp Plainview ....
National Beryllia Corp Haskell ....
Omega Engineering Inc Stamford C
Pall Trinity Micro Corp Cortland....................
Plessey Airborne Corp Hillside ....
Pyco Inc Penndel................................
Pyrometer Instrument Co Inc Northvale ....
Pyro-Serv Instruments, Inc North Arlington ....
Quantic Industries Inc San Carlos ....
RCK, Inc Sunnyvale ....
RdF Corp Hudson ....
Revere Electronic Div Wallingford C
Rustrak Instrument Div Gulton Ind Inc Manchester .....
Scientific Engrg Mfg Co Div Gen Devices Inc
  North Hollywood ....
Sigma Instruments Canada Ltd Toronto 18 Ont.....Can
Simpson Electric Co Chicago.......................
Singer Co Instrumentation Div Bridgeport C
Smiths Industries Ltd, Aviation Div Wembley, Mdsx ..Engl
Sunshine Scientific Instruments Inc Philadelphia.......
Texas Instruments Incorporated Dallas...............
Thermal Systems Inc Los Angeles ....
Thermo-Couple Products Co Inc Winfield.............
Thermo Electric Co Inc Saddle Brook ....
Thermotronic Devices Conshohocken ....
Tinsley H & Co c/o Southfield Electronics Southfield ...M
Trans-Sonics Inc Lexington ....M
United Sensor & Control Corp Watertown ....M
Wacker Chemical Corp New York ....
West Instrument Div Gulton Ind Inc Schiller Park.......
Weston Instruments Div Weston Instr Inc Newark ......

THERMOCOUPLES—VACUUM

American Thermo Electric Co Los Angeles ....
Andonian Associates, Inc Waltham ....M
Barker Sales Co Ridgefield ....
Best Electric Div Harry Levinson Co Seattle ....W
Centorr Associates Inc Suncook ....
CHA Industries, Div Carl Herrmann Assoc Menlo Park ....
Conax Corp Buffalo................................
Consolidated Controls Corp Bethel C
Control Products Corp Chicago......................
Energy Beams Inc Haskell ....
Fredericks Co Huntingdon Valley ....
Hallmark Standards Inc Mount Vernon ....
Heimann GMBH 62 Wiesbaden-Dotzheim ....Germ
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept
  Oceanside ....
Kinney Vacuum Co Boston ....M
Leybold-Heraeus, Inc. Monroeville ....
Marlin Mfg Corp Cleveland ....O
Norton Co Vacuum Equip Div Newton..............M
Numar Corp New York.............................
Omega Engineering Inc Stamford C
Pall Trinity Micro Corp Cortland....................
Rawson-Lush Instrument Co Inc Acton ....M
Singer Co Instrumentation Div Bridgeport C
Thermo-Couple Products Co Inc Winfield.............
Ultek Div Perkin-Elmer Palo Alto ....
Vacuum Products Inc Mt Vernon ....
Winslow Tele-Tronics Inc Eatontown................

THERMOCOUPLE WIRE

***See* Wire—Thermocouple**

THERMOELECTRIC GENERATORS

Alcatel Paris 8eme ....Fra
Consolidated Controls Corp Bethel C
Electro Impulse Lab Inc Red Bank ....
General Instrument Corp Thermoelectric Div Newark ....
General Instrument Europe SPA Milano I
International Energy Conversion Div Nuclear Sys Inc
  Garland ....
Materials Electronic Products Corp Trenton ....
3M Company St Paul ....M
Nuclear Materials & Equipment Corp Apollo...........
RCA, Defense Electronic Products Moorestown ....
Sanders Nuclear, Inc Nashua.......................

THERMOELECTRIC MODULES

VICTORY ENGINEERING CORP SPRINGFIELD
  N J ....ADV PG Facing
Alcatel Paris 8eme ....Fra
Avionics Ltd Niagara-on-the-Lake ....
Bailey Co Washington ....
Borg-Warner, Thermoelectric Div Des Plaines ....
Cambridge Thermionic Corp Cambridge ....M
C O G I E Aubervilliers 93 ....Fra
Cominco American Inc Electronic Matls Div Spokane ...W
Connolly & Co Inc Mountain View ....
Dynamco Ltd Chertsey Surrey ....
Dynatech Products Co Div Dynatech Corp Burlington ...M
Electro Impulse Lab Inc Red Bank ....
General Instrument Corp Thermoelectric Div Newark ....
General Microwave Corp Farmingdale................

national Energy Conversion Div Nuclear Sys Inc
rland . . . . Tex
erials Electronic Products Corp Trenton . . . . N J
Company St Paul . . . . Minn
ear Materials & Equipment Corp Apollo . . . . Pa
Semitronics Inc Columbus . . . . Ohio
, Defense Electronic Products Moorestown . . . . N J
ntific Columbus Inc Columbus . . . . Ohio
p Electronics Corp Carlstadt . . . . N J
et Scientific Co Burbank . . . . Cal
ory Engineering Corp Springfield . . . . N J
efield Engineering Inc Wakefield . . . . Mass

ERMOMETERS—RESISTANCE

nian Associates, Inc Waltham . . . . Mass
ied Research Austin Inc Austin . . . . Tex
na Controls Inc West Conshohocken . . . . Pa
ns Technical, Inc Gainesville . . . . Fla
y Co Washington . . . . D C
y Meter Co Wickliffe . . . . Ohio
ey Instrument Co Danville . . . . Cal
le Electrical Instrument Co, Inc Penacook . . . . N H
Electronics Inc Sub Baldwin-Lima-Hamilton
altham . . . . Mass
ol Div, American Chain & Cable Co Waterbury . . . . . Conn
s Engineering Inc Minneapolis . . . . Minn
olidated Controls Corp Bethel . . . . Conn
ronics, Inc Hackensack . . . . N J
mann Instruments Co Mountain View . . . . Cal
Scientific Corp San Diego . . . . Cal
amco Ltd Chertsey Surrey . . . . Eng
on, Thomas A Industries, Instr Div West Orange . . . . . N J
tric Thermometers, Inc Norwalk . . . . Conn
elhard Minerals & Chemicals Corp, Engelhard Indus Div
ewark . . . . N J
Instrumentation Inc Van Nuys . . . . Cal
val Inc Ashland . . . . Mass
boro Co Foxboro . . . . Mass
eral Oceonology Inc Cambridge . . . . Mass
sco Technology Instrument Div Compton . . . . Cal
ran Inc Santa Clara . . . . Cal
lon Co Claud S Richmond Ill
on Industries Inc Metuchen . . . . N J
trom Technical Products Inc San Diego . . . . Cal
el Inc East Norwalk . . . . Conn
ltitude Instrument Co, Inc. Denver . . . . Colo
Temperature Instruments Corp Philadelphia . . . . Pa
nc E Vernon San Francisco . . . . Cal
eywell Industrial Div Fort Washington . . . . Pa
s Instruments Pasadena . . . . Cal
Scientific Instrument Corp El Cajon . . . . Cal
ls & Northrup Có North Wales . . . . Pa
s Engineering Co Naugatuck . . . . Conn
aker Corp High Bridge . . . . N J
shall Instruments Inc Van Nuys . . . . Cal
co Products Inc Minneapolis . . . . Minn
tedoro Corp San Luis Obispo . . . . Cal
orola Instrumentation & Control Inc Phoenix . . . . Ariz
onal Beryllia Corp Haskell . . . . N J
Electronics Inc Dayton . . . . Ohio
Inc Penndel . . . . Pa
Corp Hudson . . . . N H
o Products Inc Denver . . . . Colo
Industries Inc, Thermocontrol Div Boonton . . . . N J
mount Engineering Co Minneapolis . . . . Minn
rak Instrument Div Gulton Ind Inc Manchester . . . . NH
wa Electric Instrument Co, Ltd Tokyo . . . . Japan
ntific Engrg Mfg Co Div Gen Devices Inc
orth Hollywood . . . . Cal
sitron Inc Costa Mesa . . . . Cal
oson Electric Co Chicago Ill
ron Devices Inc Transistor Div Riviera Beach . . . . Fla
shine Scientific Instruments Inc Philadelphia . . . . Pa
or Instrument Process Con Div Sybron Corp
ochester . . . . N Y
rmal Systems Inc Los Angeles . . . . Cal
rmo Electric Co Inc Saddle Brook . . . . N J
e-O-Matic Inc Danville Ill
ley H & Co c/o Southfield Electronics Southfield . . . . Mich
ns-Sonics Inc Lexington . . . . Mass
ed Systems Corp Dayton . . . . Ohio
itherm, Inc Farmingdale . . . . N Y
t Coast Research Corp Los Angeles . . . . Cal
tinghouse Electric Corp, Relay & Instr Div Newark . . . . N J
t Instrument Div Gulton Ind Inc Schiller Park Ill
ton Instruments Div Weston Instr Inc Newark . . . . N J
slow Tele-Tronics Inc Eatontown . . . . N J

ERMOPILES

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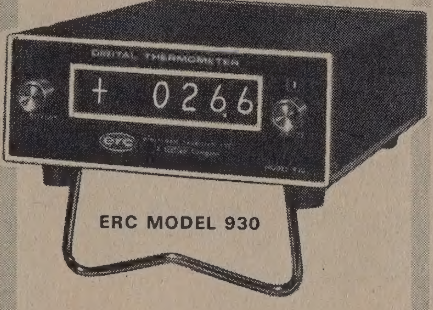

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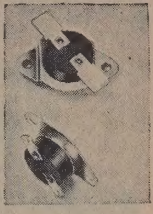

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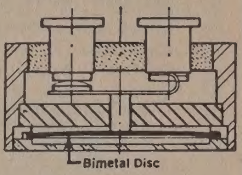

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***See* Controls—Temperature**

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Metal Ceram Inc Mount Vernon .... N Y
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THYRATRON CONTROLS

***See* Controls—Motor Speed; Controls—Welding**

THYRATRONS—TUBE

***See* Tubes—Thyratron**

THYRATRON TESTERS

***See* Testers—Tube**

TIES—WIRE & CABLE

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Weckesser Co Inc Chicago Ill
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TIME DELAY FUSES

***See* Fuses**

TIME DELAYS—A-F, VARIABLE

***See* Delays—Time**

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Landis & Gyr AG Zug .... Switzerland
Vocaline Co of America Inc Old Saybrook .... Conn

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Bissett-Berman Corp Sub Alloys Unltd Inc Santa Monica ..
Curtis Instruments Inc Mt Kisco ....

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International Electro Exchange Corp Minneapolis ..... M
ITT Europe Inc Components Gp Brussels 1 .... Belgi
KDI Polytechnic Inc Div KDI Corp Cincinnati .... O
LaPine Scientific Co Chicago ....
Leach Corp South Pasadena ....
Ledex Div Ledex Inc Dayton .... O
Lehigh Valley Electronics Inc Fogelsville ....
Magnasync/Moviola Corp North Hollywood ....
Mallory & Co Inc, P R Indianapolis ....
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McElroy Electronics Corp Shirley .... M
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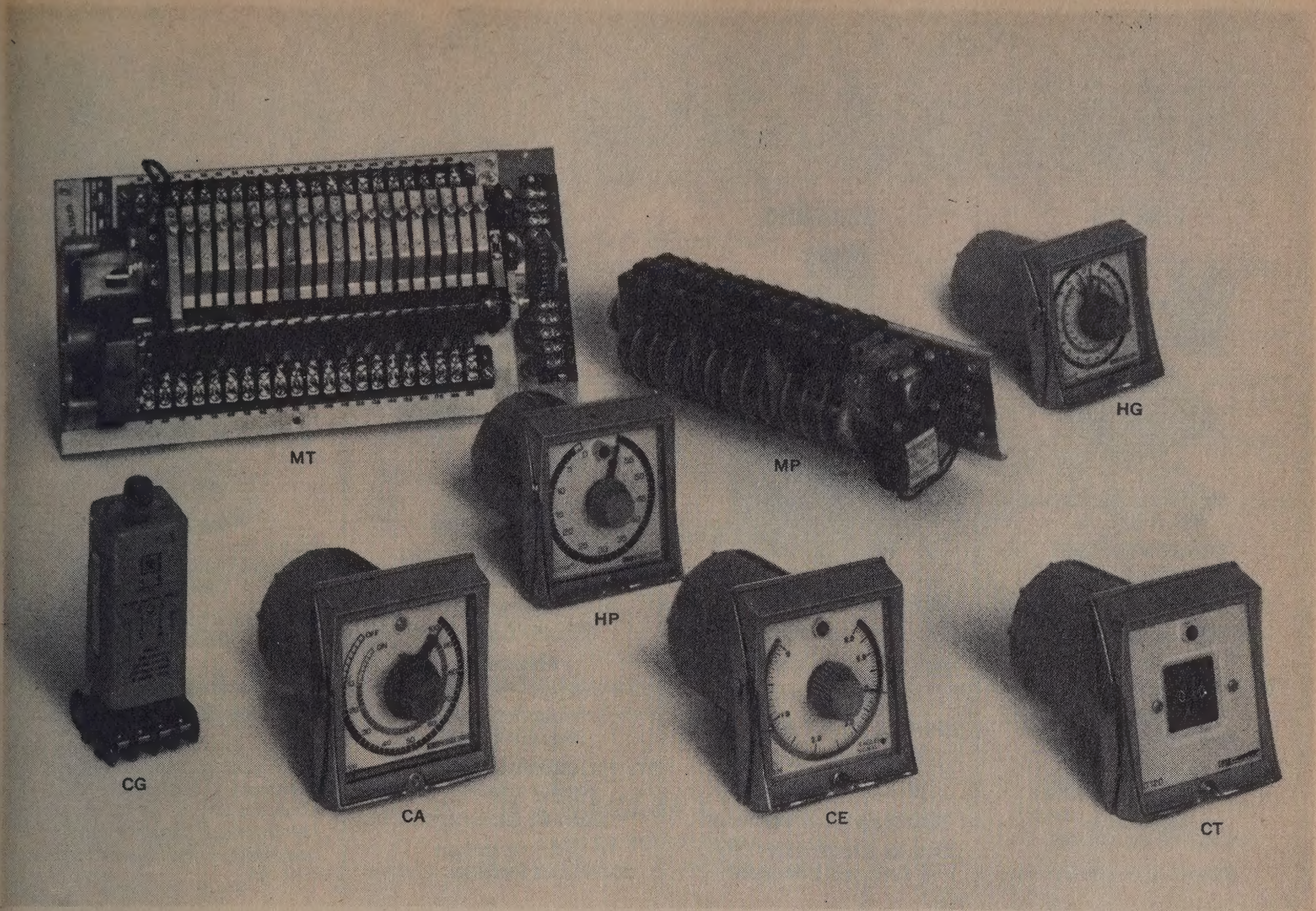
TIMERS—INTERVAL & RESET

***See* Timers—Motor-Operated**



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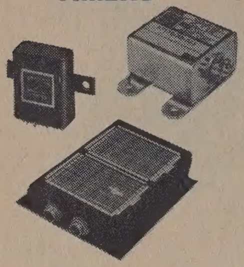

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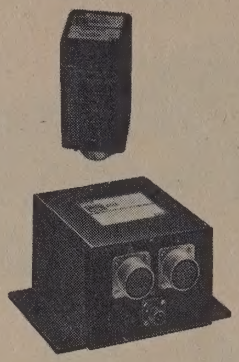

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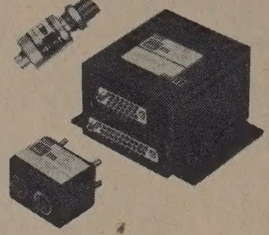

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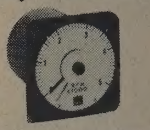

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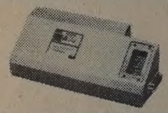

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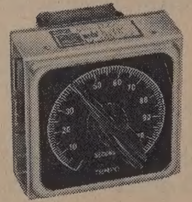

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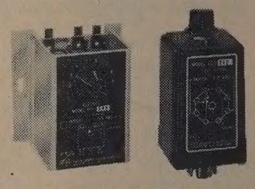

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Parko Electronics Co Inc Santa Ana . . . . Cal
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . . N Y
Peco Corp Mountain View . . . . Cal
Plessey Airborne Corp Hillside . . . . NJ
Pulse Communications Inc Falls Church . . . . Va
Racal Electronics Ltd Bracknell Berks . . . . England
Raven Electronics Inc Burbank . . . . Cal
Raven Industries Inc Sioux Falls . . . . SD
Relay Specialties Inc Fair Lawn . . . . N J
Robotron Corp Detroit . . . . Mich
Sensor Corp Greenwich . . . . Conn
Servo Development Corp Hicksville . . . . NY
Siemon Mfg Co Wayne Ill
Sigma Systems Corp, Sub Applied Science Inc Dallas . . . . Tex
Slocum Industries Reseda . . . . Cal
Solid State Electronics Corp Sepulveda . . . . Cal
Space Craft Inc Huntsville . . . . Ala
Space & Systems Div General Time Corp Stamford . . . . . Conn
Square D Co Park Ridge Ill
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia . . . . Pa
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur . . Switzerland
Syracuse Electronics Corp Syracuse . . . . N Y
Taft Electrosystems Inc Applied Elctns Div Metuchen . . . . N J
Techmetric Co Redwood City . . . . Cal
Tek-Sel Labs Inc Saddle Brook . . . . N J
Tempo Instrument Inc Ind Div Plainview . . . . N Y
Tempo Instrument Inc, Military Div Plainview . . . . N Y
Tokyo Electric Co Ltd Tokyo . . . . Japan
Topping Electronics Ltd Scarborough . . . . Ont
Veeder-Root Hartford . . . . Conn
Vitro Labs Div Vitro Corp of America W Orange . . . . N J
Vocaline Co of America Inc Old Saybrook . . . . Conn
Watesta Electronics Ltd Loughton Essex . . . . England
Westinghouse Electric Corp, Standard Control Div Beaver . Pa
Zehntel, Inc Berkeley . . . . Cal

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BOWMAR INSTRUMENT CORP FORT WAYNE . . . . IND
DIMCO-GRAY CO DAYTON . . . . OHIO
EAGLE SIGNAL A GULF & WESTERN CO DAVENPORT IOWA . . . . ADV PG 641
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
HAYDON SWITCH & INSTRUMENT INC WATERBURY . CONN
HURST MFG CORP PRINCETON IND . . . . ADV PG 388
J-B-T INSTRUMENTS INC NEW HAVEN . . . . CONN
MALLORY & CO INC, P R INDIANAPOLIS . . . . IND
POTTER & BRUMFIELD, DIV AMER MACH & FDRY CO PRINCETON . . . . IND
Abrams Instrument Corp Lansing . . . . Mich
Aemco Div, Midtex Inc Mankato . . . . Minn
A L Controls Co New Haven . . . . Conn
Allen-Bradley Co Milwaukee . . . . Wis
Automatic Timing & Controls, Inc King of Prussia . . . . Pa
Barwood Electronics, Inc Glendale . . . . Cal
Bayside Timers, Inc Flushing . . . . N Y
Bowmar Instrument Corp Fort Wayne . . . . Ind
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook . . . . Conn
Calculagraph Co Hanover . . . . N J
Condor Industrial Corp Wheaton Ill
Conrac Corp New York . . . . N Y
Co-Ord Div LVC Industries Inc Corona . . . . NY
Cramer Div Conrac Corp Old Saybrook . . . . Conn
Custom Control Mfg Inc Merriam . . . . Kan
Cutler-Hammer Inc Milwaukee . . . . Wisc
Datametrics Inc Waltham . . . . Mass
Dimco-Gray Co Dayton . . . . Ohio
Eagle Signal A Gulf & Western Co Davenport . . . . Iowa
Electric Tachometer Corp Philadelphia . . . . Pa
Electron-Ohio Inc Cleveland . . . . Ohio
Engler Instrument Co Jersey City . . . . N J
Essex Engineering Co Inc Essex . . . . Conn
Fidelity Amplifier Co Chicago Ill
Foster & Allen Inc Chatham . . . . N J
Fuji Electric Co Ltd Tokyo . . . . Japan
General Electric Co, ECSO Schenectady . . . . N Y
General Time, Industrial Controls Div Torrington . . . . . . Conn
Gibbs Mfg & Research Corp Janesville . . . . Wis
Globe Industries Div TRW Inc Dayton . . . . Ohio
Grimes Mfg Co Urbana . . . . Ohio
Hafstrom Technical Products Inc San Diego . . . . Cal
Harvard Apparatus Co Inc Millis . . . . Mass
Haydon Co The, A W Waterbury . . . . Conn
Haydon Switch & Instrument Inc Waterbury . . . . Conn
Heuer Electronics Corp Norwalk . . . . Conn
Hird-Brown Ltd Bolton, Lancs . . . . England
Honeywell Resdntl & Coml Sls Divs Minneapolis . . . . Minn
Hurst Mfg Corp Princeton . . . . Ind
Industrial Timer Corp Parsippany . . . . N J
Ingraham Industries Div McGraw Edison Elizabethtown . . . . Ky
International Electro Exchange Corp Minneapolis . . . . . . Minn
J-B-T Instruments Inc New Haven . . . . Conn
KDI Polytechnic Inc Div KDI Corp Cincinnati . . . . Ohio
Kessler-Ellis Products Co Atlantic Highlands . . . . N J
Landis & Gyr AG Zug . . . . Switzerland
LaPine Scientific Co Chicago Ill
Larson Aero Development Concord . . . . Cal
Lear Siegler Inc, Instrument Div Grand Rapids . . . . Mich
Liebel-Flarsheim Co Cincinnati . . . . Ohio
Mallory & Co Inc, P R Indianapolis . . . . Ind
Mallory Timers Co Indianapolis . . . . Ind
McElroy Electronics Corp Shirley . . . . Mass
Metermaster, Inc Los Angeles . . . . Cal

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Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Supplies Encino .... Cal
Parabam Inc Compton .... Cal
Pennwood Numechron Co Tymeter Electronics Pittsburgh .. Pa
Potter & Brumfield, Div Amer Mach & Fdry Co Princeton .. Ind
Precision Mechanisms Corp Westbury .... N Y
Precision Scientific Co Sub GCA Corp Chicago Ill
Ramyr Mfg Co Buena Park .... Cal
Rawco Instruments Inc Fort Worth .... Tex
Raymond Engineering Inc Middletown .... Conn
Rhodes Inc, M H Hartford .... Conn
Sankyo Seiki Mfg Co, Ltd Tokyo .... Japan
Seely Instrument Co Inc Niagara Falls .... N Y
Servo Development Corp Hicksville .... NY
Siemon Mfg Co Wayne Ill
Simplex Time Recorder Co Gardner .... Mass
Space & Systems Div General Time Corp Stamford .... Conn
Standard Electric Time Co Springfield .... Mass
Standard Instrument Corp Div Automatic Timing & Controls Inc King of Prussia .... Pa
Standard Relay Corp West Babylon .... N Y
Sticht Co Inc, Herman H New York .... N Y
Struthers-Dunn Inc Pitman .... N J
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Taylor Instrument Process Con Div Sybron Corp Rochester .... N Y
Tenor Co Inc New Berlin .... Wis
Thordarson Meissner Inc Mt Carmel Ill
Time-O-Matic Inc Danville Ill
Tokyo Electric Co Ltd Tokyo .... Japan
U S Time Corp Hartsdale .... N Y
Venner Electronics Ltd New Malden, Surrey .... Eng
Vocaline Co of America Inc Old Saybrook .... Conn
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Westinghouse Electric Corp, Relay & Instr Div Newark .... N J
Wickes Industries Inc Camden .... N J
Yaskawa Electric Mfg Co Ltd Tokyo .... Japan
Zenith Controls Inc Chicago Ill

TIMERS—THERMAL

Edison, Thomas A Industries, Instr Div West Orange .... N J
Hoagland Instrument Co Red Bank .... N J
KDI Polytechnic Inc Div KDI Corp Cincinnati .... Ohio
Relay Specialties Inc Fair Lawn .... N J
Standard Relay Corp West Babylon .... N Y
Ulanet Co, George Newark .... N J

TIMERS—WELDING, ELECTRONIC

AMERICANA X-RAY CO ENGLEWOOD .... N J
FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
TEMPO INSTRUMENT INC IND DIV PLAINVIEW .... N Y
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Americana X-Ray Co Englewood .... N J
Amtron Inc Sub Republic Corp Midlothian Ill
Ark Electronics Corp Willow Grove .... Pa
Bristol Motors-Timer Div Vocaline Corp of Amer Inc Old Saybrook .... Conn
Clare-Electroseal Corp Des Plaines Ill
Cramer Div Conrac Corp Old Saybrook .... Conn
Eisler Engineering Co Newark .... N J
Euro Cedag Milan .... Italy
Ewald Instruments Corp Kent .... Conn
Farmer Electric Products Co Inc Natick .... Mass
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Forney Industries Inc Fort Collins .... Colo
Furnas Electric Co Batavia Ill
Griffiths Electronics Inc Linden .... N J
Guardian Electric Mfg Co of Cal Inc Culver City .... Cal
Hirst Electric Industries Ltd Crawley, Sussex .... England
Industrial Solid State Controls Inc York .... Pa
KSM Welding Sys Div Omark Indus Inc Moorestown .... N J
Liebel-Flarsheim Co Cincinnati .... Ohio
Livingston Electronic Div Jettron Prods Inc Hanover .... N J
Machinery Electrification Inc Northboro .... Mass
Miller Electric Mfg Co Appleton .... Wis
Photobell Co Inc New York .... N Y
Plessey Airborne Corp Hillside .... NJ
Robotron Corp Detroit .... Mich
Sciaky Bros Inc Chicago Ill
Solartron Electronic Group Ltd Farnbrough .... England
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Square D Co Park Ridge Ill
Syracuse Electronics Corp Syracuse .... N Y
Taylor-Winfield Corp Warren .... Ohio
Techmetric Co Redwood City .... Cal
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Thordarson Meissner Inc Mt Carmel Ill
Timeco Inc Huntington .... W Va
Tyco Instrument Div Waltham .... Mass
Vocaline Co of America Inc Old Saybrook .... Conn
Weldmatic Div Unitek Corp Monrovia .... Cal
Wells Electronics Inc, Weltek Div South Bend .... Ind
Weltronic Co Southfield .... Mich
Western Arctronics South El Monte .... Cal

TIME STANDARDS

***See* Standards**

TIMING MOTORS

***See* Motors—Timer & Clock**

TIN

BOW SOLDER PRODUCTS CO INC NEWARK .... N J
Alpha Metals Inc Jersey City .... NJ
American Silver Co Div Flushing .... N Y
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
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Bram Metallurgical Chemical Co Philadelphia .... Pa
Cerac Inc Butler .... Wis
Cominco American Inc Electronic Matls Div Spokane .... Wash
Cramco Solder Alloys Scarborough .... Ont
Division Lead Co Summit Ill
Gardiner Solder Co Chicago Ill
Hi-Grade Alloy Corp East Hazelcrest Ill
Indium Corp of America Utica .... N Y
Kawecki Berylco Industries Inc New York .... N Y
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Materials Research Corp Orangeburg .... N Y
Metal Ceram Inc Mount Vernon .... N Y
NPC Electronics Canoga Park .... Cal
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
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Daburn Electronics & Cable Corp Bronx .... N Y
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Electrovert Inc Mt Vernon .... N Y
Flexible Products Inc Lakeville .... Minn
Hopwood Retinning Corp Malden .... Mass
Lake Engineering Co Ltd Scarborough .... Ont
Manger Electric Co Inc Stamford .... Conn
Montgomery Co Windsor Locks .... Conn
MTI- Mechanical Technology Inc Latham .... NY
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Roosevelt Metal Co Inc Brooklyn .... N Y
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Teletronics Labs Inc El Segundo .... Cal
United American Metals Div Brooklyn .... N Y
Veritron West Inc Chatsworth .... Cal
Wright Metalcoaters Inc South Hackensack .... N J

TIN PLATING

***See* Electroplating Services**

TITANATES

AMERICAN LAVA CORP CHATTANOOGA .... TENN
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Aceto Chemical Co, Inc Flushing .... NY
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Cerac Inc Butler .... Wis
Channel Industries Inc Santa Barbara .... Cal
City Chemical Corp New York .... N Y
Clevite Corp Piezoelectric Div Bedford .... Ohio
C M Mfg Co Bloomfield .... N J
Commander Labs Inc Escondido .... Cal
Du Pont De Nemours & Co Inc E I Wilmington .... Del
Edo Western Corp Salt Lake City .... Utah
Electra Scientific Div Gulton Indus Inc Fullerton .... Cal
Koch Light Labs Ltd Colnbrook, Bucks .... England
Linden Labs Inc State College .... Pa
Mackay Inc, A D New York .... N Y
Murata Mfg Co, Ltd Kyoto .... Japan
Pennsylvania Electronics Technology, Inc Pittsburgh .... Pa
Rocky Mountain Research Inc Denver .... Colo
Semi-Elements Inc Saxonburg .... Pa
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Vitta Corp Wilton .... Conn

TITANIUM

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV JOPLIN .... MO
SUPERIOR TUBE CO NORRISTOWN .... PA
Aceto Chemical Co, Inc Flushing .... NY
Active Alloys, Inc Elizabeth .... N J
Aluminum Co of America Pittsburgh .... Pa
American Silver Co Div Flushing .... N Y
Armco Steel Corp Middletown .... Ohio
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights .... NY
Bemol Corp Newton .... Mass
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Cerac Inc Butler .... Wis
City Chemical Corp New York .... N Y
Colt Industries Inc, Crucible Inc Pittsburgh .... Pa
Eagle-Picher Industries Inc, Electronics Div Joplin .... Mo
Electronic Space Products Inc Los Angeles .... Cal
Hamilton Precision Metals Div Hamilton Watch Co Lancaster .... Pa
Koch Light Labs Ltd Colnbrook, Bucks .... Eng
Mackay Inc, A D New York ....
Materials Research Corp Orangeburg ....
Metal Ceram Inc Mount Vernon ....
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Ryerson & Son Inc, J T Chicago ....
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Semi-Elements Inc Saxonburg ....
Somers Thin Strip Inc Sub Olin Waterbury ....
Superior Tube Co Norristown ....
Uniform Tubes Inc Collegeville ....
United Mineral & Chemical Corp New York ....
Var-Lac-Oid Chemical Co Elizabeth ....
Ventron Corp. Metal Chemicals Div. Beverly .... N
Ventron Electronics Corp, Controls/Matls Div Bradford ..
Vitro Labs Div Vitro Corp of America W Orange ....

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Mackay Inc, A D New York ....
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Var-Lac-Oid Chemical Co Elizabeth ....
Vitro Labs Div Vitro Corp of America W Orange ....
Wah Chang A Teledyne Co Glen Cove ....

TONE OSCILLATORS—AUDIO

***See* Oscillators—A-F**

TOOL CONNECTORS

***See* Connectors—Tool**

TOOLS—CUTTERS (HOLE, GROOVE & SLIT INCL. SAWS)

ITT CANNON ELECTRIC DIV INTL TEL & TEL CORP LOS ANGELES ....
DoAll Co Des Plaines ....
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General Hardware Mfg Co Inc New York ....
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Hammel, Riglander & Co Inc New York ....
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles ..
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Jonard Industries Corp Bronx ....
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Mann Co, Henry Cornwell Heights ....
Metal Removal Co Chicago ....
Mico Instrument Co Cambridge .... M
Modern Mfg Co Inc Willow Grove ....
Murphy Industries G W Cleco Pneumatic Div Houston ....
Niagara Machine & Tool Works Buffalo ....
Porter H K Co, Hdwe & Ind Prods Div Pittsburgh ....
Smith Inc, Herman H Brooklyn ....
Utica Tool Co Inc Orangeburg .... S
Waldes Kohinoor Inc Long Island City ....
Wallace Murray Corp Fitchburg .... M
X-Acto Precision Tools Inc Long Island City ....

TOOLS—DESOLDERING

Air-Vac Engineering Co Milford C
American Electrical Heater Co Detroit .... M
Antex Ltd Plymouth .... Devon
Edsyn, Inc Van Nuys ....
Enterprise Development Corp Indianapolis ....
Hexacon Electric Co Roselle Park ....
Janel Inc Stirling ....
Jonard Industries Corp Bronx ....
MacDonald & Co Glendale ....
Mann Co, Henry Cornwell Heights ....
Ungar Div Eldon Industries Inc Compton ....
Wall Manufacturing Co Kinston ....

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Punches; Reamers; Screwdrivers; Tap
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BURNDY CORP NORWALK .... CO
ELCO CORP WILLOW GROVE ....
Aerodyne Controls Corp Farmingdale ....
Aikow Shoji Kaisha Ltd Osaka .... Ja
A O K Tool Corp Ozone Park ....
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Armite Laboratories Los Angeles ....
Armstrong Bros Tool Co Chicago ....
Associated American (Amacoil) Winding Machinery Inc New Rochelle ....
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Buchanan Electrical Products Corp Union ....

dy Corp Norwalk .... Conn
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ss Cutlery Co Div Alco Standard Corp Fremont ..... Ohio
ert Die Cast Co Inc South Gate .... Cal
cent Tool Co Div Crescent Niagara Corp Buffalo ..... N Y
o Mfg Co Glendale .... Cal
ond Tool & Horseshoe Co Duluth .... Minn
l Co Des Plaines Ill
las Div Scott & Fetzer Co Bronson .... Mich
Corp Willow Grove .... Pa
tro-Stylus Mfg Co Colorado Springs .... Colo
orium Specialties Co Inc Chagrin Falls .... Ohio
neering & Electronic Devices Inc Los Angeles .... Cal
son Specialized Tool Co Pico-Rivera .... Cal
ard Tap & Die Corp Bronx .... N Y
et Tool Co Cambridge .... Mass
sen Co A R Westwood .... NJ
Sterling Corp McKeesport .... Pa
on Industries Inc El Segundo .... Cal
dom Electric Co Inc Bethel .... Conn
Electronics Div, Hydrometals Inc Rockford Ill
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cience Instruments Corp Mt Vernon .... N Y
nlee Tool Co Rockford Ill
mel, Riglander & Co Inc New York .... N Y
vil Co Santa Monica .... Cal
es Mfg Co Phoenix .... Ariz
acon Electric Co Roselle Park .... N J
hear Corp Torrance .... Cal
er Industries Santa Fe Springs .... Cal
l-Hellerman Canada Ltd Ajax .... Ontario
l Industries Inc Sycamore Ill
torall Electronics Corp Great Neck .... NY
es Electronic Tool Co Palo Alto .... Cal
el Inc Stirling .... N J
ine Tools Inc Anaheim .... Cal
rd Industries Corp Bronx .... N Y
man Co Salt Lake City .... Utah
drick & Davis Inc Lebanon .... N H
& Sons Inc, Mathias Chicago Ill
Donald & Co Glendale .... Cal
n Co, Henry Cornwell Heights .... Pa
al Removal Co Chicago Ill
Instrument Co Cambridge .... Mass
ern Mfg Co Inc Willow Grove .... Pa
dy Machine Products Co Inc Providence .... R I
phy Industries G W Cleco Pneumatic Div Houston .... Tex
ara Machine & Tool Works Buffalo .... N Y
ton Co Worcester .... Mass
tonna Tool Co Owatonna .... Minn
duit Corp Tinley Park Ill
Stow & Wilcox Co Southington .... Conn
more Mfg Co Inc Richmond Hill .... N Y
ape Lemon Grove .... Cal
kyo Seiki Mfg Co, Ltd Tokyo .... Japan
onds Machine Co Inc Southbridge .... Mass
ndard Pneumatic Motor Co Whittier .... Cal
rrett Co, L S Athol .... Mass
tevant Div. Dresser Industries Inc. Addison Ill
eney Mfg Co, B K Denver .... Colo
nni-Tool Inc Philadelphia .... Pa
mas & Betts Co Elizabeth .... N J
le A Specialty Co Chicago Ill
r Grafic Instruments Palo Alto .... Cal
on Tools Inc Rochester .... N Y
a Tool Co Inc Orangeburg .... S. C.
o Products Co Chicago Ill
-U-Pic Rahway .... N J
nitron Electrical Components, Beau Prods Div Laconia . NH
or Tool Co Div B Jadow & Sons Inc New York .... N Y
dom Electronics Inc Chicago Ill
Products Inc Chicago Ill
arton Unitools Moosup .... Conn
cto Precision Tools Inc Long Island City .... N Y
lite Inc Orchard Park .... N Y
hyr Mfg Co Inc Inglewood .... Cal

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All Co Des Plaines Ill
ctronic Space Products Inc Los Angeles .... Cal
kson Specialized Tool Co Pico-Rivera .... Cal
rard Tap & Die Corp Bronx .... N Y
eisen Co A R Westwood .... NJ
edom Electric Co Inc Bethel .... Conn
eral Hardware Mfg Co Inc New York .... N Y
mmel, Riglander & Co Inc New York .... N Y
nter Industries Santa Fe Springs .... Cal
dro Molding Co Inc Plattsburgh .... N Y
el Inc Stirling .... N J
ard Industries Corp Bronx .... N Y
ndrick & Davis Inc Lebanon .... N H
lmann-Impex, Inc Houston .... Tex
icke & Soffa Industries Inc Fort Washington .... Pa
nn Co, Henry Cornwell Heights .... Pa
tal Removal Co Chicago Ill
ody Machine Products Co Inc Providence .... R I
it Industries, Div Countis Industries San Luis Obispo ... Cal
nyr Mfg Co Buena Park .... Cal
per Tool Co Elk Rapids .... Mich
chni-Tool Inc Philadelphia .... Pa
er Grafic Instruments Palo Alto .... Cal
c-U-Pic Rahway .... N J
nitron Electrical Components, Beau Prods Div Laconia . NH
or Tool Co Div B Jadow & Sons Inc New York .... N Y
llace Murray Corp Fitchburg .... Mass
arton Unitools Moosup .... Conn

OLS—PNEUMATIC ASSEMBLY

O CORP WILLOW GROVE .... PA
CANNON ELECTRIC DIV INTL TEL & TEL CORP OS ANGELES .... CAL

Buchanan Electrical Products Corp Union .... NJ
Conrac Corp New York .... N Y
Elco Corp Willow Grove .... Pa
Gardner-Denver Co Quincy Ill
Hi-Shear Corp Torrance .... Cal
Huck Mfg Co Detroit .... Mich
ITT Cannon Electric Div Intl Tel & Tel Corp Los Angeles ... Cal
Janel Inc Stirling .... N J
Mann Co, Henry Cornwell Heights .... Pa
Modern Mfg Co Inc Willow Grove .... Pa
Murphy Industries G W Cleco Pneumatic Div Houston .... Tex
Panduit Corp Tinley Park Ill
Pico Crimping Tools Co Santa Fe Springs .... Cal
Simonds Machine Co Inc Southbridge .... Mass
Standard Pneumatic Motor Co Whittier .... Cal
Techni-Tool Inc Philadelphia .... Pa
Utica Tool Co Inc Orangeburg .... S. C.
Vac-U-Pic Rahway .... N J

TOOLS, SOLDERING—ELECTRIC SOLDERING IRONS

CAIG LABS INC WESTBURY .... N Y
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
HEATH CO BENTON HARBOR .... MICH
American Electrical Heater Co Detroit .... Mich
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Antex Ltd Plymouth .... Devon Eng
Antronic Corp Chicago Ill
Bean Inc, William T Detroit .... Mich
Caig Labs Inc Westbury .... N Y
Canadian Research Institute Don Mills .... Ont
CBC Industries Inc Philadelphia .... Pa
Circon Component Corp Goleta .... Cal
Communications Technology Corp Los Angeles .... Cal
Components Specialties Inc Freeport .... N Y
Dowa Trading Co Ltd Kobe .... Japan
Electric Soldering Iron Co Inc Deep River .... Conn
Enterprise Development Corp Indianapolis .... Ind
Ersa Ernst Sachs KG Wertheim/Main .... W Germany
Fedtro Inc Rockville Centre .... N Y
Forney Industries Inc Fort Collins .... Colo
General Electric Co, ECSO Schenectady .... N Y
Gentran Inc Santa Clara .... Cal
Heath Co Benton Harbor .... Mich
Hexacon Electric Co Roselle Park .... N J
Hunter Industries Santa Fe Springs .... Cal
Janel Inc Stirling .... N J
Jonard Industries Corp Bronx .... N Y
MacDonald & Co Glendale .... Cal
Mann Co, Henry Cornwell Heights .... Pa
Philmore Mfg Co Inc Richmond Hill .... N Y
Roosevelt Metal Co Inc Brooklyn .... N Y
Techni-Tool Inc Philadelphia .... Pa
Telvac Instrument Co Tarzana .... Cal
Ungar Div Eldon Industries Inc Compton .... Cal
United American Metals Div Brooklyn .... N Y
Vernitron Electrical Components, Beau Prods Div Laconia . NH
Wall Manufacturing Co Kinston .... N C
Weller Electric Corp Easton .... Pa
Wen Products Inc Chicago Ill
X-Acto Precision Tools Inc Long Island City .... N Y
Zephyr Mfg Co Inc Inglewood .... Cal
Zeva Electric Corp Hanover .... N J

TOOLS, SOLDERING—PRINTED CIRCUIT, SPECIAL TIPS

CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
American Electrical Heater Co Detroit .... Mich
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Antex Ltd Plymouth .... Devon Eng
Canadian Research Institute Don Mills .... Ont
Circon Component Corp Goleta .... Cal
Colbert Die Cast Co Inc South Gate .... Cal
Components Specialties Inc Freeport .... N Y
Electric Soldering Iron Co Inc Deep River .... Conn
Engineering & Electronic Devices Inc Los Angeles .... Cal
Enterprise Development Corp Indianapolis .... Ind
Erikson Specialized Tool Co Pico-Rivera .... Cal
G C Electronics Div, Hydrometals Inc Rockford Ill
Gentran Inc Santa Clara .... Cal
Henes Mfg Co Phoenix .... Ariz
Hexacon Electric Co Roselle Park .... N J
Hydro Molding Co Inc Plattsburgh .... N Y
Janel Inc Stirling .... N J
Mann Co, Henry Cornwell Heights .... Pa
Roosevelt Metal Co Inc Brooklyn .... N Y
Scientific Industries Inc Hempstead .... N Y
Techni-Tool Inc Philadelphia .... Pa
Ungar Div Eldon Industries Inc Compton .... Cal
United American Metals Div Brooklyn .... N Y
Wall Manufacturing Co Kinston .... N C
Weldmatic Div Unitek Corp Monrovia .... Cal
Wells Electronics Inc, Weltek Div South Bend .... Ind
Wen Products Inc Chicago Ill
Zeva Electric Corp Hanover .... N J

TOOLS, SOLDERING—RESISTANCE SOLDERING TOOLS

CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
American Electrical Heater Co Detroit .... Mich
Circon Component Corp Goleta .... Cal
Communications Technology Corp Los Angeles .... Cal
Component Specialties Corp Temple City .... Cal
Contact, Inc Hudson .... N H
Erikson Specialized Tool Co Pico-Rivera .... Cal
Forney Industries Inc Fort Collins .... Colo
G C Electronics Div, Hydrometals Inc Rockford Ill
Henes Mfg Co Phoenix .... Ariz
Hydro Molding Co Inc Plattsburgh .... N Y
Ideal Industries Inc Sycamore Ill
Janel Inc Stirling .... N J
Jonard Industries Corp Bronx .... N Y
Mann Co, Henry Cornwell Heights .... Pa
Scientific Industries Inc Hempstead .... N Y
Techni-Tool Inc Philadelphia .... Pa
Wells Electronics Inc, Weltek Div South Bend .... Ind
Zephyr Mfg Co Inc Inglewood .... Cal

TOOLS, SOLDERING—SOLDER POTS

CAIG LABS INC WESTBURY .... N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
American Electrical Heater Co Detroit .... Mich
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Caig Labs Inc Westbury .... N Y
Electric Soldering Iron Co Inc Deep River .... Conn
General Electric Co, ECSO Schenectady .... N Y
Hexacon Electric Co Roselle Park .... N J
Janel Inc Stirling .... N J
MacDonald & Co Glendale .... Cal
Mann Co, Henry Cornwell Heights .... Pa
Ohmweve Co Inc West Hartford .... Conn
Precision Electronics Corp Marshfield .... Mass
Roosevelt Metal Co Inc Brooklyn .... N Y
Sta-Warm Electric Co Inc Ravenna .... Ohio
Techni-Tool Inc Philadelphia .... Pa
Telvac Instrument Co Tarzana .... Cal
Ungar Div Eldon Industries Inc Compton .... Cal
United American Metals Div Brooklyn .... N Y
Waage Electric Inc Kenilworth .... N J
Wenesco Inc Chicago Ill
Zeva Electric Corp Hanover .... N J

TOOLS, SOLDERING—SOLDERING TORCHES

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Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Hammel, Riglander & Co Inc New York .... N Y
Henes Mfg Co Phoenix .... Ariz
Janel Inc Stirling .... N J
Johnson Mfg Co Inc Princeton .... Iowa
Kidde & Co Inc, Walter Belleville .... N J
Mann Co, Henry Cornwell Heights .... Pa
Marlane Development Co Inc New York .... N Y
Roosevelt Metal Co Inc Brooklyn .... N Y
Selectrons Ltd New York .... N Y
Techni-Tool Inc Philadelphia .... Pa
Tescom Corp Minneapolis .... Minn
Union Carbide Corp, Linde Div New York .... N Y
United American Metals Div Brooklyn .... N Y

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Gulton Industries Inc Metuchen .... N J
Hydro Molding Co Inc Plattsburgh .... N Y
Janel Inc Stirling .... N J
Mann Co, Henry Cornwell Heights .... Pa
MTI- Mechanical Technology Inc Latham .... NY
Sonobond Corp West Chester .... Pa

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Mann Co, Henry Cornwell Heights .... Pa
Standard Pneumatic Motor Co Whittier .... Cal
Torrington Co, Specialties Div Torrington .... Conn
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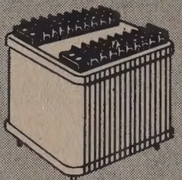
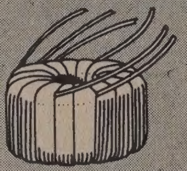
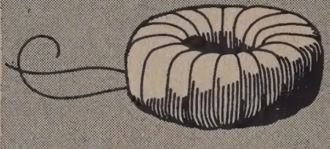
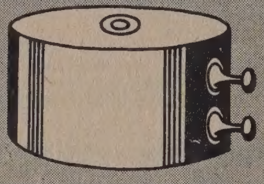
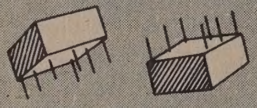
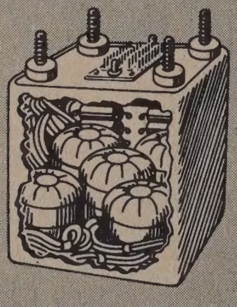

MAGNETIC AMPLIFIERS


SATURABLE REACTORS


TOROIDAL COILS


TOROIDAL INDUCTORS


MINIATURE INDUCTORS AND TRANSFORMERS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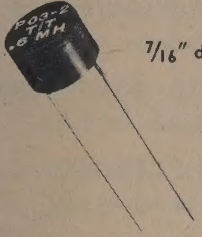

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200 MILLIHENRIES

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47/63
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2.5MH

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2.0 MH—600. MH

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35 Inductances
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P 54
57 Inductances
20. MH—40. MH

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4 HY

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43 Inductances
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52 Inductances
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Caddell-Burns Mfg Co Inc Mineola	N Y
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Central Coil Co Inc Martinsville	Ind
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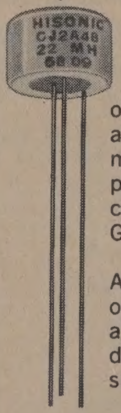

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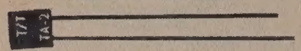
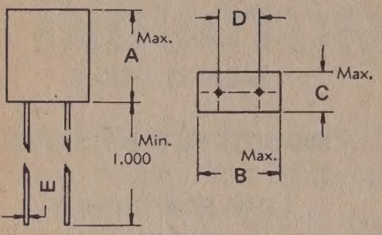
TOROTEL INC.

SUBMINIATURE INDUCTORS

MINI-L SERIES



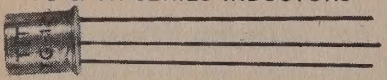
- DESIGNED TO MEET THE REQUIREMENTS OF MIL-C-15305 C, GRADE 1, CLASS B (−55°C to +125°C)
- INDUCTANCE VALUES: From 0.01 uh to 10,000 uh.
- FREQUENCY RANGE: 50 KHz to 300 MHz.
- DIELECTRIC WITHSTANDING VOLTAGE: 700 volts rms.
- RATED TEMPERATURE RISE: 35°C at an ambient temperature of 90°C.
- LEADS: Tinned Copper. Weldable leads available by special order.



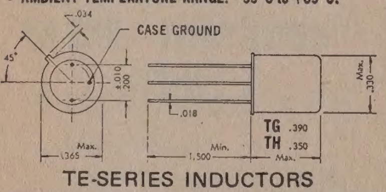
DIMENSIONS

Series	A	B	C	D	E	Max. Power
TA	.225	.210	.110	.100	.020	0.2 Watt
TB	.300	.280	.160	.200	.025	0.33 Watt
TD	.390	.390	.197	.200	.025	0.5 Watt
TF	.225	.210	.110	.100	.020	0.2 Watt

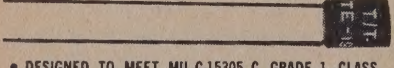
TG & TH SERIES INDUCTORS



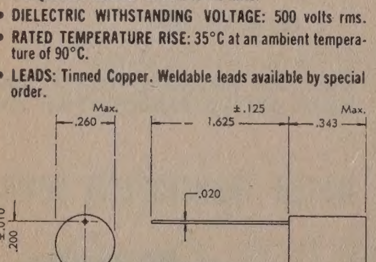
- HERMETICALLY SEALED INDUCTORS IN A STANDARD TO-5 TRANSISTOR CONFIGURATION.
- LOW EXTERNAL MAGNETIC & ELECTROSTATIC FIELD.
- TG SERIES DESIGNED TO MEET MIL-T-27B, GRADE 4, CLASS R.
- TH SERIES DESIGNED TO MEET MIL-C-15305 C, GRADE 1, CLASS 0.
- INDUCTANCE VALUES: TH Series, 10.0 uh to 1000 uh. TG Series, 1.0 mh to 500 mh.
- FREQUENCY RANGE: 10 KHz to 10 MHz, depending upon series and inductance value.
- DIELECTRIC WITHSTANDING VOLTAGE: 100 volts rms.
- AMBIENT TEMPERATURE RANGE: −55°C to +85°C.



TE-SERIES INDUCTORS



- DESIGNED TO MEET MIL-C-15305 C, GRADE 1, CLASS B (−55°C to +125°C)
- INDUCTANCE VALUES: 0.10 mh to 220.0 mh.
- FREQUENCY RANGE: 25 KHz to 2.5 MHz.
- DIELECTRIC WITHSTANDING VOLTAGE: 500 volts rms.
- RATED TEMPERATURE RISE: 35°C at an ambient temperature of 90°C.
- LEADS: Tinned Copper. Weldable leads available by special order.



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Magnetic Core Corp Newburgh	N Y
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Electro Mechanical Corp Sayre	
E-Z Way Products Inc Tampa	F
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Parabam Inc Compton	C
Philco-Ford Corp Washington	D
REF Dynamics Div UOP Mineola	N
Reflectone. Inc, Englewood Cliffs	N
R F Communications Inc Rochester	N
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Nippon Electric Co Ltd Tokyo	Japa
Philco-Ford Corp Washington	D
RCA, Defense Electronic Products Moorestown	N
Regency Electronics Inc Indianapolis	In
R F Communications Inc Rochester	N
Robins Electronics La Mesa	C
Sierra Research Corp Buffalo	N
SunAir Electronics Inc Ft Lauderdale	F
Sylvania Electronic Systems Waltham	Ma
Technical Materiel Corp Mamaroneck	N
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General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Hammarlund Mfg Co Inc, The Mars Hill .... N C
Harris-Intertype Corp Cleveland .... Ohio
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa .... Japan
ITT Aerospace, Optical Div Fort Wayne .... Ind
Kaar Electronics Corp Rahway .... N J
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Micro Communications Co Denver .... Colo
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Pearce-Simpson Inc Div Gladding Corp Miami .... Fla
Philco-Ford Corp Washington .... D C
Prod-El, Prodotti Elettronici Spa 20132 Milan .... Italy
Radiomarine Corp Red Bank .... N J
Radio Specialty Mfg Co Portland .... Ore
RCA, Defense Electronic Products Moorestown .... N J
Resdel Engineering Corp Pasadena .... Cal
Robins Electronics La Mesa .... Cal
Simpson Electronics, Inc Miami .... Fla
Sylvania Electronic Systems Waltham .... Mass
Transcom Electronics Inc La Mesa .... Cal
TRW Systems Group Redondo Beach .... Cal
Ultra Electronics Ltd London, W 3 .... England
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TRANSCEIVERS—PORTABLE

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .. IND
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
ACR Electronics Corp New York .... N Y
Aerospace Research, Inc Boston .... Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc
Deer Park .... N Y
Allen Aircraft Radio Inc Elk Grove Village Ill
Anritsu Electric Co Ltd Tokyo .... Japan
Avco Electronics Div Cincinnati .... Ohio
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Bendix Corp, Communications Div Towson .... Md
Canadian Marconi Co Montreal 16 .... Quebec
Collins Radio Co Dallas .... Tex
Daltronics Inc Providence .... R I
Delco Radio Div General Motors Corp Kokomo .... Ind
Dorsett Electronics Inc Tulsa .... Okla
Dumont Mobile Commun Div Hammarlund Anaheim .... Cal
Dynair Electronics Inc San Diego .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Communications Inc Div NCR St Petersburg ... Fla
Emcee Electronics Inc New Castle .... Del
Fen-Tone Corp New York .... N Y
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Granger Associates Palo Alto .... Cal
Hammarlund Mfg Co Inc, The Mars Hill .... N C
Harris-Intertype Corp Cleveland .... Ohio
Hayakawa Electric Co Ltd Osaka .... Japan
Itek Corp Lexington .... Mass
ITT Aerospace, Optical Div Fort Wayne .... Ind
Johnson Co, E F Waseca .... Minn
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Linear Systems Inc Watsonville .... Cal
Marconi Co Ltd Chelmsford .... England
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Micro Communications Co Denver .... Colo
Motorola, Govt Electronics Div Scottsdale .... Ariz
National Radio Co Inc Melrose .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Parzen Research Elctn Prods Gr Ovitron Corp Westbury .. N Y
Philco-Ford Corp Washington .... D C
Prod-El, Prodotti Elettronici Spa 20132 Milan .... Italy
Racal Communications Inc Silver Spring .... Md
Radio Specialty Mfg Co Portland .... Ore
RCA, Defense Electronic Products Moorestown .... N J
Repco Inc Orlando .... Fla
Resdel Engineering Corp Pasadena .... Cal
R F Communications Inc Rochester .... N Y
Robins Electronics La Mesa .... Cal
Squires-Sanders Inc Liberty Corner .... N J
SunAir Electronics Inc Ft Lauderdale .... Fla
Sylvania Electronic Systems Waltham .... Mass
Technical Materiel Corp Mamaroneck .... N Y
Telefunken Sales Corp Garden City .... N Y
Transcom Electronics Inc La Mesa .... Cal
Ultra Electronics Ltd London, W 3 .... England
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TRANSCEIVERS—SSB

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .. IND
HEATH CO BENTON HARBOR .... MICH
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Aeromarine Electronics, Inc San Diego .... Cal
Aerospace Research, Inc Boston .... Mass
Anritsu Electric Co Ltd Tokyo .... Japan
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Automatic Radio Sales Inc Melrose .... Mass
Avco Electronics Div Cincinnati .... Ohio
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Bendix Corp, Communications Div Towson .... Md
Brelonix Inc Seattle .... Wash
Canadian Marconi Co Montreal 16 .... Quebec
CEC-Benmar Santa Ana .... Cal
Collins Radio Co Dallas .... Tex
Communication Associates Inc New Hyde Park .... N Y
Cosmos Industries Inc Brooklyn .... N Y
Delco Radio Div General Motors Corp Kokomo .... Ind
Delta Electronics Ltd Rexdale .... Ont
Dorsett Electronics Inc Tulsa .... Okla
Drake Co, R L Miamisburg .... Ohio
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Applications Co Pine Brook .... N J
FRL Inc Fisher Research Div Palo Alto .... Cal
Galaxy Electronics Inc Council Bluffs .... Iowa
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Granger Associates Palo Alto .... Cal
Harris-Intertype Corp Cleveland .... Ohio
Heath Co Benton Harbor .... Mich
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa .... Japan
ITT Aerospace, Optical Div Fort Wayne .... Ind
Johnson Co, E F Waseca .... Minn
Kahn Research Labs Inc Freeport .... N Y
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Linear Systems Inc Watsonville .... Cal
Marconi Co Ltd Chelmsford .... England
Marconi Div, English Electric Corp New York .... N Y
National Radio Co Inc Melrose .... Mass
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 .. Ont
Racal Communications Inc Silver Spring .... Md
Racal Electronics Ltd Bracknell Berks .... England
Radiomarine Corp Red Bank .... N J
RCA, Defense Electronic Products Moorestown .... N J
Resdel Engineering Corp Pasadena .... Cal
R F Communications Inc Rochester .... N Y
Robins Electronics La Mesa .... Cal
SunAir Electronics Inc Ft Lauderdale .... Fla
Sylvania Electronic Systems Waltham .... Mass
Technical Materiel Corp Mamaroneck .... N Y
Transcom Electronics Inc La Mesa .... Cal
TRW Systems Group Redondo Beach .... Cal
Weitermann Electronics Milwaukee .... Wis
Wilcox Electric Co Kansas City .... Mo
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TRANSCEIVERS—UHF

DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .. IND
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Admiral Systems Corp Chicago Ill
Advanced Communications Inc Sub Conductron Corp
Chatsworth .... Cal
Aerospace Research, Inc Boston .... Mass
Airborne Instruments Lab, Div Cutler-Hammer Inc
Deer Park .... N Y
Allen Aircraft Radio Inc Elk Grove Village Ill
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Avco Electronics Div Cincinnati .... Ohio
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Bell & Howell Communications Co Waltham .... Mass
Bendix Corp, Communications Div Towson .... Md
Canadian Marconi Co Montreal 16 .... Quebec
Canadian Motorola Electronics Ltd Willowdale 425 .... Ont
Collins Radio Co Dallas .... Tex
Conic Corp San Diego .... Cal
Cosmos Industries Inc Brooklyn .... N Y
Daltronics Inc Providence .... R I
Dayton Electronics Products Co Dayton .... Ohio
Delco Radio Div General Motors Corp Kokomo .... Ind
Dorsett Electronics Inc Tulsa .... Okla
Dynair Electronics Inc San Diego .... Cal
Electronic Communications Inc Div NCR St Petersburg ... Fla
Farinon Electric San Carlos .... Cal
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Harris-Intertype Corp Cleveland .... Ohio
Itek Corp Lexington .... Mass
ITT Aerospace, Optical Div Fort Wayne .... Ind
Kaar Electronics Corp Rahway .... N J
Kokusai Electric Co Ltd Tokyo-105 .... Japan
Labtron Corp of Amer Div KDI Corp Dayton .... Ohio
Micro Communications Co Denver .... Colo
Motorola, Govt Electronics Div Scottsdale .... Ariz
Nippon Electric Co Ltd Tokyo .... Japan
Oki Electric Industry Co Ltd Tokyo .... Japan
Pearce-Simpson Inc Div Gladding Corp Miami .... Fla
Philco-Ford Corp Washington .... D C
Plessey Co Ltd Ilford Essex .... England
Prod-El, Prodotti Elettronici Spa 20132 Milan .... Italy
Radio Specialty Mfg Co Portland .... Ore
RCA, Defense Electronic Products Moorestown .... N J
Resdel Engineering Corp Pasadena .... Cal
Robins Electronics La Mesa .... Cal
Scope Inc Reston .... Va
Sperry Flight Systems Div Sperry Rand Corp Phoenix ... Ariz
Sylvania Electronic Systems Waltham .... Mass
Symetrics Engineering Corp Satellite Beach .... Fla
Transcom Electronics Inc La Mesa .... Cal
TRW Systems Group Redondo Beach .... Cal
Ultra Electronics Ltd London, W 3 .... England
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TRANSCEIVERS—VHF

ANRITSU ELECTRIC CO LTD TOKYO .... JAPAN
DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .. IND
HEATH CO BENTON HARBOR .... MICH
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Admiral Systems Corp Chicago Ill
Advanced Communications Inc Sub Conductron Corp
Chatsworth .... Cal
Aeromarine Electronics, Inc San Diego .... Cal
Aerospace Research, Inc Boston .... Mass
Allen Aircraft Radio Inc Elk Grove Village Ill
Anritsu Electric Co Ltd Tokyo .... Japan
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Avco Electronics Div Cincinnati .... Ohio
Barker & Williamson Div Sunshine Mining Co Bristol .... Pa
Bell & Howell Communications Co Waltham .... Mass
Bendix Corp Avionics Div Fort Lauderdale .... Fla
Bendix Corp, Communications Div Towson .... Md
Canadian Marconi Co Montreal 16 .... Quebec
Canadian Motorola Electronics Ltd Willowdale 425 .... Ont
Collins Radio Co Dallas .... Tex
Conic Corp San Diego .... Cal
Cosmos Industries Inc Brooklyn .... N Y
Dayton Electronics Products Co Dayton .... Ohio
Delco Radio Div General Motors Corp Kokomo .... Ind
Dorsett Electronics Inc Tulsa .... Okla
Dynair Electronics Inc San Diego .... Cal
Emcee Electronics Inc New Castle .... Del
Farinon Electric San Carlos .... Cal
FRL Inc Fisher Research Div Palo Alto .... Cal
General Dynamics, Electronics Div Rochester .... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Granger Associates Palo Alto .... Cal
Hammarlund Mfg Co Inc, The Mars Hill .... N C
Harris-Intertype Corp Cleveland .... Ohio
Heath Co Benton Harbor .... Mich
ITT Aerospace, Optical Div Fort Wayne .... Ind
Kaar Electronics Corp Rahway .... N J

Kokusai Electric Co Ltd Tokyo-105 . . . . . Japan
Konigsberg Electronics Inc So San Francisco . . . . . Cal
Labtron Corp of Amer Div KDI Corp Dayton . . . . . Ohio
Marconi Co Ltd Chelmsford . . . . . England
Mobil Electronics Inc Anderson . . . . . Ind
Motorola, Govt Electronics Div Scottsdale . . . . . Ariz
Nippon Electric Co Ltd Tokyo . . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . . Fla
Palomar Instrument Co Escondido . . . . . Cal
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
Pearce-Simpson Inc Div Gladding Corp Miami . . . . . Fla
Philco-Ford Corp Washington . . . . . D C
Plessey Co Ltd Ilford Essex . . . . . England
Prod-El, Prodotti Elettronici Spa 20132 Milan . . . . . Italy
Racal Electronics Ltd Bracknell Berks . . . . . England
Radiomarine Corp Red Bank . . . . . N J
Radio Specialty Mfg Co Portland . . . . . Ore
RCA, Defense Electronic Products Moorestown . . . . . N J
Resdel Engineering Corp Pasadena . . . . . Cal
R F Communications Inc Rochester . . . . . N Y
Robins Electronics La Mesa . . . . . Cal
Scope Inc Reston . . . . . Va
Sigma Systems Corp, Sub Applied Science Inc Dallas . . . . Tex
Simpson Electronics, Inc Miami . . . . . Fla
Sylvania Electronic Systems Waltham . . . . . Mass
Symetrics Engineering Corp Satellite Beach . . . . . Fla
Telefunken Sales Corp Garden City . . . . . N Y
Transcom Electronics Inc La Mesa . . . . . Cal
TRW Systems Group Redondo Beach . . . . . Cal
Ultra Electronics Ltd London, W 3 . . . . . England
Weitermann Electronics Milwaukee . . . . . Wis
Wilcox Electric Co Kansas City . . . . . Mo
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TRANSDUCER CALIBRATORS

See **Calibrators—Transducer**

TRANSDUCERS—ANGULAR ACCELERATION

SYSTRON-DONNER CORP CONCORD . . . . . CAL
Amtron Inc Sub Republic Corp Midlothian Ill
Beckman Instruments Inc Fullerton, ... Cal
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . . Cal
BLH Electronics Inc Sub Baldwin-Lima-Hamilton
  Waltham . . . . . Mass
Brys Instrument Corp Brooklyn . . . . . N Y
Consolidated Controls Corp El Segundo . . . . . Cal
Decker Corp Bala Cynwyd . . . . . Pa
Ferranti, Ltd Lancashire . . . . . England
Genisco Technology Corp Compton . . . . . Cal
Gordon Enterprises Inc, Alan North Hollywood . . . . . Cal
Gulton Industries Inc Metuchen . . . . . N J
Humphrey Inc San Diego . . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Larson Aero Development Concord . . . . . Cal
Nortronics Div, Northrop Corp, Prec Prods Dept
  Norwood . . . . . Mass
Racal Electronics Ltd Bracknell Berks . . . . . England
Schaevitz Engineering Pennsauken . . . . . N J
Setra Systems Inc Natick . . . . . Mass
Smiths Industries Ltd, Aviation Div Wembley, Mdsx . . England
Systron-Donner Corp Concord . . . . . Cal
Tensitron Inc Harvard . . . . . Mass
Thomson-CSF 78 Versailles . . . . . France
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
United Control Corp Redmond . . . . . Wash
Varo Inertial Products Inc Waterbury . . . . . Conn
Wavelabs Co Div Systron-Donner Corp Concord . . . . . Cal

TRANSDUCERS—ANGULAR DISPLACEMENT

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND
  OHIO . . . . . ADV PGS 300,301
CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS INC
  DREXEL HILL . . . . . PA
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . . N Y
DATA TECHNOLOGY, INC WATERTOWN . . . . . MASS
DISCON CORP FORT LAUDERDALE . . . . . FLA
HONEYWELL TEST INSTRUMENTS DIV DENVER
  COLO . . . . . ADV PG 8
KAVLICO ELECTRONICS INC CHATSWORTH . . . . . CAL
MECHANICS FOR ELECTRONICS INC CAMBRIDGE . . . MASS
NIHON KOHDEN KOGYO CO LTD TOKYO . . . . . 161 JAPAN
SYSTRON-DONNER CORP CONCORD . . . . . CAL
THETA INSTRUMENT CORP FAIRFIELD . . . . . N J
Amtron Inc Sub Republic Corp Midlothian Ill
Baldwin Electronics Inc Little Rock . . . . . Ark
Barnes Engineering Co Def & Space Div Stamford . . . . . Conn
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . . Cal
Bendix Corp, Flight & Engine Instr Div South Montrose . . . Pa
BLH Electronics Inc Sub Baldwin-Lima-Hamilton
  Waltham . . . . . Mass
Brys Instrument Corp Brooklyn . . . . . N Y
C-E Electronics Div Ametek Feasterville . . . . . Pa
Chrysler Corp, Missile Div Detroit . . . . . Mich
Clevite Corp, Brush Instruments Div Cleveland . . . . . Ohio
Clifton Div Litton Industries Litton Prec Prods Inc
  Drexel Hill . . . . . Pa
Computer Conversions Corp East Northport . . . . . N Y
Computer Instruments Corp Hempstead . . . . . N Y
Consolidated Controls Corp El Segundo . . . . . Cal
Data Technology, Inc Watertown . . . . . Mass
Decker Corp Bala Cynwyd . . . . . Pa
Del Electronics Corp Mt Vernon . . . . . N Y
Discon Corp Fort Lauderdale . . . . . Fla
Dynamic Precision Controls Corp Hagerstown . . . . . Ind
Dynamics Research Corp Stoneham . . . . . Mass
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electro-Pacific Inc Goleta . . . . . Cal
Electro Products Labs Inc Transducer Div Chicago Ill
Farrand Controls Inc Valhalla . . . . . N Y
Ferranti, Ltd Lancashire . . . . . England
Foxboro Co Foxboro . . . . . Mass
Gordon Enterprises Inc, Alan North Hollywood . . . . . Cal
Gulton Industries Inc Metuchen . . . . . N J
Gulton Industries Inc Controls & Instru Grp Costa Mesa . . . Cal
Hamlin Inc Lake Mills . . . . . Wis
Harvard Apparatus Co Inc Millis . . . . . Mass
H H Controls Co Inc Arlington . . . . . Mass
Honeywell Test Instruments Div Denver . . . . . Colo
Humphrey Inc San Diego . . . . . Cal
ICC Mfg Corp South Hackensack . . . . . N J
International Electro-Magnetics Inc Palatine Ill
Itek Corp Lexington . . . . . Mass
Itek Corp, Wayne George Div Newton . . . . . Mass
Kavlico Electronics Inc Chatsworth . . . . . Cal
Kearfott Div Singer-General Precision Inc Little Falls . . . . . NJ
Larson Aero Development Concord . . . . . Cal
Litton Industries, Guidance & Controls Sys Div
  Woodland Hills . . . . . Cal
Louis Allis Co Div Litton Industries Milwaukee . . . . . Wisc
Mechanics for Electronics Inc Cambridge . . . . . Mass
Meteorology Research Inc Altadena . . . . . Cal
Metrological Data Corp Garfield . . . . . N J
Minnetech Labs Inc Minneapolis . . . . . Minn
Nihon Kohden Kogyo Co Ltd Tokyo . . . . . 161 Japan
Nortronics Div, Northrop Corp, Prec Prods Dept
  Norwood . . . . . Mass
Pickering & Co Inc Plainview . . . . . N Y
Quantic Industries Inc San Carlos . . . . . Cal
Racal Electronics Ltd Bracknell Berks . . . . . England
Razdow Labs Inc Newark . . . . . N J
Reeves Instrument Div, DCA Garden City . . . . . N Y
Remex Electronics Hawthorne . . . . . Cal
Rockland Labs Inc Blauvelt . . . . . N Y
Schaevitz Engineering Pennsauken . . . . . N J
Seneca Falls Machine Co Seneca Falls . . . . . N Y
Sensor Corp Greenwich . . . . . Conn
Sequential Electronic Systems Inc Elmsford . . . . . N Y
Setra Systems Inc Natick . . . . . Mass
Special Devices Labs Inc South Orange . . . . . N J
SRC Div Crescent Technology Corp Newport Beach, ... Cal
Stern Co Inc M L Charlotte . . . . . N C
Systron-Donner Corp Concord . . . . . Cal
Takeda Riken Industry Co Ltd Tokyo . . . . . Japan
Technology Instrument Corp Sub Bowmar Instr Corp
  Newbury Park . . . . . Cal
Tensitron Inc Harvard . . . . . Mass
Theta Instrument Corp Fairfield . . . . . N J
Thomson-CSF 78 Versailles . . . . . France
Towner Systems Co Alameda . . . . . Cal
Transducer Controls Corp Covina . . . . . Cal
Transducers, Inc Santa Fe Springs . . . . . Cal
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
Trump Ross Industrial Controls Inc North Billerica . . . . . Mass
Varo Inertial Products Inc Waterbury . . . . . Conn
West Coast Research Corp Los Angeles . . . . . Cal
Weston-Transicoil, Weston Instruments Inc Worcester . . . . Pa

TRANSDUCERS—DIGITAL

ANRITSU ELECTRIC CO LTD TOKYO . . . . . JAPAN
DATA TECHNOLOGY, INC WATERTOWN . . . . . MASS
DISCON CORP FORT LAUDERDALE . . . . . FLA
NIPPON ELECTRIC CO LTD TOKYO . . . . . JAPAN
SYSTRON-DONNER CORP CONCORD . . . . . CAL
THETA INSTRUMENT CORP FAIRFIELD . . . . . N J
Amtron Inc Sub Republic Corp Midlothian Ill
Anritsu Electric Co Ltd Tokyo . . . . . Japan
Avtron Mfg, Inc Cleveland . . . . . Ohio
Baldwin Electronics Inc Little Rock . . . . . Ark
Bristol Div, American Chain & Cable Co Waterbury . . . . . Conn
Computer Conversions Corp East Northport . . . . . N Y
Consolidated Controls Corp El Segundo . . . . . Cal
Data Technology, Inc Watertown . . . . . Mass
Del Electronics Corp Mt Vernon . . . . . N Y
Discon Corp Fort Lauderdale . . . . . Fla
Doric Scientific Corp San Diego . . . . . Cal
Dynamics Research Corp Stoneham . . . . . Mass
Dynapar Corp Sub Louis Allis Co Gurnee Ill
Electro Products Labs Inc Transducer Div Chicago Ill
Exactel Instrument Co Div Statham Instrs Inc Oxnard . . . . Cal
Flow Technology Inc Tempe . . . . . Ariz
Gordon Enterprises Inc, Alan North Hollywood . . . . . Cal
H H Controls Co Inc Arlington . . . . . Mass
International Electro-Magnetics Inc Palatine Ill
Itek Corp Lexington . . . . . Mass
Itek Corp, Wayne George Div Newton . . . . . Mass
ITT Decca Marine Inc New York . . . . . NY
Kinetic Systems Inc Concord . . . . . Mass
Larson Aero Development Concord . . . . . Cal
LEM Instrument Corp Farmingdale . . . . . N Y
Litton Industries, Guidance & Controls Sys Div
  Woodland Hills . . . . . Cal
Louis Allis Co Div Litton Industries Milwaukee . . . . . Wisc
Meteorology Research Inc Altadena . . . . . Cal
Metrological Data Corp Garfield . . . . . N J
Minnetech Labs Inc Minneapolis . . . . . Minn
Nippon Electric Co Ltd Tokyo . . . . . Japan
Orbitran Co, Inc Lakeside . . . . . Cal
Post Electronics Products Inc Beverly . . . . . Mass
Reach Electronics Inc Lexington . . . . . Neb
Remex Electronics Hawthorne . . . . . Cal
Setra Systems Inc Natick . . . . . Mass
Solid State Electronics Corp Sepulveda . . . . . Cal
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . . Ariz
Strandberg Engineering Labs Inc Greensboro . . . . . N C
Systron-Donner Corp Concord . . . . . Cal
Takeda Riken Industry Co Ltd Tokyo . . . . . Japan
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . . . N Y
Theta Instrument Corp Fairfield . . . . . N J
Towner Systems Co Alameda . . . . . Cal
Transducer Controls Corp Covina . . . . . Cal
Trans-Sonics Inc Lexington . . . . . Mass
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
Trump Ross Industrial Controls Inc North Billerica . . . . . Mass
Veeder-Root Hartford . . . . .

TRANSDUCERS—DISPLACEMENT

CLEVITE CORP, BRUSH INSTRUMENTS DIV CLEVELAND
  OHIO . . . . . ADV PGS 300
COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . .
DATA TECHNOLOGY, INC WATERTOWN . . . . . M
HEWLETT-PACKARD PALO ALTO . . . . .
HONEYWELL TEST INSTRUMENTS DIV DENVER
  COLO . . . . . ADV
KAVLICO ELECTRONICS INC CHATSWORTH . . . . .
NIHON KOHDEN KOGYO CO LTD TOKYO . . . . . 161 JA
THETA INSTRUMENT CORP FAIRFIELD . . . . .
Automatic Timing & Controls, Inc King of Prussia . . . . .
Bell & Howell Co, Elctn Instr Grp Pasadena . . . . .
Bendix Corp, Flight & Engine Instr Div South Montrose . .
Bently Nevada Corp Minden . . . . .
Biocom, Inc Culver City . . . . .
Brys Instrument Corp Brooklyn . . . . .
C-E Electronics Div Ametek Feasterville . . . . .
Celtic Industries Inc Van Nuys . . . . .
Clevite Corp, Brush Instruments Div Cleveland . . . . .
Collins Corp, G L Long Beach . . . . .
Columbia Research Labs Inc Woodlyn . . . . .
Computer Instruments Corp Hempstead . . . . .
Consolidated Controls Corp El Segundo . . . . .
Data Technology, Inc Watertown . . . . . M
Daytronic Corp Dayton . . . . .
Decker Corp Bala Cynwyd . . . . .
Dynamics Research Corp Stoneham . . . . . M
Electro-Med Instruments Inc Houston . . . . .
Electronic Instrument & Specialty Corp Winchester . . . . M
Electronics Communications Div Atlantic Research Corp
  Alexandria . . . . .
Electro Products Labs Inc Transducer Div Chicago . . . . .
Electro-Sonic-Control Manteca . . . . .
Fairchild Controls Hicksville . . . . .
Farrand Controls Inc Valhalla . . . . .
Ferranti, Ltd Lancashire . . . . . Engl
Foxboro Co Foxboro . . . . . M
General Radio Co West Concord . . . . . M
Genisco Technology Corp Compton . . . . .
Gilmore Industries Inc Cleveland . . . . . O
Gordon Enterprises Inc, Alan North Hollywood . . . . .
Gulton Industries Inc Metuchen . . . . .
Gulton Industries Inc Controls & Instru Grp Costa Mesa . . .
Harvard Apparatus Co Inc Millis . . . . . M
Helm Instrument Co Inc Toledo . . . . . O
Hewlett-Packard Palo Alto . . . . .
Honeywell Test Instruments Div Denver C
Humphrey Inc San Diego . . . . .
ICC Mfg Corp South Hackensack . . . . .
Indikon Co Inc Watertown . . . . . M
Industrial Electronetics Corp Satellite Beach . . . . .
International Electro-Magnetics Inc Palatine . . . . .
Itek Corp Lexington . . . . . M
Itek Corp, Wayne George Div Newton . . . . . M
ITT Decca Marine Inc New York . . . . .
Kaman Nuclear Div Kaman Sciences Corp
  Colorado Springs C
Kavlico Electronics Inc Chatsworth . . . . .
Kearfott Div Singer-General Precision Inc Little Falls . . . .
Kinetic Systems Inc Concord . . . . . M
Larson Aero Development Concord . . . . .
Life Instrument Co Inc Franklin . . . . . M
Lion Research Corp Newton . . . . . M
Lockheed Electronics Co, Houston Aerospace Systems Div
  Houston . . . . .
Magnedyne Inc Carlsbad . . . . .
Minnetech Labs Inc Minneapolis . . . . . M
Nihon Kohden Kogyo Co Ltd Tokyo . . . . . 161 Jap
Nortronics Div, Northrop Corp, Prec Prods Dept
  Norwood . . . . . M
Ohio Semitronics Inc Columbus . . . . . O
Optron Corp New Haven C
Pickering & Co Inc Plainview . . . . . N
Research Inc, R-I Controls Div Minneapolis . . . . . M
Revere Electronic Div Wallingford C
Robinson-Halpern Co W Conshohocken . . . . .
Schaevitz Engineering Pennsauken . . . . . N
Seneca Falls Machine Co Seneca Falls . . . . . N
Sensor Corp Greenwich C
Servotronics Inc Buffalo . . . . . N
Sigma Systems Corp, Sub Applied Science Inc Dallas . . . . T
Space Craft Inc Huntsville . . . . .
Sparton Corp Jackson . . . . . Mi
Sparton Southwest Inc Albuquerque . . . . . N
Special Devices Labs Inc South Orange . . . . . N
SRC Div Crescent Technology Corp Newport Beach, ...
Statham Instruments Inc Oxnard . . . . .
Stow Labs, Inc Stow . . . . . Ma
Systems Research Labs Inc Dayton . . . . . O
Taylor Instrument Process Con Div Sybron Corp
  Rochester . . . . . N
Technology Instrument Corp Sub Bowmar Instr Corp
  Newbury Park . . . . .
Tensitron Inc Harvard . . . . . Ma
Theta Instrument Corp Fairfield . . . . . N
Thwing-Albert Instrument Co Philadelphia . . . . .
Transducer Controls Corp Covina . . . . .
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . .
Trump Ross Industrial Controls Inc North Billerica . . . . . Ma
Varo Inertial Products Inc Waterbury . . . . . Co
Wac Line Div Simmonds Precision Prods Dayton . . . . . O
Wayne Kerr Co c/o Southfield Electronics Southfield . . . Mi
West Coast Research Corp Los Angeles . . . . .
Whittaker Corp Instrument Sys Div Chatsworth . . . . .

TRANSDUCERS—FLOW

COMPUTER INSTRUMENTS CORP HEMPSTEAD . . . . . N
HONEYWELL TEST INSTRUMENTS DIV DENVER
  COLO . . . . . ADV PG
NIHON KOHDEN KOGYO CO LTD TOKYO . . . . . 161 JAPA
Acoustica Associates Inc Los Angeles C

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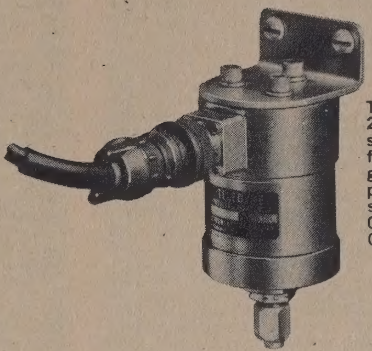

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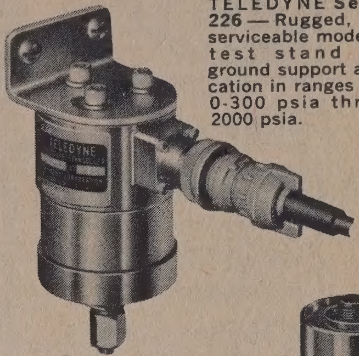

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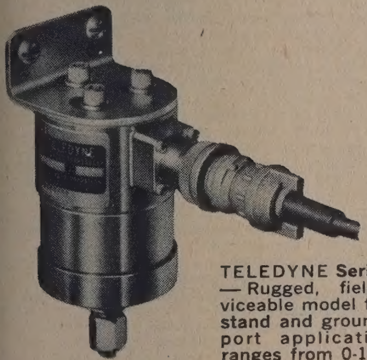

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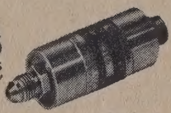

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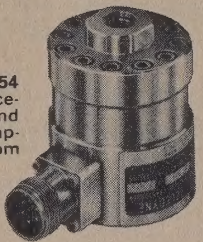

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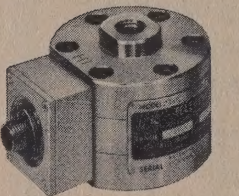

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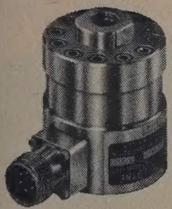

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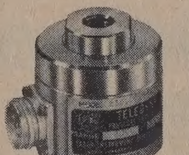

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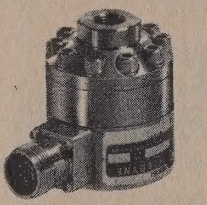

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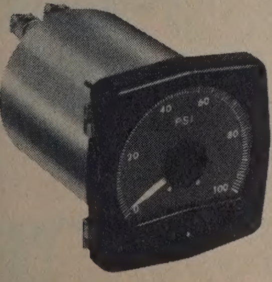

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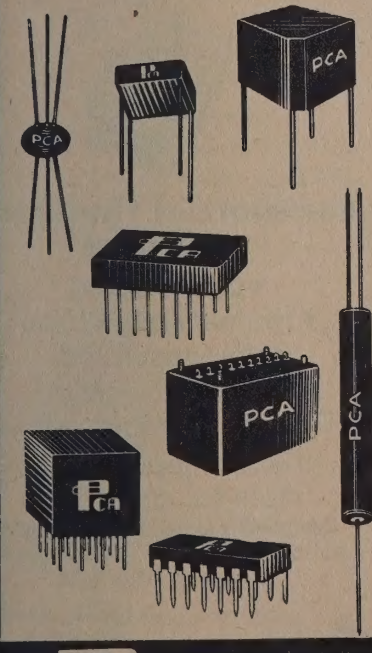

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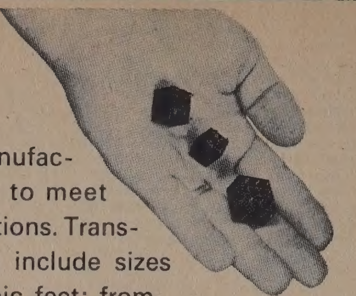

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Bicron Electronics Co Canaan . . . . Conn
Bourns Pacific Magnetic Corp Romoland . . . . Cal
Bullock Magnetics Corp Pomona . . . . Cal
Bulova Watch Co Inc Elctns Div Frequency Control Prods
  Woodside . . . . N Y
Bush Transformer Div, Gladding-Keystone Corp Oneonta . . NY
Caledonia Elctns & Transformer Div Connrex Corp
  Caledonia . . . . N Y
Canadian Marconi Co Montreal 16 . . . . Quebec
Carol Electronics Div Weeco Inc Martinsburg . . . . W Va
CBC Industries Inc Philadelphia . . . . Pa
Central Transformer Co Chicago Ill
Chu Associates Inc Littleton . . . . Mass
Coast Coil Co Los Angeles . . . . Cal
Coil Co of America Inc Northvale . . . . N J
Coiltronics Inc Buena Park . . . . Cal
Component Specialties Corp Temple City . . . . Cal
Components Specialties Inc Freeport . . . . N Y
Computer Components Inc Jamaica . . . . N Y
CP Electronics Inc Columbus . . . . Ind
Custom Coil Co Zanesville . . . . Ohio
Cycle Transformer Corp West Orange . . . . N J
Dale Electronics Inc Columbus . . . . Neb
DB Products Inc Pasadena . . . . Cal
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Dietz Design Inc Belton . . . . Mo
Dinion Coil Co Inc Caledonia . . . . N Y
Douglas Randall Inc Westerly . . . . R I
Dowa Trading Co Ltd Kobe . . . . Japan
Dresser Systems, Inc Houston . . . . Tex
Dynamic Components Corp Hornell . . . . N Y
Edko Electronics Inc Brooklyn . . . . N Y
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electrical Windings Inc Chicago . . . .
Electro Networks Div Connrex Corp Caledonia . . . .
Electronic Components Corp Addison . . . .
Electronic Transformer Corp Paterson . . . .
Electro Winders Co Inc Covina . . . .
Electro Windings & Components Inc Kenilworth . . . .
Epco Products Inc Wallkill . . . .
Essex Int'l Inc Controls Div Stancor RBM Chicago . . . .
Ferranti, Ltd Lancashire . . . . Engl
Ferrodyne Corp Venice . . . .
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Genisco Technology Corp Components, Genistron Divs
  Compton . . . .
Geo Space Corp Houston . . . .
Gotham Audio Corp New York . . . .
Grand Transformers Inc Grand Haven . . . . M
Hadley Co Inc, Robert M Los Angeles . . . .
Hammond Mfg Co Ltd Guelph . . . .
Hisonic Inc Olathe . . . .
Inductor Engineering Inc Lewes . . . .
JB Electronic Transformers Inc Chicago . . . .
Kapitol Magnetic Corp Chicago . . . .
Karkar Electronics Inc San Francisco . . . .
Kenyon Electronics Inc Jersey City . . . .
Kessler Co, Inc, Frank Long Island City . . . .
K G S Electronics Inc Pasadena . . . .
Kidde & Co Inc, Walter Belleville . . . .
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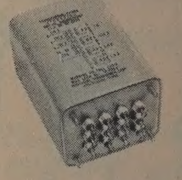
Lake Engineering Co Ltd Scarborough . . . .
Lambda Electronics Corp Melville . . . .
Magnetic Circuit Elements Inc Monterey . . . .
Magnetic Devices Inc Lemon Grove . . . .
Magnetic Engineering Corp Danbury C
Magnetika Inc Venice . . . .
Matsushita Electric Industrial Co Ltd Osaka . . . . Ja
Merit Coil & Transformer Corp Hollywood . . . .
Merrimack Magnetics Corp Lowell . . . . M
Microtran Co Inc Valley Stream . . . . N
Mid-West Coil & Transformer Co Chicago . . . .
National Coil Co Inc Douglas . . . . A
New England Transformer Co Inc Newton . . . . Ma
New York Coil Co Inc Phoenixville . . . .
Nytronics Inc Berkeley Heights . . . . N
Orega Electronique & Mecanique Vincennes, Seine . . . Fran
Pacific Instrument Co Oakland . . . .
Pacific Transformer Co Redwood City . . . .
PCA Electronics Inc Sepulveda . . . .
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim .
Permoflux Div American Comset Inc Glendale . . . .
Philmore Mfg Co Inc Richmond Hill . . . . N
Phoenix Transformer Co Phoenix . . . . A
Plessey Co Ltd Ilford Essex . . . . Engla
Polyphase Instrument Co Bridgeport . . . .
Precision Electronics Corp Marshfield . . . . Ma
Precision Electronics Inc Amityville . . . . N
Precision Inc Minneapolis . . . . Mi
Profile Electronics Inc Concord . . . . N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ott Co Inc, Oscar A Minneapolis ....Minn
t Electronics Corp Orlando.........................Fla
heiser Electronic Corp (NY) New York ....N Y
oto Industries Ltd New York ....N Y
al Transformer Co Inc Brooklyn....................N Y
G Associates Inc Boston ....Mass
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d State Electronics Corp Sepulveda..................Cal
tron Inc Alhambra ....Cal
ndard Industries Buena Park ....Cal
ling Transformer Corp Brooklyn......................N Y
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nsformer Engineers San Gabriel......................Cal
nsformer Manufacturers Inc Chicago Ill
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sco Sci Devices Inc Tresco Transf Inc Div Philadelphia ..Pa
d Distributor Div Litton Industries Huntington ....Ind
d Transformer Corp Venice...........................Cal
vec Transformer Co Chicago Ill
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versal Toroid Coil Winding Inc Irvington.............NJ
ad Corp Huntington ....Ind
tric Control Equipment Ltd Morden ....England
or Electronics Inc Robinson Elctn Comps Div
osta Mesa ....Cal
o Inc, Static Power Div Plano ....Tex
ginia Electronics Co Inc Falls Church ....Va
nlass Electric Co Santa Ana.........................Cal
scoil Co Inc Tinley Park Ill
tewater Electronics Inc Whitewater ....Wis
tron Co Inc S El Monte ....Cal
odward-Schumacher Electric Corp Chicago Ill
ing Industries Inc Carmel ....Ind

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THELFER WINDING LABS INC TRENTON ....N J
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NAHEIM ....CAL
ROTEL, INC GRANDVIEW ....MO
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C Products Minneapolis ....Minn
as Coil Corp Ansonia ....Conn
as Engineering Co, Inc Dorchester ....Mass
llastran Corp Fort Wayne ....Ind
rwood Electronics, Inc Glendale........................Cal
sler Electric Co Highland................................Ill
own Engineering-A Teledyne Co Huntsville ....Ala
llock Magnetics Corp Pomona ....Cal
lova Watch Co Inc Elctns Div Frequency Control Prods
Woodside ....N Y
sh Transformer Div, Gladding-Keystone Corp Oneonta ..NY
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Caledonia..N Y
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C Industries Inc Philadelphia ....Pa
ntral Transformer Co Chicago Ill
u Associates Inc Littleton..............................Mass
ast Coil Co Los Angeles ....Cal
il Co of America Inc Northvale ....N J
iltronics Inc Buena Park ....Cal
mponent Specialties Corp Temple City ....Cal
mputer Components Inc Jamaica ....N Y
Electronics Inc Columbus ....Ind
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le Electronics Inc Columbus ....Neb
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ectrical Windings Inc Chicago...............................Ill
ectro Networks Div Connrex Corp Caledonia ....N Y
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ectronic Transformer Corp Paterson ....N J
ectro Winders Co Inc Covina ....Cal
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co Products Inc Wallkill ....N Y
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rranti, Ltd Lancashire ....England
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sher Engineering Inc Huntington ....Ind
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ster Transformer Co Cincinnati ....Ohio
eed Transformer Co Inc Brooklyn ....N Y
gle-Miller Labs Inc Kenilworth ....N J

Genisco Technology Corp Components, Genistron Divs
Compton ....Cal
Grand Transformers Inc Grand Haven ....Mich
Hammond Mfg Co Ltd Guelph.........................Ont
Hisonic Inc Olathe ....Kan
Inductor Engineering Inc Lewes.......................Del
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Kenyon Electronics Inc Jersey City ....N J
Kessler Co, Inc, Frank Long Island City ....N Y
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Magnetic Engineering Corp Danbury.................Conn
Magnetika Inc Venice ....Cal
Merit Coil & Transformer Corp Hollywood ....Fla
Merrimack Magnetics Corp Lowell ....Mass
Microtran Co Inc Valley Stream ....N Y
Mid-West Coil & Transformer Co Chicago Ill
National Coil Co Inc Douglas ....Ariz
New England Transformer Co Inc Newton............Mass
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Nytronics Inc Berkeley Heights ....N J
Pacific Instrument Co Oakland ....cal
Pacific Transformer Co Redwood City ....Cal
PCA Electronics Inc Sepulveda ....Cal
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim .Cal
Phoenix Transformer Co Phoenix ....Ariz
Plessey Co Ltd Ilford Essex ....England
Polyphase Instrument Co Bridgeport ....Pa
Precision Electronics Corp Marshfield...............Mass
Precision Electronics Inc Amityville ....N Y
Prototype Transformer Corp East Orange ....NJ
Qutronic Transformer Corp Oneonta..................N Y
Radio Engineering Labs, Div DCA Long Island City ......N Y
Raytheon Co, Microwave & Power Tube Div Waltham ...Mass
Sangamo Electric Co Springfield........................Ill
Schott Co Inc, Oscar A Minneapolis ....Minn
Scott Electronics Corp Orlando........................Fla
Signal Transformer Co Inc Brooklyn..................N Y
S K G Associates Inc Boston ....Mass
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Solid State Electronics Corp Sepulveda...............Cal
Spatron Inc Alhambra ....Cal
Spectran Electronics Div Novatronics Inc Pompano Beach .Fla
Standard Industries Buena Park ....Cal
Sterling Transformer Corp Brooklyn...................N Y
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Transformer Engineers San Gabriel...................Cal
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Transformer Technicians Inc Chicago Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia ..Pa
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Virginia Electronics Co Inc Falls Church ....Va
Wanlass Electric Co Santa Ana........................Cal
Wescoil Co Inc Tinley Park Ill
Whitewater Electronics Inc Whitewater ....Wis
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DALE ELECTRONICS INC COLUMBUS ....NEB
HISONIC INC OLATHE ....KAN
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UNITED TRANSFORMER CO DIV TRW INC NEW YORK ..N Y
ACDC Electronics, Inc Burbank ....Cal
AC Electronics Co Los Angeles ....Cal
ADC Products Minneapolis ....Minn
Aikow Shoji Kaisha Ltd Osaka ....Japan
Allen Avionics Inc,Div A K Allen Co Inc Mineola ....N Y
Amk Electronics Co Inc Edison ....N J
Arco S P A Milano ....Italy
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Atlas Engineering Co, Inc Dorchester ....Mass
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Barwood Electronics, Inc Glendale....................Cal
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Bullock Magnetics Corp Pomona ....Cal
Bulova Watch Co Inc Elctns Div Frequency Control Prods
Woodside ....N Y
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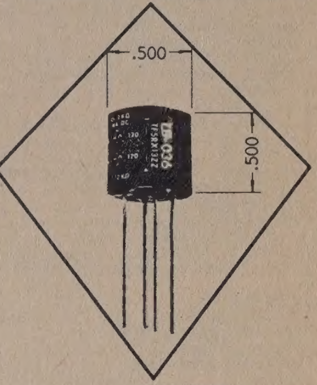

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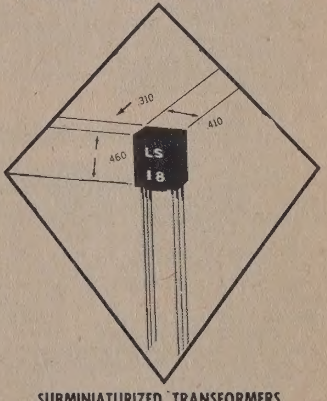

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CP Electronics Inc Columbus	Ind
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Cycle Transformer Corp West Orange	N J
Dale Electronics Inc Columbus	Neb
Dietz Design Inc Belton	Mo
Dinion Coil Co Inc Caledonia	N Y
Douglas Randall Inc Westerly	R I
Dresser Systems, Inc Houston	Tex
Dynamic Components Corp Hornell	N Y
Electran Mfg Co Constant Voltage Co Div Chicago	Ill
Electrical Windings Inc Chicago	Ill
Electro-Mel Industries Inc Hazelhurst	Wis
Electro Networks Div Connrex Corp Caledonia	N Y
Electronic Components Corp Addison	Ill
Electronic Transformer Corp Paterson	N J
Electro Winders Co Inc Covina	Cal
Electro Windings & Components Inc Kenilworth	N J
Ensign Coil Co Chicago	Ill
Epco Products Inc Wallkill	N Y
Essex Int'l Inc Controls Div Stancor RBM Chicago	Ill
Ferranti, Ltd Lancashire	England
Ferrodyne Corp Venice	Cal
Florida Transformer Co, Transitron Sub De Leon Springs	Fla
Forest Electric Co Melrose Park	Ill
Foster Transformer Co Cincinnati	Ohio
Freed Transformer Co Inc Brooklyn	N Y
Fugle-Miller Labs Inc Kenilworth	N J
Fullmer Electronics Inc Northridge	Cal
Genisco Technology Corp Components, Genistron Divs Compton	Cal
Geo Space Corp Houston	Tex
Gotham Audio Corp New York	N Y
Grand Transformers Inc Grand Haven	Mich
Hammond Mfg Co Ltd Guelph	Ont
Heyboer Transformers Grand Haven	Mich
Hisonic Inc Olathe	Kan
Inductor Engineering Inc Lewes	Del
James Electronics Inc Chicago	Ill
JB Electronic Transformers Inc Chicago	Ill
Kapitol Magnetic Corp Chicago	Ill
Kenyon Electronics Inc Jersey City	N J
Kessler Co, Inc, Frank Long Island City	N Y
K G S Electronics Inc Pasadena	Cal
Kidde & Co Inc, Walter Belleville	N J
Lake Engineering Co Ltd Scarborough	Ont
Larago Electronics Mfgrs Inc Melbourne	Fla
Magnetic Circuit Elements Inc Monterey	Cal
Magnetic Engineering Corp Danbury	Conn
Magnetika Inc Venice	Cal
Merit Coil & Transformer Corp Hollywood	Fla
Merrimack Magnetics Corp Lowell	Mass
Meteor Transformer Mfg Co Detroit	Mich
Microtran Co Inc Valley Stream	N Y
Mid-West Coil & Transformer Co Chicago	Ill
National Coil Co Inc Douglas	Ariz
New England Transformer Co Inc Newton	Mass
New York Coil Co Inc Phoenixville	Pa
Nytronics Inc Berkeley Heights	N J
Pacific Instrument Co Oakland	cal
Pacific Transformer Co Redwood City	Cal
PCA Electronics Inc Sepulveda	Cal
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim	Cal
Phoenix Transformer Co Phoenix	Ariz
Plessey Co Ltd Ilford Essex	England
Polyphase Instrument Co Bridgeport	Pa
Precision Electronics Corp Marshfield	Mass
Precision Inc Minneapolis	Minn
Profile Electronics Inc Concord	N H
Prototype Transformer Corp East Orange	NJ
Qutronic Transformer Corp Oneonta	N Y
Radio Engineering Labs, Div DCA Long Island City	N Y
Raytheon Co, Microwave & Power Tube Div Waltham	Mass
Re-Al Electronics Co Waterbury	Conn
Sangamo Electric Co Springfield	Ill
Schott Co Inc, Oscar A Minneapolis	Minn
Scott Electronics Corp Orlando	Fla
Sennheiser Electronic Corp (NY) New York	N Y
Signal Transformer Co Inc Brooklyn	N Y
S K G Associates Inc Boston	Mass
Skyway Magnetics Inglewood	Cal
Solid State Electronics Corp Sepulveda	Cal
Southern Electronics Co Inc Greeneville	Tenn
Spectran Electronics Div Novatronics Inc Pompano Beach	Fla
Standard Industries Buena Park	Cal
Standard Winding Co Div Ovitron Corp Newburgh	N Y
Sterling Transformer Corp Brooklyn	N Y
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Thordarson Meissner Inc Mt Carmel	Ill
Tilton Electronics Corp Winnisquam	N H
Toroidal Components Co Pasadena	Cal
Toroid-Trans Electronics Co Inc Danbury	Conn
Torotel, Inc Grandview	Mo
Torwico Electronics, Inc Lakewood	N J
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Transformer Manufacturers Inc Chicago	Ill
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Triad Distributor Div Litton Industries Huntington	Ind
Triad Transformer Corp Venice	Cal
Triwec Transformer Co Chicago	Ill
United Transformer Co Div TRW Inc New York	N Y
Universal Toroid Coil Winding Inc Irvington	NJ
Utrad Corp Huntington	Ind
Valor Electronics Inc Robinson Elctn Comps Div Costa Mesa	Cal
Varo Inc, Static Power Div Plano	Tex
Virginia Electronics Co Inc Falls Church	Va
Wanlass Electric Co Santa Ana	Cal
Wescoil Co Inc Tinley Park	Ill
Whitewater Electronics Inc Whitewater	Wis
Woodward-Schumacher Electric Corp Chicago	Ill
Zaring Industries Inc Carmel	Ind

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HISONIC INC OLATHE	**KAN**
K G S ELECTRONICS INC PASADENA	**CAL**
NORTH HILLS ELECTRONICS INC GLEN COVE	**N Y**
NOTHELFER WINDING LABS INC TRENTON	**N J**
PCA ELECTRONICS INC SEPULVEDA	**CAL**
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC INC ANAHEIM	**CAL**
TOROTEL, INC GRANDVIEW	**MO**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N Y**
ACDC Electronics, Inc Burbank	Cal
ADC Products Minneapolis	Minn
Alcatel Paris 8eme	France
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Atlas Engineering Co, Inc Dorchester	Mass
Barwood Electronics, Inc Glendale	Cal
Basler Electric Co Highland	Ill
Beebe Instruments Inc No White Plains	N Y
Bourns Pacific Magnetic Corp Romoland	Cal
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CBC Industries Inc Philadelphia	Pa
Central Transformer Co Chicago	Ill
Chu Associates Inc Littleton	Mass
Coil Co of America Inc Northvale	N J
Coiltronics Inc Buena Park	Cal
Cycle Transformer Corp West Orange	N J
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Douglas Randall Inc Westerly	R I
Dresser Systems, Inc Houston	Tex
Dynamic Components Corp Hornell	N Y
Edko Electronics Inc Brooklyn	N Y
Electronic Transformer Corp Paterson	N J
Electro Winders Co Inc Covina	Cal
El-Rad Mfg Co Chicago	Ill
Epco Products Inc Wallkill	N Y
Ferranti, Ltd Lancashire	England
Ferrodyne Corp Venice	Cal
Fisher Engineering Inc Huntington	Ind
Freed Transformer Co Inc Brooklyn	N Y
Fullmer Electronics Inc Northridge	Cal
Genisco Technology Corp Components, Genistron Divs Compton	Cal
Hammond Mfg Co Ltd Guelph	Ont
Hisonic Inc Olathe	Kan
Inductor Engineering Inc Lewes	Del
JB Electronic Transformers Inc Chicago	Ill
Kapitol Magnetic Corp Chicago	Ill
Karkar Electronics Inc San Francisco	Cal
Kenyon Electronics Inc Jersey City	N J
K G S Electronics Inc Pasadena	Cal
Kidde & Co Inc, Walter Belleville	N J
Lake Engineering Co Ltd Scarborough	Ont
Larago Electronics Mfgrs Inc Melbourne	Fla
Light Electric Corp Newark	N J
Magnetic Engineering Corp Danbury	Conn
Magnetika Inc Venice	Cal
Merit Coil & Transformer Corp Hollywood	Fla
Merrimack Magnetics Corp Lowell	Mass
Microtran Co Inc Valley Stream	N Y
National Coil Co Inc Douglas	Ariz
New England Transformer Co Inc Newton	Mass
New York Coil Co Inc Phoenixville	Pa
North Hills Electronics Inc Glen Cove	N Y
Nothelfer Winding Labs Inc Trenton	N J
Pacific Transformer Co Redwood City	Cal
PCA Electronics Inc Sepulveda	Cal
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim	Cal
Phoenix Transformer Co Phoenix	Ariz
Polyphase Instrument Co Bridgeport	Pa
Precision Electronics Corp Marshfield	Mass
Precision Electronics Inc Amityville	N Y
Precision Inc Minneapolis	Minn
Prototype Transformer Corp East Orange	NJ
Qutronic Transformer Corp Oneonta	N Y
Raytheon Co, Microwave & Power Tube Div Waltham	Mass
Schott Co Inc, Oscar A Minneapolis	Minn
Scott Electronics Corp Orlando	Fla
Signal Transformer Co Inc Brooklyn	N Y
S K G Associates Inc Boston	Mass
Spectran Electronics Div Novatronics Inc Pompano Beach	Fla
Standard Industries Buena Park	Cal
Sterling Transformer Corp Brooklyn	N Y
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo	Japan
Tele Coil Co Inc Camden	N J
Thordarson Meissner Inc Mt Carmel	Ill
Tilton Electronics Corp Winnisquam	N H
Toroid-Trans Electronics Co Inc Danbury	Conn
Torotel, Inc Grandview	Mo
Transformer Design Inc of Milwaukee Milwaukee	Wis
Transformer Engineers San Gabriel	Cal
Transformer Manufacturers Inc Chicago	Ill
Transformer Technicians Inc Chicago	Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia	Pa
Triad Transformer Corp Venice	Cal
United Transformer Co Div TRW Inc New York	N Y
Universal Toroid Coil Winding Inc Irvington	NJ
Utrad Corp Huntington	Ind
Valor Electronics Inc Robinson Elctn Comps Div Costa Mesa	Cal
Varo Inc, Static Power Div Plano	Tex
Wanlass Electric Co Santa Ana	Cal
Wilmore Electronics Co Inc Durham	NC
Wintron Co Inc S El Monte	Cal
Woodward-Schumacher Electric Corp Chicago	Ill

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See **Converters—D-C To D-C**

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Kenyon Electronics Inc Jersey City	
New England Transformer Co Inc Newton	
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Thordarson Meissner Inc Mt Carmel	
Torotel, Inc Grandview	
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United Transformer Co Div TRW Inc New York	
Utrad Corp Huntington	
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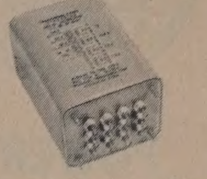
ADC Electronics, Inc Harbor City	
ADC Products Minneapolis	N
Ault, Inc Minneapolis	N
Basler Electric Co Highland	
Bush Transformer Div, Gladding-Keystone Corp Oneonta	
Central Transformer Co Chicago	
Chu Associates Inc Littleton	M
Coil Co of America Inc Northvale	
Cycle Transformer Corp West Orange	
Elasco-Eastern Inc Bloomfield	C
Electro-Pacific Inc Goleta	
Elgin Electronics Inc Erie	
Ferranti, Ltd Lancashire	Engl
Ferrodyne Corp Venice	
Field Electronics Inc Chatham	
Florida Transformer Co, Transitron Sub De Leon Springs	
Genisco Technology Corp Components, Genistron Divs Compton	
Geo Space Corp Houston	
Hammond Mfg Co Ltd Guelph	
Kepco Inc Flushing	N
Magnetic Devices Inc Lemon Grove	
Magnetika Inc Venice	
Merrimack Magnetics Corp Lowell	M
Microtran Co Inc Valley Stream	N
Mid-West Coil & Transformer Co Chicago	
New England Transformer Co Inc Newton	M
North Electric Co Galion	O
Phoenix Transformer Co Phoenix	A
Precision Transformer Anaheim	
Qutronic Transformer Corp Oneonta	N
Scott Electronics Corp Orlando	
Signal Transformer Co Inc Brooklyn	N
S K G Associates Inc Boston	M
Sterling Transformer Corp Brooklyn	N
Technical Apparatus Builders Div Power Alternating Direct Corp Brooklyn	N
Tranex Inc Mountain View	
Transformer Engineers San Gabriel	
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia	
Triad Distributor Div Litton Industries Huntington	
Triwec Transformer Co Chicago	
United Transformer Co Div TRW Inc New York	N
Varo Inc, Static Power Div Plano	T
Wanlass Electric Co Santa Ana	

TRANSFORMERS—HIGH VOLTAGE POWER SUPPLY

ASSOCIATED RESEARCH, INC CHICAGO	
AXEL ELECTRONICS, INC JAMAICA	**N**
DRESSEN-BARNES ELECTRONICS CORP PASADENA	**C**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV P**
INTERELECTRONICS CORP CONGERS	**N**
K G S ELECTRONICS INC PASADENA	**C**
LAMBDA ELECTRONICS CORP MELVILLE N Y	**ADV PG 6**
NOTHELFER WINDING LABS INC TRENTON N J	**ADV PG 6**
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC INC ANAHEIM CAL	**ADV PG 6**
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX	**N**
TECHNICAL APPARATUS BUILDERS DIV POWER ALTERNATING DIRECT CORP BROOKLYN N Y	**ADV PG 4**
TOROTEL, INC GRANDVIEW	
TRANSFORMER ELECTRONICS CO BOULDER COLO	**ADV PGS 2nd Cover & Facing P**
UNITED TRANSFORMER CO DIV TRW INC NEW YORK	**N**
UNIVERSAL VOLTRONICS CORP MOUNT KISCO	**N**
Abbott Transistor Labs, Inc Los Angeles	
Ace Coil & Electronics Corp. Metuchen	N
Acme Electric Corp Cuba	N
A C Transformer Corp Newark	N
ADC Electronics, Inc Harbor City	
ADC Products Minneapolis	Mi
Aikow Shoji Kaisha Ltd Osaka	Jap
American Rectifier Corp College Point	N
AMP Incorporated Harrisburg	
AMP Inc, Capitron Div Elizabethtown	
Arco S P A Milano	It
Associated Research, Inc Chicago	
Atlas Engineering Co, Inc Dorchester	Ma
Ault, Inc Minneapolis	Mi
Axel Electronics, Inc Jamaica	N
Ballastran Corp Fort Wayne	I
Basler Electric Co Highland	
Beckman Instruments Inc Fullerton,	
Bourns Pacific Magnetic Corp Romoland	

wn Engineering-A Teledyne Co Huntsville .... Ala
h Transformer Div, Gladding-Keystone Corp Oneonta .. NY
edonia Elctns & Transformer Div Connrex Corp
aledonia .... N Y
npbell/Taylor Inc Salem .... Mass
iadian Marconi Co Montreal 16 .... Quebec
ol Electronics Div Weeco Inc Martinsburg .... W Va
C Industries Inc Philadelphia .... Pa
tral Transformer Co Chicago Ill
Associates Inc Littleton .... Mass
T E Santa Margherita Ligure .... Italy
ist Coil Co Los Angeles .... Cal
Co of America Inc Northvale .... N J
tronics Inc Buena Park .... Cal
tinental X-Ray Corp Chicago Ill
tom Coil Co Zanesville .... Ohio
le Transformer Corp West Orange .... N J
tron Inc Mountain View .... Cal
Electronics Corp Mt Vernon .... N Y
tz Design Inc Belton .... Mo
ion Coil Co Inc Caledonia .... N Y
ssen-Barnes Electronics Corp Pasadena .... Cal
sser Systems, Inc Houston .... Tex
amic Components Corp Hornell .... N Y
co Electronics Inc Brooklyn .... N Y
ctran Mfg Co Constant Voltage Co Div Chicago Ill
ctro Networks Div Connrex Corp Caledonia .... N Y
ctronic Components Corp Addison Ill
ctronic Corp of America Los Angeles .... Cal
ctronic Devices Inc North Ridgeville .... Ohio
ctronic Transformer Corp Paterson .... N J
ctro Powerpacs Corp Cambridge .... Mass
ctro Technic Products Chicago Ill
ctro Winders Co Inc Covina .... Cal
in Electronics Inc Erie .... Pa
ergy Systems Inc Palo Alto .... Cal
co Products Inc Wallkill .... N Y
ex Int'l Inc Controls Div Stancor RBM Chicago Ill
ranti, Ltd Lancashire .... England
rodyne Corp Venice .... Cal
ld Electronics Inc Chatham .... N J
her Engineering Inc Huntington .... Ind
rida Transformer Co, Transitron Sub De Leon Springs .. Fla
est Electric Co Melrose Park Ill
ster Transformer Co Cincinnati .... Ohio
ed Transformer Co Inc Brooklyn .... N Y
i Electric Co Ltd Tokyo .... Japan
neral Electric Co, ECSO Schenectady .... N Y
Space Corp Houston .... Tex
afix Inc Albuquerque .... N Mex
and Transformers Inc Grand Haven .... Mich
ton Industries Inc Engineered Magnetics Div
Hawthorne .... Cal
mmond Mfg Co Ltd Guelph .... Ont
h Voltage Engineering Corp Burlington .... Mass
otronics Inc Brewster .... N Y
perion Industries Corp Watertown .... Mass
lustrial Gauging & Control Inc Norwalk .... Conn
erelectronics Corp Congers .... N Y
-E Imperial Corp Philadelphia .... Pa
fferson Electric Co Bellwood Ill
pitol Magnetic Corp Chicago Ill
nyon Electronics Inc Jersey City .... N J
S Electronics Inc Pasadena .... Cal
dde & Co Inc, Walter Belleville .... N J
mbda Electronics Corp Melville .... N Y
rago Electronics Mfgrs Inc Melbourne .... Fla
ht Electric Corp Newark .... N J
agnetic Engineering Corp Danbury .... Conn
agnetika Inc Venice .... Cal
atsunaga Mfg Co Ltd Tokyo .... Japan
atsushita Electric Industrial Co Ltd Osaka .... Japan
rit Coil & Transformer Corp Hollywood .... Fla
eteor Transformer Mfg Co Detroit .... Mich
crotran Co Inc Valley Stream .... N Y
L Associates Hudson .... NH
ller Co, J W Compton .... Cal
w England Transformer Co Inc Newton .... Mass
w York Coil Co Inc Phoenixville .... Pa
rth Electric Co Galion .... Ohio
rthern Engineering Div Baraboo .... Wis
thelfer Winding Labs Inc Trenton .... N J
tronics Inc Berkeley Heights .... N J
ega Electronique & Mecanique Vincennes, Seine .... France
borne Electric Co, Ltd Toronto 18 .... Ont
cific Instrument Co Oakland .... cal
cific Transformer Co Redwood City .... Cal
lomar Instrument Co Escondido .... Cal
erless Electrical Prods Div LTV Ling Altec Inc Anaheim . Cal
schel Instruments Inc Cape Coral .... Fla
oenix Transformer Co Phoenix .... Ariz
essey Co Ltd Ilford Essex .... England
lyphase Instrument Co Bridgeport .... Pa
rter H K Co Can Ltd Rexdale .... Ont
recision Electronics Corp Marshfield .... Mass
recision Electronics Inc Amityville .... N Y
recision Transformer Anaheim .... Cal
ototype Transformer Corp East Orange .... NJ
tronic Transformer Corp Oneonta .... N Y
adio Engineering Labs, Div DCA Long Island City .... N Y
amm Rectifier Co, Inc Bronx .... N Y
aytheon Co, Microwave & Power Tube Div Waltham .... Mass
e-Al Electronics Co Waterbury .... Conn
chott Co Inc, Oscar A Minneapolis .... Minn
cott Electronics Corp Orlando .... Fla
K G Associates Inc Boston .... Mass
orgel Electric Co Milwaukee .... Wis
parton Electronics, Div Sparton Corp Jackson .... Mich
patron Inc Alhambra .... Cal
pellman High Voltage Electronics Corp Bronx .... N Y
tandard Industries Buena Park .... Cal
terling Transformer Corp Brooklyn .... N Y
ylvania Elec Prods Inc Special Prod Div Danvers .... Mass
aylor-Winfield Corp Warren .... Ohio
echnical Apparatus Builders Div Power Alternating Direct
Corp Brooklyn .... N Y
ech Tran Corp Rancocas .... N J
hiem-Transrex Inc Torrance .... Cal
hordarson Meissner Inc Mt Carmel Ill
ilton Electronics Corp Winnisquam .... N H



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Tranex Inc Mountain View .... Cal
Transformer Design Inc of Milwaukee Milwaukee .... Wis
Transformer Electronics Co Boulder .... Colo
Transformer Engineers San Gabriel .... Cal
Transformer Manufacturers Inc Chicago Ill
Transformer Technicians Inc Chicago Ill
Triad Transformer Corp Venice .... Cal
Triwec Transformer Co Chicago Ill
United Transformer Co Div TRW Inc New York .... N Y
Universal Voltronics Corp Mount Kisco .... N Y
Utrad Corp Huntington .... Ind
Varo Inc, Static Power Div Plano .... Tex
VP Co Pasadena .... Cal
Wanlass Electric Co Santa Ana .... Cal
Wescoil Co Inc Tinley Park Ill
Westinghouse Electric Corp Distribution Transformer Div
Sharon .... Pa
Westinghouse Electric Corp, Spec Transf Div Greenville .... Pa
Wilmore Electronics Co Inc Durham .... NC

TRANSFORMERS—I-F

ALLEN AVIONICS INC,DIV A K ALLEN CO INC
MINEOLA .... N Y
DALE ELECTRONICS INC COLUMBUS .... NEB
DALE ELECTRONICS INC, SIOUX DIV YANKTON
S DAK .... ADV PG 138
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC
EAST AURORA .... N Y
KAPPA NETWORKS INC CARTERET .... N J
MITSUMI ELECTRIC CO LTD TOKYO JAPAN .... ADV PG 692
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
TOROTEL, INC GRANDVIEW .... MO
UNITED TRANSFORMER CO DIV TRW INC NEW YORK .... N Y
Ace Coil & Electronics Corp. Metuchen .... N J
AC Electronics Co Los Angeles .... Cal
ADC Products Minneapolis .... Minn
Aikow Shoji Kaisha Ltd Osaka .... Japan
Aladdin Electronics Div Aladdin Industries, Inc Nashville .. Tenn
ALA Industries Inc Harrison .... NY
Allen Avionics Inc,Div A K Allen Co Inc Mineola .... N Y
American Trans-Coil Corp Richmond Hill .... NY
Amk Electronics Co Inc Edison .... N J
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Astrolab Inc Linden .... N J
Atlas Coil Corp Ansonia .... Conn
Automatic Coil Co Div Designatronics, Inc Mineola .... N Y
Avco Electronics Div Cincinnati .... Ohio
Bicron Electronics Co Canaan .... Conn
Brown Engineering-A Teledyne Co Huntsville .... Ala
Bulova Watch Co Inc Elctns Div Frequency Control Prods
Woodside .... N Y
Caddell-Burns Mfg Co Inc Mineola .... N Y
Cambridge Thermionic Corp Cambridge .... Mass
Canadian Marconi Co Montreal 16 .... Quebec
Carol Electronics Div Weeco Inc Martinsburg .... W Va
Central Coil Co Inc Martinsville .... Ind
Coilcraft Inc Cary Ill
Component Specialties Corp Temple City .... Cal
Components Specialties Inc Freeport .... N Y
Computer Components Inc Jamaica .... N Y
Dale Electronics Inc Columbus .... Neb
Dale Electronics Inc, Sioux Div Yankton .... S Dak
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Dowa Trading Co Ltd Kobe .... Japan
Dresser Systems, Inc Houston .... Tex
Electronic Coil Co Burbank .... Cal
El-Rad Mfg Co Chicago Ill
Ferrodyne Corp Venice .... Cal
Fisher Engineering Inc Huntington .... Ind
Fugle-Miller Labs Inc Kenilworth .... N J
Fujitsu Ltd Tokyo .... Japan
General Coil Products Corp Brooklyn .... N Y
General Instrument Corp Automatic Mfg Div Newark .... N J
General Instrument Corp F W Sickles Div Chicopee .... Mass
General Instrument Europe SPA Milano .... Italy
General Instrument of Canada Ltd Waterloo .... Ont
Genisco Technology Corp Components, Genistron Divs
Compton .... Cal
Impectron Inc New York .... N Y
Inductor Engineering Inc Lewes .... Del
Kappa Networks Inc Carteret .... N J
Lake Engineering Co Ltd Scarborough .... Ont
Larago Electronics Mfgrs Inc Melbourne .... Fla
LTV-Electrosystems Inc Memcor Div Huntington .... Ind
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Merit Coil & Transformer Corp Hollywood .... Fla
Merrimack Magnetics Corp Lowell .... Mass
Millen Mfg Co Inc, James Malden .... Mass
Miller Co, J W Compton .... Cal
Mitsumi Electric Co Ltd Tokyo .... Japan
National Coil Co Inc Douglas .... Ariz
New England Transformer Co Inc Newton .... Mass
Nippon Ferrite Industrial Co Ltd Tokyo .... Japan
North Hills Electronics Inc Glen Cove .... N Y
Nytronics Inc Berkeley Heights .... N J
Orega Electronique & Mecanique Vincennes, Seine .... France
Piconics Inc North Billerica .... Mass
Precision Coil Mfg Co Santa Monica .... Cal
Radio Television Products Corp Scottsburg .... Ind
Ratel Inc Goleta .... Cal
Redman Electronics Corp Thompsonville .... Conn
Renco Electronics Inc Hicksville .... N Y
Sartron Inc Newberg .... Ore
Shigoto Industries Ltd New York .... N Y
Smallwood Ltd, S G Kitchener .... Ont
Sonus Corp Natick .... Mass
Standard Winding Co Div Ovitron Corp Newburgh .... N Y
Stanwyck Winding Div San Fernando Elec Mfg Co Inc
Newburgh .... N Y
Tele Coil Co Inc Camden .... N J
Thordarson Meissner Inc Mt Carmel Ill
Toko Inc Ohta-ku Tokyo .... Japan
Torotel, Inc Grandview .... Mo
Transformer Design Inc of Milwaukee Milwaukee .... Wis
Transformer Engineers San Gabriel .... Cal
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia .. Pa
United Transformer Co Div TRW Inc New York .... N Y
Vanguard Electronics Co Inglewood .... Cal
Virginia Electronics Co Inc Falls Church .... Va
Voltronics, Inc Chicago Ill
Wanlass Electric Co Santa Ana .... Cal
Weecoil Inc Sub Wells Electronics South Bend .... Ind
Whitewater Electronics Inc Whitewater .... Wis
Workman Electronic Products Inc Sarasota .... Fla

TRANSFORMERS—MATRIX

MITSUMI ELECTRIC CO LTD TOKYO .... JAPAN
TOROTEL, INC GRANDVIEW .... MO
TORWICO ELECTRONICS, INC LAKEWOOD .... N J
UNITED TRANSFORMER CO DIV TRW INC NEW YORK .. N Y
ADC Products Minneapolis .... Minn
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Astrolab Inc Linden .... N J
Atlas Engineering Co, Inc Dorchester .... Mass
Burnell/Nytronics Alpha .... NJ
Bush Transformer Div, Gladding-Keystone Corp Oneonta .. NY
Carol Electronics Div Weeco Inc Martinsburg .... W Va
CBC Industries Inc Philadelphia .... Pa
Central Coil Co Inc Martinsville .... Ind
Electro Winders Co Inc Covina .... Cal
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Freed Transformer Co Inc Brooklyn .... N Y
Kapitol Magnetic Corp Chicago Ill
Kenyon Electronics Inc Jersey City .... N J
Microtran Co Inc Valley Stream .... N Y
Mitsumi Electric Co Ltd Tokyo .... Japan
National Coil Co Inc Douglas .... Ariz
New England Transformer Co Inc Newton .... Mass
Nu-Devices Inc Norwalk .... Conn
Prototype Transformer Corp East Orange .... NJ
Thordarson Meissner Inc Mt Carmel Ill
Torotel, Inc Grandview .... Mo
Torwico Electronics, Inc Lakewood .... N J
Transformer Engineers San Gabriel .... Cal
United Transformer Co Div TRW Inc New York .... N Y
Utrad Corp Huntington .... Ind
Wanlass Electric Co Santa Ana .... Cal

TRANSFORMERS—MICROWAVE IMPEDANCE

MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
PREMIER MICROWAVE CORP PORT CHESTER .... NY
VARI-L CO INC STAMFORD .... CONN
ADC Products Minneapolis .... Minn
Aircom Inc Union .... N H
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Anaren Microwave Inc Syracuse .... N Y

Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Astrolab Inc Linden .... N J
Burnell/Nytronics Alpha .... NJ
Carol Electronics Div Weeco Inc Martinsburg .... W Va
Central Transformer Co Chicago Ill
Chu Associates Inc Littleton .... Mass
CP Electronics Inc Columbus .... Ind
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck .... N Y
Electronic Transformer Corp Paterson .... N J
Electro Winders Co Inc Covina .... Cal
Foster Transformer Co Cincinnati .... Ohio
Geo Space Corp Houston .... Tex
Herley Industries, Inc Syosset .... N Y
Karkar Electronics Inc San Francisco .... Cal
LDV Electro Science Industries Syracuse .... N Y
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Merrimac Research & Development Inc West Caldwell, ... N J
Meteor Transformer Mfg Co Detroit .... Mich
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Microwave Development Labs Inc Needham Heights .... Mass
Microwave Labs of America Brooklyn .... N Y
Microwave Products Inc Chatsworth .... Cal
Narda Microwave Corp Plainview .... N Y
New England Transformer Co Inc Newton .... Mass
Phelps Dodge Communications Co North Haven .... Conn
Premier Microwave Corp Port Chester .... NY
Prototype Transformer Corp East Orange .... NJ
Rantec Div Emerson Electric Co Calabasas .... Cal
Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
Sartron Inc Newberg .... Ore
Thordarson Meissner Inc Mt Carmel Ill
Transformer Engineers San Gabriel .... Cal
Transformer Technicians Inc Chicago Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia .... Pa
Utrad Corp Huntington .... Ind
Vari-L Co Inc Stamford .... Conn
Vector Industries A Teledyne Co Palo Alto .... Cal
Wanlass Electric Co Santa Ana .... Cal

TRANSFORMERS—POWER, CURRENT LIMITING

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
K G S ELECTRONICS INC PASADENA .... CAL
LAMBDA ELECTRONICS CORP MELVILLE .... N Y
NOTHELFER WINDING LABS INC TRENTON N J . ADV PG 669
PCA ELECTRONICS INC SEPULVEDA .... CAL
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC INC ANAHEIM .... CAL
TOROTEL, INC GRANDVIEW .... MO
UNITED TRANSFORMER CO DIV TRW INC NEW YORK N Y .... ADV PG 660
ACDC Electronics, Inc Burbank .... Cal
Acme Divac Industries Inc Hawthorne .... Cal
Acme Electric Corp Cuba .... N Y
A C Transformer Corp Newark .... N J
ADC Electronics, Inc Harbor City .... Cal
ADC Products Minneapolis .... Minn
American Rectifier Corp College Point .... N Y
AMP Incorporated Harrisburg .... Pa
Atlas Coil Corp Ansonia .... Conn
Atlas Engineering Co, Inc Dorchester .... Mass
Ault, Inc Minneapolis .... Minn
Ballastran Corp Fort Wayne .... Ind
Barwood Electronics, Inc Glendale .... Cal
Basler Electric Co Highland Ill
Bicron Electronics Co Canaan .... Conn
Bourns Pacific Magnetic Corp Romoland .... Cal
Brown Engineering-A Teledyne Co Huntsville .... Ala
Bullock Magnetics Corp Pomona .... Cal
Bush Transformer Div, Gladding-Keystone Corp Oneonta .... NY
Caledonia Elctns & Transformer Div Connrex Corp Caledonia .... N Y
Carol Electronics Div Weeco Inc Martinsburg .... W Va
CBC Industries Inc Philadelphia .... Pa
Central Transformer Co Chicago Ill
Chu Associates Inc Littleton .... Mass
Coast Coil Co Los Angeles .... Cal
Coil Co of America Inc Northvale .... N J
Coiltronics Inc Buena Park .... Cal
Component Specialties Corp Temple City .... Cal
Cycle Transformer Corp West Orange .... N J
Daytron Inc Mountain View .... Cal
Del Electronics Corp Mt Vernon .... N Y
Dietz Design Inc Belton .... Mo
Dinion Coil Co Inc Caledonia .... N Y
Dormeyer Industries Chicago Ill
Dresser Systems, Inc Houston .... Tex
Dynamic Components Corp Hornell .... N Y
Edko Electronics Inc Brooklyn .... N Y
E G & G Inc, Electronic Prods Div Boston .... Mass
Electran Mfg Co Constant Voltage Co Div Chicago Ill
Electrical Windings Inc Chicago Ill
Electronic Components Corp Addison Ill
Electronic Devices Inc North Ridgeville .... Ohio
Electronic Transformer Corp Paterson .... N J
Electro Technic Products Chicago Ill
Electro Winders Co Inc Covina .... Cal
Electro Windings & Components Inc Kenilworth .... N J
Elgin Electronics Inc Erie .... Pa
Energy Systems Inc Palo Alto .... Cal
Epco Products Inc Wallkill .... N Y
Ferranti, Ltd Lancashire .... England
Ferrodyne Corp Venice .... Cal
Field Electronics Inc Chatham .... N J
Fisher Engineering Inc Huntington .... Ind
Florida Transformer Co, Transitron Sub De Leon Springs .... Fla
Forest Electric Co Melrose Park Ill
Foster Transformer Co Cincinnati .... Ohio
Freed Transformer Co Inc Brooklyn .... N Y
Fuji Electric Co Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
Genisco Technology Corp Compton .... Cal
Genisco Technology Corp Components, Genistron Divs Compton ....
Geo Space Corp Houston ....
Green Rectifier Corp Fair Lawn ....
Gulton Industries Inc Engineered Magnetics Div Hawthorne ....
Hadley Co Inc, Robert M Los Angeles ....
Hammond Mfg Co Ltd Guelph ....
Hirst Electric Industries Ltd Crawley, Sussex .... Eng
Honeywell Resdntl & Coml Sls Divs Minneapolis ....
Jefferson Electric Co Bellwood ....
Jensen Mfg Div, The Muter Co Chicago ....
Kapitol Magnetic Corp Chicago ....
K G S Electronics Inc Pasadena ....
Kurz & Root Co Appleton ....
Lambda Electronics Corp Melville ....
Lear Siegler Inc Santa Monica ....
Light Electric Corp Newark ....
Magnetic Devices Inc Lemon Grove ....
Magnetic Engineering Corp Danbury C
Magnetics Inc Butler ....
Magnetika Inc Venice ....
Merit Coil & Transformer Corp Hollywood ....
Merrimack Magnetics Corp Lowell .... M
Meteor Transformer Mfg Co Detroit ....
Microtran Co Inc Valley Stream ....
MIL Associates Hudson ....
Neshaminy Electronic Corp Furlong ....
New England Transformer Co Inc Newton .... M
New York Coil Co Inc Phoenixville ....
North Electric Co Galion ....
Nothelfer Winding Labs Inc Trenton ....
Osborne Transformer Corp Detroit .... M
Pacific Instrument Co Oakland ....
Pacific Transformer Co Redwood City ....
Palomar Instrument Co Escondido ....
PCA Electronics Inc Sepulveda ....
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim ....
Permoflux Div American Comset Inc Glendale ....
Phoenix Transformer Co Phoenix ....
Polyphase Instrument Co Bridgeport ....
Precision Electronics Corp Marshfield .... M
Precision Electronics Inc Amityville ....
Precision Transformer Anaheim ....
Prototype Transformer Corp East Orange ....
Qutronic Transformer Corp Oneonta ....
Ramm Rectifier Co, Inc Bronx ....
Ramyr Mfg Co Buena Park ....
Re-Al Electronics Co Waterbury C
Sanford Miller Corp Brooklyn ....
Sartron Inc Newberg ....
Schauer Mfg Corp Cincinnati .... O
Schott Co Inc, Oscar A Minneapolis .... M
Scott Electronics Corp Orlando ....
Sierra Electric Div Sola Basic Ind Gardena ....
Signal Transformer Co Inc Brooklyn ....
S K G Associates Inc Boston .... M
Sola Electric Div Sola Basic Industries Elk Grove Village ....
Sorgel Electric Co Milwaukee ....
Standard Industries Buena Park ....
Sterling Transformer Corp Brooklyn ....
Sylvania Elec Prods Inc Special Prod Div Danvers .... M
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo .... Ja
Tech Tran Corp Rancocas ....
Thiem-Transrex Inc Torrance ....
Thordarson Meissner Inc Mt Carmel ....
Tilton Electronics Corp Winnisquam ....
Torotel, Inc Grandview ....
Touch-Plate Electro-Systems Inc Paramount ....
Tranex Inc Mountain View ....
Transformer Design Inc of Milwaukee Milwaukee ....
Transformer Engineers San Gabriel ....
Transformer Manufacturers Inc Chicago ....
Transformer Technicians Inc Chicago ....
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia ....
Triad Transformer Corp Venice ....
Triwec Transformer Co Chicago ....
United Transformer Co Div TRW Inc New York ....
Universal Toroid Coil Winding Inc Irvington ....
Utrad Corp Huntington ....
Varo Inc, Static Power Div Plano ....
VP Co Pasadena ....
Wanlass Electric Co Santa Ana ....
Westinghouse Electric Corp Distribution Transformer Div Sharon ....
Westinghouse Electric Corp, Spec Transf Div Greenville ....
Wintron Co Inc S El Monte ....
Woodward-Schumacher Electric Corp Chicago ....
Zaring Industries Inc Carmel ....

TRANSFORMERS—POWER, HIGH VOLTAGE POWER SUPPLY

AXEL ELECTRONICS, INC JAMAICA ....
DRESSEN-BARNES ELECTRONICS CORP PASADENA C
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV P
LAMBDA ELECTRONICS CORP MELVILLE N Y .. ADV PG
NOTHELFER WINDING LABS INC TRENTON N J . ADV PG
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC INC ANAHEIM CAL .... ADV PG
SPELLMAN HIGH VOLTAGE ELECTRONICS CORP BRONX ....
TOROTEL, INC GRANDVIEW ....
TRANSFORMER ELECTRONICS CO BOULDER COLO .... ADV PGS 2nd Cover & Facing P
UNITED TRANSFORMER CO DIV TRW INC NEW YORK ....
UNIVERSAL VOLTRONICS CORP MOUNT KISCO ....
Abbott Transistor Labs, Inc Los Angeles ....
Acme Electric Corp Cuba ....
A C Transformer Corp Newark ....
ADC Electronics, Inc Harbor City ....
ADC Products Minneapolis .... Mi
American Rectifier Corp College Point ....
AMP Incorporated Harrisburg ....
AMP Inc, Capitron Div Elizabethtown ....
Arnold Magnetics Corp Culver City ....
Atlas Coil Corp Ansonia .... Co

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as Engineering Co, Inc Dorchester	Mass
, Inc Minneapolis	Minn
l Electronics, Inc Jamaica	N Y
astran Corp Fort Wayne	Ind
wood Electronics, Inc Glendale	Cal
ler Electric Co Highland	Ill
kman Instruments Inc Fullerton,	Cal
on Electronics Co Canaan	Conn
rns Pacific Magnetic Corp Romoland	Cal
wn Engineering-A Teledyne Co Huntsville	Ala
h Transformer Div, Gladding-Keystone Corp Oneonta	NY
edonia Elctns & Transformer Div Connrex Corp aledonia	N Y
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ol Electronics Div Weeco Inc Martinsburg	W Va
C Industries Inc Philadelphia	Pa
tral Transformer Co Chicago	Ill
Associates Inc Littleton	Mass
T E Santa Margherita Ligure	Italy
st Coil Co Los Angeles	Cal
Co of America Inc Northvale	N J
tronics Inc Buena Park	Cal
tinental X-Ray Corp Chicago	Ill
tom Coil Co Zanesville	Ohio
le Transformer Corp West Orange	N J
tron Inc Mountain View	Cal
Electronics Corp Mt Vernon	N Y
tz Design Inc Belton	Mo
ion Coil Co Inc Caledonia	N Y
uglas Randall Inc Westerly	R I
ssen-Barnes Electronics Corp Pasadena	Cal
sser Systems, Inc Houston	Tex
namic Components Corp Hornell	N Y
ko Electronics Inc Brooklyn	N Y
ctran Mfg Co Constant Voltage Co Div Chicago	Ill
ctronic Components Corp Addison	Ill
ctronic Corp of America Los Angeles	Cal
ctronic Devices Inc North Ridgeville	Ohio
ctronic Transformer Corp Paterson	N J
ctro Powerpacs Corp Cambridge	Mass
ctro Winders Co Inc Covina	Cal
in Electronics Inc Erie	Pa
ergy Systems Inc Palo Alto	Cal
co Products Inc Wallkill	N Y
ex Int'l Inc Controls Div Stancor RBM Chicago	Ill
ranti, Ltd Lancashire	England
rodyne Corp Venice	Cal
rotran Electronics Co Inc New York	N Y
ld Electronics Inc Chatham	N J
her Engineering Inc Huntington	Ind
rida Transformer Co, Transitron Sub De Leon Springs	Fla
rest Electric Co Melrose Park	Ill
ster Transformer Co Cincinnati	Ohio
eed Transformer Co Inc Brooklyn	N Y
ji Electric Co Ltd Tokyo	Japan
neral Electric Co, ECSO Schenectady	N Y
nisco Technology Corp Components, Genistron Divs Compton	Cal
o Space Corp Houston	Tex
afix Inc Albuquerque	N Mex
lton Industries Inc Engineered Magnetics Div Hawthorne	Cal
dley Co Inc, Robert M Los Angeles	Cal
mmond Mfg Co Ltd Guelph	Ont
vi-Duty Electric Div Sola Basic Industries Goldsboro	N C
gh Voltage Engineering Corp Burlington	Mass
otronics Inc Brewster	N Y
egami Tsushinki Co Ltd Kawasaki, Kanagawa	Japan
dustrial Gauging & Control Inc Norwalk	Conn
-E Imperial Corp Philadelphia	Pa
fferson Electric Co Bellwood	Ill
pitol Magnetic Corp Chicago	Ill
nyon Electronics Inc Jersey City	N J
dde & Co Inc, Walter Belleville	N J
mbda Electronics Corp Melville	N Y
ght Electric Corp Newark	N J
agnetic Engineering Corp Danbury	Conn
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amm Rectifier Co, Inc Bronx	N Y
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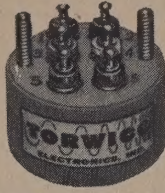

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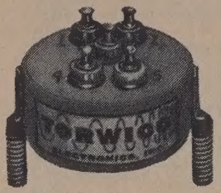

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CONDENSED PERFORMANCE DATA FOR STANDARD TINYMAX 400 CYCLE POWER TRANSFORMERS

VA Rating	Secondary Voltage-VRMS* (Choose any one voltage within limits listed)	O.D. ±1/32	Height ±1/32	Nominal Weight	Nominal Regulation	Nominal Temp. Rise MIL-T-27 (with no heat sink)
1.5	6.0 to 300	1"	15/32"	0.89 oz.	20%	13°C
1.5 (with electrostatic shield)	6.0 to 300	1"	19/32"	1.1 oz.	15%	13°C
3	6.0 to 300	1"	19/32"	1.1 oz.	15%	15°C
3 (with electrostatic shield)	6.0 to 300	1"	13/16"	1.5 oz.	10%	15°C
6	6.0 to 300	1"	13/16"	1.5 oz.	10%	18°C
6 (with electrostatic shield)	6.0 to 300	1"	1 1/16"	2 oz.	8%	18°C
9	6.0 to 300	1"	1 1/16"	2 oz.	8%	23°C
9 (with electrostatic shield)	6.0 to 300	1 3/8"	1 1/8"	3.5 oz.	7%	23°C
16	6.0 to 300	1 3/8"	1 1/8"	3.5 oz.	7%	25°C
25	6.0 to 300	1 3/8"	1 3/8"	4.5 oz.	6%	36°C
50	6.0 to 300	2"	1 1/2"	10 oz.	2.5%	26°C
75	10 to 300	2"	1 3/4"	12 oz.	2.5%	32°C
100	12 to 300	2 1/4"	2"	17 oz.	2%	35°C
250	26 to 300	2 7/8"	2"	27.5 oz.	1.5%	47°C

*with primary 115V, 400 cps

TINYMAX Power Transformers are hermetically sealed in drawn steel cases and shall meet all requirements of MIL-T-27; Military Designation: TF4S01YY.

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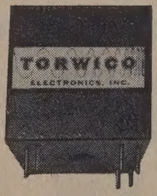

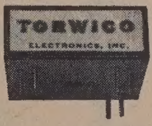

VA Rating	Secondary Voltage—VRMS* (Choose any one voltage within limits listed)	Dimensions ±1/32"	Nominal Weight	Nominal Regulation	Nominal Temp. Rise
1.5	6.0 to 300	1 1/16" square x 7/16" tall	0.75 oz.	20%	13°C
3	6.0 to 300	1 1/16" square x 9/16" tall	1.0 oz.	15%	15°C
6	6.0 to 300	1 1/16" square x 3/4" tall	1.25 oz.	10%	18°C
9	6.0 to 300	1 1/16" square x 1" tall	1.63 oz.	8%	23°C

*with primary 115V, 400 cps

TINYMAX Power Transformers for printed circuit applications are hermetically sealed in thermoset plastic and shall meet all requirements of MIL-T-27; Military Designation: TF5SX01ZZ.

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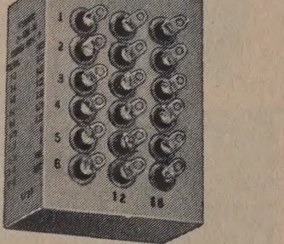

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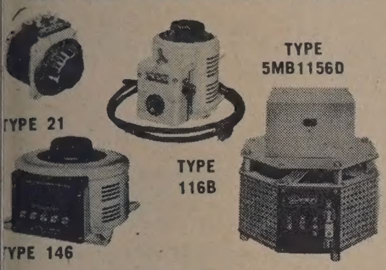

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		OUTPUT				
			CONSTANT CURRENT LOAD		CONSTANT IMPEDANCE LOAD*	
ASIC YPE	INPUT VOLTS	VOLTS	MAX. AMP.	MAX. KVA	MAX. AMP.	MAX. KVA
PF10‡	120	0-132	1	0.13	—	—
0B§	120	0-120/132	2.25†	0.27/0.30	3†	0.36
1	120	0-120/140	4.5	0.54/0.63	6.5	0.78
16B	120	0-120/140	10	1.2/1.4	13	1.6
17B‡	120	0-120	12	1.4	15	1.8
26	120	0-120/140	15	1.8/2.1	20	2.4
36B	120	0-120/140	22	2.6/3.1	28	3.4
46	120	0-120/140	30	3.6/4.2	35	4.2
156D	120	0-120/140	50	6.0/7.0	55	6.6
2	240	0-240/264	0.7†	0.17/0.13	0.9†	0.22
2	240	0-240/280	2.5	0.60/0.70	3.75	0.90
16B	240#	0-240/280	3.5	0.84/0.98	5	1.2
17B‡	240	0-240	5	1.2	7	1.7
26	240#	0-240/280	7.5	1.8/2.1	10	2.4
36B	240#	0-240/280	10	2.4/2.8	13	3.1
46	240#	0-240/280	15	3.6/4.2	19	4.6
256D	240#	0-240/280	28	6.7/7.8	28	6.7

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etal panel mounted rating. See published derating for brackets and onmetallic panels
an be connected for 120 volt input with 0-280 volt output. Max. current s for 0-150 volt output; see published curve for max. current at higher utput voltages.
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Federal Tool Engineering Co Div Arvin Inds Cedar Grove ...N J
Ferrodyne Corp Venice ....Cal
Field Electronics Inc Chatham ....N J
Florida Transformer Co, Transitron Sub De Leon Springs ..Fla
Forest Electric Co Melrose Park Ill
Forney Industries Inc Fort Collins ....Colo
Foster Transformer Co Cincinnati ....Ohio
Fuji Electric Co Ltd Tokyo ....Japan
Genisco Technology Corp Components, Genistron Divs
Compton ....Cal
Geo Space Corp Houston ....Tex
Hammond Mfg Co Ltd Guelph ....Ont
Heyboer Transformers Grand Haven ....Mich
Hirst Electric Industries Ltd Crawley, Sussex ....England
Jefferson Electric Co Bellwood Ill
Kapitol Magnetic Corp Chicago Ill
Light Electric Corp Newark ....N J
Magnetika Inc Venice ....Cal
Meteor Transformer Mfg Co Detroit ....Mich
Neshaminy Electronic Corp Furlong ....Pa
New England Transformer Co Inc Newton ....Mass
Nothelfer Winding Labs Inc Trenton ....N J
Phoenix Transformer Co Phoenix ....Ariz
Porter H K Co Can Ltd Rexdale ....Ont
Precision Electronics Corp Marshfield ....Mass
Prototype Transformer Corp East Orange ....NJ
Radio Engineering Labs, Div DCA Long Island City ......N Y
Ramm Rectifier Co, Inc Bronx ....N Y
Rapid Electric Co Inc Bronx ....N Y
Sartron Inc Newberg ....Ore
Sorgel Electric Co Milwaukee ....Wis
Sterling Transformer Corp Brooklyn ....N Y
Sylvania Elec Prods Inc Special Prod Div Danvers ......Mass
Taylor-Winfield Corp Warren ....Ohio
Tech Tran Corp Rancocas ....N J
Thiem-Transrex Inc Torrance ....Cal
Thordarson Meissner Inc Mt Carmel Ill
Torotel, Inc Grandview ....Mo
Tranex Inc Mountain View ....Cal
Transformer Design Inc of Milwaukee Milwaukee ....Wis
Transformer Engineers San Gabriel ....Cal
Transformer Manufacturers Inc Chicago Ill
United Transformer Co Div TRW Inc New York ....N Y
Wanlass Electric Co Santa Ana ....Cal
Wescoil Co Inc Tinley Park Ill
Westinghouse Electric Corp Distribution Transformer Div
Sharon ....Pa
Westinghouse Electric Corp, Spec Transf Div Greenville ....Pa
Wintron Co Inc S El Monte ....Cal

TRANSFORMERS—POWER, X-RAY

GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y ....ADV PG 7
NOTHELFER WINDING LABS INC TRENTON N J . ADV PG 669
UNITED TRANSFORMER CO DIV TRW INC NEW YORK ..N Y
Acme Electric Corp Cuba ....N Y
Atlas Coil Corp Ansonia ....Conn
Atlas Engineering Co, Inc Dorchester ....Mass
Ballastran Corp Fort Wayne ....Ind
Basler Electric Co Highland Ill
Brown Engineering-A Teledyne Co Huntsville ....Ala
Campbell/Taylor Inc Salem ....Mass
Central Transformer Co Chicago Ill
Chu Associates Inc Littleton ....Mass
Coil Co of America Inc Northvale ....N J
Coiltronics Inc Buena Park ....Cal
Continental X-Ray Corp Chicago Ill
Del Electronics Corp Mt Vernon ....N Y
Edko Electronics Inc Brooklyn ....N Y
Electronic Components Corp Addison Ill
Electronic Transformer Corp Paterson ....N J
Ferrodyne Corp Venice ....Cal
Fisher Engineering Inc Huntington ....Ind
Florida Transformer Co, Transitron Sub De Leon Springs ..Fla
Forest Electric Co Melrose Park Ill
Foster Transformer Co Cincinnati ....Ohio
General Electric Co, ECSO Schenectady ....N Y
Geo Space Corp Houston ....Tex
Hammond Mfg Co Ltd Guelph ....Ont
High Voltage Engineering Corp Burlington ....Mass
Industrial Gauging & Control Inc Norwalk ....Conn
Kapitol Magnetic Corp Chicago Ill
Keleket-CGR Corp Waltham ....Mass
Kenyon Electronics Inc Jersey City ....N J
Light Electric Corp Newark ....N J
Magnetic Engineering Corp Danbury ....Conn
New England Transformer Co Inc Newton ....Mass
Nothelfer Winding Labs Inc Trenton ....N J
Picker Nuclear White Plains ....N Y
Precision Electronics Inc Amityville ....N Y
Prototype Transformer Corp East Orange ....NJ
Radio Engineering Labs, Div DCA Long Island City ......N Y
Re-Al Electronics Co Waterbury ....Conn
Sorgel Electric Co Milwaukee ....Wis
Spatron Inc Alhambra ....Cal
Thiem-Transrex Inc Torrance ....Cal
Thordarson Meissner Inc Mt Carmel Ill
Transformer Design Inc of Milwaukee Milwaukee ....Wis
Transformer Engineers San Gabriel ....Cal
Transformer Manufacturers Inc Chicago Ill
Transformer Technicians Inc Chicago Ill
United Transformer Co Div TRW Inc New York ....N Y
Utrad Corp Huntington ....Ind
Wanlass Electric Co Santa Ana ....Cal
Westinghouse Electric Corp Distribution Transformer Div
Sharon ....Pa

TRANSFORMERS—PRINTED CIRCUIT TERMINALS

ALLEN AVIONICS INC,DIV A K ALLEN CO INC
MINEOLA ....N Y
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC
EAST AURORA ....N Y
DRESSEN-BARNES ELECTRONICS CORP PASADENA ...CAL
HISONIC INC OLATHE ....KAN
K G S ELECTRONICS INC PASADENA ....CAL
PCA ELECTRONICS INC SEPULVEDA ....CAL
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC IN
ANAHEIM ....
TOROTEL, INC GRANDVIEW ....
TORWICO ELECTRONICS, INC LAKEWOOD N J . ADV P
TRANSFORMER ELECTRONICS CO BOULDER
COLO ....ADV PGS 2nd Cover & Facing
UNITED TRANSFORMER CO DIV TRW INC NEW YORK .
ACDC Electronics, Inc Burbank ....
AC Electronics Co Los Angeles ....
ADC Products Minneapolis ....
Allen Avionics Inc,Div A K Allen Co Inc Mineola ....
A M E C 45 Orleans ....F
Amk Electronics Co Inc Edison ....
Anzac-Waltham, Div Adams-Russell Waltham ....
Astrolab Inc Linden ....
Atlas Engineering Co, Inc Dorchester ....
Ballastran Corp Fort Wayne ....
Barwood Electronics, Inc Glendale ....
Basler Electric Co Highland ....
B & B Magnetics Co La Habra ....
Bicron Electronics Co Canaan ....
Bourns Pacific Magnetic Corp Romoland ....
Bronson Corp, Sub Kurz & Root Co Appleton ....
Brown Engineering-A Teledyne Co Huntsville ....
Bulova Watch Co Inc Elctns Div Frequency Control Prods
Woodside ....
Bush Transformer Div, Gladding-Keystone Corp Oneonta
Caddell-Burns Mfg Co Inc Mineola ....
Caledonia Elctns & Transformer Div Connrex Corp
Caledonia ....
Cambridge Thermionic Corp Cambridge ....
Carol Electronics Div Weeco Inc Martinsburg ....
CBC Industries Inc Philadelphia ....
Central Transformer Co Chicago ....
Chu Associates Inc Littleton ....
Coast Coil Co Los Angeles ....
Coil Co of America Inc Northvale ....
Coiltronics Inc Buena Park ....
Component Specialties Corp Temple City ....
CP Electronics Inc Columbus ....
Custom Coil Co Zanesville ....
Cycle Transformer Corp West Orange ....
DB Products Inc Pasadena ....
Delevan Electronics Div Amer Prec Indus Inc East Aurora
Dietz Design Inc Belton ....
Douglas Randall Inc Westerly ....
Dressen-Barnes Electronics Corp Pasadena ....
Dresser Systems, Inc Houston ....
Dynamic Components Corp Hornell ....
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Electrical Windings Inc Chicago ....
Electronic Components Corp Addison ....
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Electro Winders Co Inc Covina ....
Electro Windings & Components Inc Kenilworth ....
EMP Electronics Inc Tempe ....
Essex Int'l Inc Controls Div Stancor RBM Chicago ......
Ferranti, Ltd Lancashire ....Eng
Ferrodyne Corp Venice ....
Ferrotran Electronics Co Inc New York ....
Florida Transformer Co, Transitron Sub De Leon Springs .
Foster Transformer Co Cincinnati ....
Freed Transformer Co Inc Brooklyn ....
Fugle-Miller Labs Inc Kenilworth ....
Fullmer Electronics Inc Northridge ....
General Instrument of Canada Ltd Waterloo ....
Geo Space Corp Houston ....
Grand Transformers Inc Grand Haven ....
Hadley Co Inc, Robert M Los Angeles ....
Hammond Mfg Co Ltd Guelph ....
Hisonic Inc Olathe ....
Inductor Engineering Inc Lewes ....
JB Electronic Transformers Inc Chicago ....
Kapitol Magnetic Corp Chicago ....
K G S Electronics Inc Pasadena ....
Kidde & Co Inc, Walter Belleville ....
Lake Engineering Co Ltd Scarborough ....
Larago Electronics Mfgrs Inc Melbourne ....
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Magnetic Circuit Elements Inc Monterey ....
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Merit Coil & Transformer Corp Hollywood ....
Microtran Co Inc Valley Stream ....
Mid-West Coil & Transformer Co Chicago ....
Miller Co, J W Compton ....
Montedoro Corp San Luis Obispo ....
National Coil Co Inc Douglas ....
Neshaminy Electronic Corp Furlong ....
New England Transformer Co Inc Newton ....
New York Coil Co Inc Phoenixville ....
Nytronics Inc Berkeley Heights ....
Pacific Instrument Co Oakland ....
Pacific Transformer Co Redwood City ....
PCA Electronics Inc Sepulveda ....
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim
Phoenix Transformer Co Phoenix ....
Plessey Co Ltd Ilford Essex ....Eng
Polyphase Instrument Co Bridgeport ....
Precision Coil Mfg Co Santa Monica ....
Precision Electronics Corp Marshfield ....
Profile Electronics Inc Concord ....
Prototype Transformer Corp East Orange ....
Pulse Engineering Inc Santa Clara ....
Qutronic Transformer Corp Oneonta ....
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Re-Al Electronics Co Waterbury ....
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Sartron Inc Newberg ....
Schott Co Inc, Oscar A Minneapolis ....
Scott Electronics Corp Orlando ....
Signal Transformer Co Inc Brooklyn ....
S K G Associates Inc Boston ....
Smallwood Ltd, S G Kitchener ....
Solid State Electronics Corp Sepulveda ....
Spectran Electronics Div Novatronics Inc Pompano Beach
Sprague Electric Co North Adams ....
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Distributor Div Litton Industries Huntington .... Ind
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Inc, Static Power Div Plano .... Tex
lass Electric Co Santa Ana .... Cal
coil Co Inc Tinley Park Ill
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ron Co Inc S El Monte .... Cal
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L ELECTRONICS, INC JAMAICA .... N Y
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E ELECTRONICS INC, SIOUX DIV YANKTON ..... S DAK
VAN ELECTRONICS DIV AMER PREC INDUS INC ST AURORA .... N Y
SSEN-BARNES ELECTRONICS CORP PASADENA ... CAL
ERAL ELECTRIC CO, ECSO SCHENECTADY Y .... ADV PG 7
NIC INC OLATHE .... KAN
PA NETWORKS INC CARTERET .... N J
S ELECTRONICS INC PASADENA .... CAL
N KOHDEN KOGYO CO LTD TOKYO .... 161 JAPAN
TH HILLS ELECTRONICS INC GLEN COVE .... N Y
ELECTRONICS INC SEPULVEDA .... CAL
LESS ELECTRICAL PRODS DIV LTV LING ALTEC INC NAHEIM CAL .... ADV PG 656
SCIENTIFIC DIV LITTON INDUSTRIES ACKSBURG .... VA
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Electronics, Inc Harbor City .... Cal
Products Minneapolis .... Minn
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Incorporated Harrisburg .... Pa
Inc, Capitron Div Elizabethtown .... Pa
ver Corp Lafayette .... Ind
c-Waltham, Div Adams-Russell Waltham .... Mass
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s Coil Corp Ansonia .... Conn
s Engineering Co, Inc Dorchester .... Mass
, Inc Minneapolis .... Minn
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astran Corp Fort Wayne .... Ind
wood Electronics, Inc Glendale .... Cal
Fuse, Inc Jersey City .... N J
on Electronics Co Canaan .... Conn
ns Pacific Magnetic Corp Romoland .... Cal
vn Engineering-A Teledyne Co Huntsville .... Ala
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Transformer Div, Gladding-Keystone Corp Oneonta . . NY
dell-Burns Mfg Co Inc Mineola .... N Y
donia Elctns & Transformer Div Connrex Corp aledonia .... N Y
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l Electronics Div Weeco Inc Martinsburg .... W Va
Industries Inc Philadelphia .... Pa
tral Transformer Co Chicago Ill
Associates Inc Littleton .... Mass
Co of America Inc Northvale .... N J
craft Inc Cary Ill
tronics Inc Buena Park .... Cal
ponents Corp Chicago Ill
ponent Specialties Corp Temple City .... Cal
temporary Electronics Inc Minneapolis .... Minn
e Transformer Corp West Orange .... N J
Electronics Inc, Sioux Div Yankton .... S Dak
a Delay Devices Clifton .... N J
tron Inc Mountain View .... Cal
Products Inc Pasadena .... Cal
Electronics Corp Mt Vernon .... N Y
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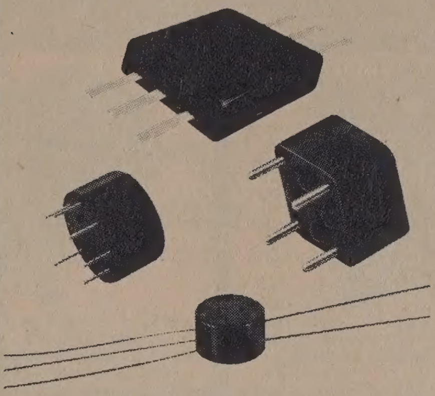

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Toko Inc Ohta-ku Tokyo . . . . . Japan
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Torotel, Inc Grandview . . . . . Mo
Torotron Co Div Struthers Electronics Corp Mamaroneck . N Y
Transformer Design Inc of Milwaukee Milwaukee . . . . . Wis
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Triad Transformer Corp Venice . . . . . Cal
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Utrad Corp Huntington . . . . . Ind
Valor Electronics Inc Robinson Elctn Comps Div Costa Mesa . . . . . Cal
Varo Inc, Static Power Div Plano . . . . . Tex
Virginia Electronics Co Inc Falls Church . . . . . Va
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VARI-L CO INC STAMFORD . . . . . CONN
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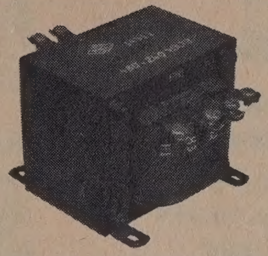
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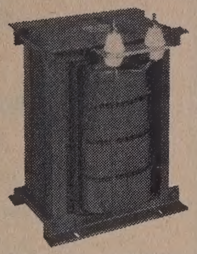
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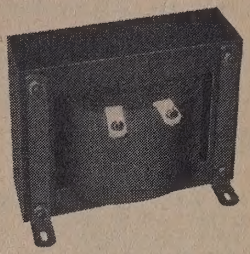
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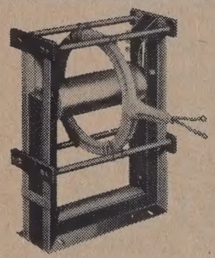
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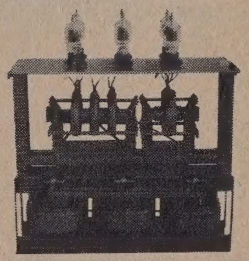
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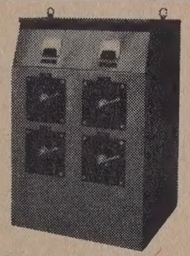
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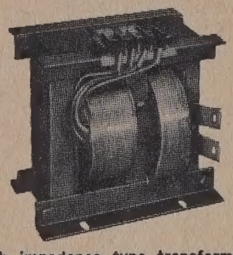
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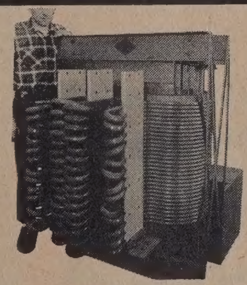
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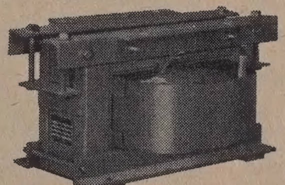
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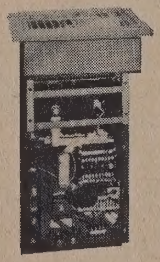
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EN AVIONICS INC,DIV A K ALLEN CO INC
INEOLA . . . . N Y
G LABS INC WESTBURY . . . . N Y
NETZ ENGINEERING LABS INC PLAINFIELD . . . . N J
ERAL ELECTRIC CO, ECSO SCHENECTADY
Y . . . . ADV PG 7
BDA ELECTRONICS CORP MELVILLE N Y . . ADV PG 671
TH ATLANTIC INDUSTRIES INC PLAINVIEW . . . . . . N Y
TH HILLS ELECTRONICS INC GLEN COVE . . . . N Y
ELECTRONICS INC SEPULVEDA . . . . CAL
OTEL, INC GRANDVIEW . . . . MO
WICO ELECTRONICS, INC LAKEWOOD . . . . N J
TED TRANSFORMER CO DIV TRW INC NEW YORK . . N Y
Electronics, Inc Harbor City . . . . Cal
Products Minneapolis . . . . Minn
n Avionics Inc,Div A K Allen Co Inc Mineola . . . . N Y
old Magnetics Corp Culver City . . . . Cal
rosystems Inc New Hyde Park . . . . N Y
as Coil Corp Ansonia . . . . Conn
as Engineering Co, Inc Dorchester . . . . Mass
lastran Corp Fort Wayne . . . . Ind
nson Corp, Sub Kurz & Root Co Appleton . . . . Wisc
ova Watch Co Inc Elctns Div Frequency Control Prods
Voodside . . . . N Y
h Transformer Div, Gladding-Keystone Corp Oneonta . . NY
g Labs Inc Westbury . . . . N Y
nadian Marconi Co Montreal 16 . . . . Quebec
C Industries Inc Philadelphia . . . . Pa
tral Transformer Co Chicago Ill
Co of America Inc Northvale . . . . N J
tronics Inc Buena Park . . . . Cal
lins Corp, G L Long Beach . . . . Cal
netz Engineering Labs Inc Plainfield . . . . N J
sser Systems, Inc Houston . . . . Tex
namic Components Corp Hornell . . . . N Y
ctran Mfg Co Constant Voltage Co Div Chicago Ill
ctronic Coils Inc Springfield . . . . Mass
ctronic Transformer Corp Paterson . . . . N J
ctro Scientific Industries Inc Portland . . . . Ore
rodyne Corp Venice . . . . Cal
her Engineering Inc Huntington . . . . Ind
rida Transformer Co, Transitron Sub De Leon Springs . . Fla
rest Electric Co Melrose Park Ill
ster Transformer Co Cincinnati . . . . Ohio
ed Transformer Co Inc Brooklyn . . . . N Y
gle-Miller Labs Inc Kenilworth . . . . N J
lmer Electronics Inc Northridge . . . . Cal
neral Electric Co, ECSO Schenectady . . . . N Y
nisco Technology Corp Components, Genistron Divs
Compton . . . . Cal
Space Corp Houston . . . . Tex
and Transformers Inc Grand Haven . . . . Mich
dley Co Inc, Robert M Los Angeles . . . . Cal
lmark Standards Inc Mount Vernon . . . . N Y
mmond Mfg Co Ltd Guelph . . . . Ont
lee Electronics Corp Valley Stream . . . . NY
pitol Magnetic Corp Chicago Ill
mbda Electronics Corp Melville . . . . N Y
ar Siegler Inc Santa Monica . . . . Cal
gnetic Circuit Elements Inc Monterey . . . . Cal
gnetico Inc East Northport . . . . N Y
gnetika Inc Venice . . . . Cal
rit Coil & Transformer Corp Hollywood . . . . Fla
crotran Co Inc Valley Stream . . . . N Y
tional Coil Co Inc Douglas . . . . Ariz
w England Transformer Co Inc Newton . . . . Mass
w York Coil Co Inc Phoenixville . . . . Pa
rth Atlantic Industries Inc Plainview . . . . N Y
rth Hills Electronics Inc Glen Cove . . . . N Y
vatronics Inc Pompano Beach . . . . Fla
timation, Inc Sun Valley . . . . Cal
borne Electric Co, Ltd Toronto 18 . . . . Ont
A Electronics Inc Sepulveda . . . . Cal
oenix Transformer Co Phoenix . . . . Ariz
ecision Electronics Corp Marshfield . . . . Mass
ecision Electronics Inc Amityville . . . . N Y
ototype Transformer Corp East Orange . . . . NJ
tronic Transformer Corp Oneonta . . . . N Y
rtron Inc Newberg . . . . Ore
ott Electronics Corp Orlando . . . . Fla
l-Rex Corp & Sub The Meaker Co Nutley . . . . N J
gnal Transformer Co Inc Brooklyn . . . . N Y
nger Co Instrumentation Div Bridgeport . . . . Conn
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• Open frame
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• Guaranteed 5 years material and labor

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TencoElectronics Div AndersonPower Prods Brighton . . . Mass
Thordarson Meissner Inc Mt Carmel Ill
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Topper Mfg Co Inc Great Neck . . . . NY
Torotel, Inc Grandview . . . . Mo
Torwico Electronics, Inc Lakewood . . . . N J
Transformer Design Inc of Milwaukee Milwaukee . . . . Wis
Transformer Manufacturers Inc Chicago Ill
Transformer Technicians Inc Chicago Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
Triad Transformer Corp Venice . . . . Cal
United Transformer Co Div TRW Inc New York . . . . N Y
Universal Toroid Coil Winding Inc Irvington . . . . NJ
Utrad Corp Huntington . . . . Ind
Wanlass Electric Co Santa Ana . . . . Cal
Westinghouse Electric Corp Distribution Transformer Div
  Sharon . . . . Pa

TRANSFORMERS—SPECIAL, PULSE

AXEL ELECTRONICS, INC JAMAICA . . . . N Y
CONTEMPORARY ELECTRONICS INC MINNEAPOLIS . . MINN
DALE ELECTRONICS INC, SIOUX DIV YANKTON . . . . S DAK
DELEVAN ELECTRONICS DIV AMER PREC INDUS INC
EAST AURORA . . . . N Y
DRESSEN-BARNES ELECTRONICS CORP PASADENA . . . CAL
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y . . . . ADV PG 7
HISONIC INC OLATHE . . . . KAN
KAPPA NETWORKS INC CARTERET . . . . N J
K G S ELECTRONICS INC PASADENA . . . . CAL
NIHON KOHDEN KOGYO CO LTD TOKYO . . . . . . 161 JAPAN
NORTH HILLS ELECTRONICS INC GLEN COVE . . . . N Y
PCA ELECTRONICS INC SEPULVEDA . . . . CAL
PEERLESS ELECTRICAL PRODS DIV LTV LING ALTEC INC
ANAHEIM CAL . . . . ADV PG 656
SIEMENS AMERICA INC NEW YORK . . . . N Y
TOHOKU METAL INDUSTRIES, LTD CHUO-KU TOKYO . JAPAN
TOROTEL, INC GRANDVIEW . . . . MO
UNITED TRANSFORMER CO DIV TRW INC NEW YORK . . N Y
VARI-L CO INC STAMFORD . . . . CONN
Ace Coil & Electronics Corp. Metuchen . . . . N J
ADC Electronics, Inc Harbor City . . . . Cal
ADC Products Minneapolis . . . . Minn
Advanced Kinetics, Inc Costa Mesa . . . . Cal
Aladdin Electronics Div Aladdin Industries, Inc Nashville . . Tenn
American Trans-Coil Corp Richmond Hill . . . . NY
AMP Incorporated Harrisburg . . . . Pa
AMP Inc, Capitron Div Elizabethtown . . . . Pa
Anzac-Waltham, Div Adams-Russell Waltham . . . . Mass
Atlas Coil Corp Ansonia . . . . Conn
Atlas Engineering Co, Inc Dorchester . . . . Mass
Ault, Inc Minneapolis . . . . Minn
Axel Electronics, Inc Jamaica . . . . N Y
Ballastran Corp Fort Wayne . . . . Ind
Barwood Electronics, Inc Glendale . . . . Cal
Bicron Electronics Co Canaan . . . . Conn
Bourns Pacific Magnetic Corp Romoland . . . . Cal
Brown Engineering-A Teledyne Co Huntsville . . . . Ala
Bulova Watch Co Inc Elctns Div Frequency Control Prods
  Woodside . . . . N Y
Burnell/Nytronics Alpha . . . . NJ
Bush Transformer Div, Gladding-Keystone Corp Oneonta . . NY
Caledonia Elctns & Transformer Div Connrex Corp
  Caledonia . . . . N Y
Carol Electronics Div Weeco Inc Martinsburg . . . . W Va
CBC Industries Inc Philadelphia . . . . Pa
Central Transformer Co Chicago Ill
Coast Coil Co Los Angeles . . . . Cal
Coil Co of America Inc Northvale . . . . N J
Coiltronics Inc Buena Park . . . . Cal
Component Specialties Corp Temple City . . . . Cal
Contemporary Electronics Inc Minneapolis . . . . Minn
Cycle Transformer Corp West Orange . . . . N J
Dale Electronics Inc, Sioux Div Yankton . . . . S Dak
Daytron Inc Mountain View . . . . Cal
DB Products Inc Pasadena . . . . Cal
Del Electronics Corp Mt Vernon . . . . N Y
Delevan Electronics Div Amer Prec Indus Inc East Aurora . N Y
Dinion Coil Co Inc Caledonia . . . . N Y
Dressen-Barnes Electronics Corp Pasadena . . . . Cal
Dresser Systems, Inc Houston . . . . Tex
Dynamic Components Corp Hornell . . . . N Y
Edko Electronics Inc Brooklyn . . . . N Y
E G & G Inc, Electronic Prods Div Boston . . . . Mass
E-H Research Labs Inc Oakland . . . . Cal
Electronic Corp of America Los Angeles . . . . Cal
Electronic Transformer Corp Paterson . . . . N J
El-Rad Mfg Co Chicago Ill
Energy Systems Inc Palo Alto . . . . Cal
Epco Products Inc Wallkill . . . . N Y
Ferranti, Ltd Lancashire . . . . England
Ferrodyne Corp Venice . . . . Cal
Fisher Engineering Inc Huntington . . . . Ind
Foster Transformer Co Cincinnati . . . . Ohio
Freed Transformer Co Inc Brooklyn . . . . N Y
Fugle-Miller Labs Inc Kenilworth . . . . N J
General Electric Co, ECSO Schenectady . . . . N Y
Hammond Mfg Co Ltd Guelph . . . . Ont
Hirst Electric Industries Ltd Crawley, Sussex . . . . England
Hisonic Inc Olathe . . . . Kan
Inductor Engineering Inc Lewes . . . . Del
Industrial Gauging & Control Inc Norwalk . . . . Conn
Kapitol Magnetic Corp Chicago Ill
Kappa Networks Inc Carteret . . . . N J
K G S Electronics Inc Pasadena . . . . Cal
Kidde & Co Inc, Walter Belleville . . . . N J
LAD Electro-Systems Inc Hicksville . . . . N Y
Larago Electronics Mfgrs Inc Melbourne . . . . Fla
Magnetico Inc East Northport . . . . N Y
Merit Coil & Transformer Corp Hollywood . . . . Fla
Microtran Co Inc Valley Stream . . . . N Y
Mid-West Coil & Transformer Co Chicago Ill
Modelectric Products Corp Asbury Park . . . . N J
Neshaminy Electronic Corp Furlong . . . . Pa
New England Transformer Co Inc Newton . . . . Mass
New York Coil Co Inc Phoenixville . . . . Pa
Nihon Kohden Kogyo Co Ltd Tokyo . . . . 161 Japan
North Hills Electronics Inc Glen Cove . . . . N Y
Nu-Devices Inc Norwalk . . . . Conn
Nytronics Inc Berkeley Heights . . . . N J
Osborne Electric Co, Ltd Toronto 18 . . . . Ont
Pacific Instrument Co Oakland . . . . cal
PCA Electronics Inc Sepulveda . . . . Cal
Pearson Electronics Inc Palo Alto . . . . Cal
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim . Cal
Plessey Co Ltd Ilford Essex . . . . England
Polyphase Instrument Co Bridgeport . . . . Pa
Precision Inc Minneapolis . . . . Minn
Precision Transformer Anaheim . . . . Cal
Preferred Electronics Inc Westfield . . . . Mass
Profile Electronics Inc Concord . . . . N H
Prototype Transformer Corp East Orange . . . . NJ
Pulse Engineering Inc Santa Clara . . . . Cal
Qutronic Transformer Corp Oneonta . . . . N Y
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Sage Electronics Corp Rochester . . . . NY
Sartron Inc Newberg . . . . Ore
Schaffner, Hans - Elektronische Bauteile Luterbach Sq . Switz
Schott Co Inc, Oscar A Minneapolis . . . . Minn
Scott Electronics Corp Orlando . . . . Fla
Siemens America Inc New York . . . . N Y
S K G Associates Inc Boston . . . . Mass
Skyway Magnetics Inglewood . . . . Cal
Sprague Electric Co North Adams . . . . Mass
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Sterling Transformer Corp Brooklyn . . . . N Y
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo . . . . Japan
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Tilton Electronics Corp Winnisquam . . . . N H
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo . . . . Japan
Toroidal Components Co Pasadena . . . . Cal
Torotel, Inc Grandview . . . . Mo
Transformer Design Inc of Milwaukee Milwaukee . . . . Wis
Transformer Engineers San Gabriel . . . . Cal
Transformer Technicians Inc Chicago Ill
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . . Pa
Triad Transformer Corp Venice . . . . Cal
20th Century Electronics Ltd
  New Addington Croydon Cr 90 BG . . . . England
United Transformer Co Div TRW Inc New York . . . . N Y
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Utrad Corp Huntington . . . . Ind
Vari-L Co Inc Stamford . . . . Conn
Virginia Electronics Co Inc Falls Church . . . . Va
Wanlass Electric Co Santa Ana . . . . Cal
Westinghouse Electric Corp, Spec Transf Div Greenville . . . Pa
Wilmore Electronics Co Inc Durham . . . . NC
Wintron Co Inc S El Monte . . . . Cal
Xenon Co Medford . . . . Mass
Zaring Industries Inc Carmel . . . . Ind

TRANSFORMERS—SPECIAL, TV, HORIZONTAL DEFLECTION

SIEMENS AMERICA INC NEW YORK .... N Y
Advance Ross Electronics Corp Chicago Ill
Amperex Electronic Corp, Component Div Hauppauge .... N Y
Arco S P A Milano .... Italy
Atlas Coil Corp Ansonia .... Conn
Beebe Instruments Inc No White Plains .... N Y
Coil Co of America Inc Northvale .... N J
El-Rad Mfg Co Chicago Ill
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Ferranti, Ltd Lancashire .... England
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
Florida Transformer Co, Transitron Sub De Leon Springs . . Fla
Foster Transformer Co Cincinnati .... Ohio
General Instrument Corp F W Sickles Div Chicopee ..... Mass
General Instrument of Canada Ltd Waterloo .... Ont
Inelco S p A Tavernerio .... Italy
Lake Engineering Co Ltd Scarborough .... Ont
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Merit Coil & Transformer Corp Hollywood .... Fla
New England Transformer Co Inc Newton .... Mass
Nytronics Inc Berkeley Heights .... N J
Penn Transformer Co Bellefonte .... PA
Plessey Co Ltd Ilford Essex .... England
Siemens America Inc New York .... N Y
Smallwood Ltd, S G Kitchener .... Ont
Tele Coil Co Inc Camden .... N J
Thordarson Meissner Inc Mt Carmel Ill
Toko Inc Ohta-ku Tokyo .... Japan
Transformer Engineers San Gabriel .... Cal
Transformer Technicians Inc Chicago Ill
Triad Distributor Div Litton Industries Huntington .... Ind
Utrad Corp Huntington .... Ind
Videocraft Mfg Co Chicago Ill
Wanlass Electric Co Santa Ana .... Cal
Wescoil Co Inc Tinley Park Ill
Whitewater Electronics Inc Whitewater .... Wis

TRANSFORMERS—SPECIAL, TV, VERTICAL DEFLECTION (DIFFERENTIAL)

Advance Ross Electronics Corp Chicago Ill
Arco S P A Milano .... Italy
Atlas Coil Corp Ansonia .... Conn
Brown Engineering-A Teledyne Co Huntsville .... Ala
Coil Co of America Inc Northvale .... N J
Columbia Research Labs Inc Woodlyn .... Pa
CP Electronics Inc Columbus .... Ind
Electronic Components Corp Addison Ill
Ensign Coil Co Chicago Ill
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
Florida Transformer Co, Transitron Sub De Leon Springs . . Fla
Foster Transformer Co Cincinnati .... Ohio
General Instrument of Canada Ltd Waterloo .... Ont
Lake Engineering Co Ltd Scarborough .... Ont
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Merit Coil & Transformer Corp Hollywood .... Fla
Mid-West Coil & Transformer Co Chicago Ill
New England Transformer Co Inc Newton .... Mass
Nytronics Inc Berkeley Heights .... N J
Orega Electronique & Mecanique Vincennes, Seine .... France
Plessey Co Ltd Ilford Essex .... England
Smallwood Ltd, S G Kitchener .... Ont
Tele Coil Co Inc Camden .... N J
Thordarson Meissner Inc Mt Carmel Ill
Toko Inc Ohta-ku Tokyo .... Japan
Transformer Manufacturers Inc Chicago Ill
Utrad Corp Huntington .... Ind
Wanlass Electric Co Santa Ana .... Cal
Woodward-Schumacher Electric Corp Chicago Ill

TRANSFORMERS—TOROIDAL

***See* Toroids**

TRANSFORMERS—TV IMPEDANCE MATCHING

DALE ELECTRONICS INC, SIOUX DIV YANKTON .... S DAK
KAPPA NETWORKS INC CARTERET .... N J
K G S ELECTRONICS INC PASADENA .... CAL
NIHON KOHDEN KOGYO CO LTD TOKYO JAPAN ADV PG 672
NORTH HILLS ELECTRONICS INC GLEN COVE .... N Y
TDK ELECTRONICS CO LTD CHIYODA-KU, TOKYO . . . JAPAN
UNITED TRANSFORMER CO DIV TRW INC NEW YORK . . N Y
Antennacraft Co Inc Burlington .... Iowa
Anzac-Waltham, Div Adams-Russell Waltham .... Mass
Arco S P A Milano .... Italy
Atlas Coil Corp Ansonia .... Conn
Atlas Engineering Co, Inc Dorchester .... Mass
B & B Magnetics Co La Habra .... Cal
Berkshire Transformer Corp Kent .... Conn
Blonder-Tongue Labs Inc Newark .... N J
Brown Engineering-A Teledyne Co Huntsville .... Ala
Caddell-Burns Mfg Co Inc Mineola .... N Y
Carol Electronics Div Weeco Inc Martinsburg .... W Va
CBC Industries Inc Philadelphia .... Pa
Coil Co of America Inc Northvale .... N J
Dale Electronics Inc, Sioux Div Yankton .... S Dak
Daytron Inc Mountain View .... Cal
Delta Electronics Ltd Rexdale .... Ont
Dinion Coil Co Inc Caledonia .... N Y
Dynamic Components Corp Hornell .... N Y
Electronic Components Corp Addison Ill
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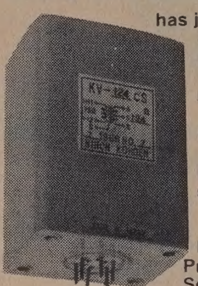
Ensign Coil Co Chicago Ill
Entron Inc Silver Spring .... Md
Essex Int'l Inc Controls Div Stancor RBM Chicago Ill
Finney Co Bedford .... Ohio

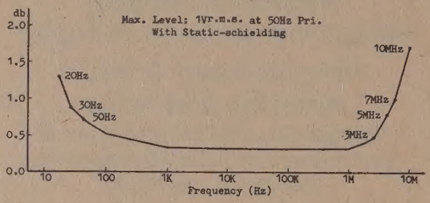
KV-Series Video Transformers

- Provide wide frequency band (flat up to 10MHz)
- Completely eliminate longitudinal current
- Have terminals hermetically sealed against weather

And a new advance—KV-124CS

has joined the series with the following specifications.
Frequency response:
20Hz~9MHz ±1.0db
Insertion loss:
0.35db at 15KHz
Max. level:
2.8V p-p input at 50Hz
Longitudinal current suppression:
70db or better at 15KHz
50db or better at 1MHz
Impedance:
Primary; 75Ω unbalanced
Secondary; 124Ω balanced





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Gavin Instruments Inc Somerville .... N J
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General Instrument Corp Automatic Mfg Div Newark ..... N J
Hi-Lo Mfg Corp Chicago Ill
JB Electronic Transformers Inc Chicago Ill
Kappa Networks Inc Carteret .... N J
K G S Electronics Inc Pasadena .... Cal
Merit Coil & Transformer Corp Hollywood .... Fla
Mid-West Coil & Transformer Co Chicago Ill
Miller Co, J W Compton .... Cal
Montedoro Corp San Luis Obispo .... Cal
New England Transformer Co Inc Newton .... Mass
Nihon Kohden Kogyo Co Ltd Tokyo .... 161 Japan
Nippon Ferrite Industrial Co Ltd Tokyo .... Japan
North Hills Electronics Inc Glen Cove .... N Y
Nytronics Inc Berkeley Heights .... N J
Orega Electronique & Mecanique Vincennes, Seine .... France
Osborne Electric Co, Ltd Toronto 18 .... Ont
Pacific Instrument Co Oakland .... cal
Precision Electronics Inc Amityville .... N Y
Precision Inc Minneapolis .... Minn
Prototype Transformer Corp East Orange .... NJ
RMS Electronics Inc Bronx .... N Y
Schrack Electrical Sales Corp New York .... N Y
Show Sound, Inc New York .... N Y
Spencer-Kennedy Labs Inc Boston .... Mass
Standard Winding Co Div Ovitron Corp Newburgh .... N Y
Sterling Transformer Corp Brooklyn .... N Y
Superex Electronics Corp Yonkers .... N Y
Tabuchi Electric Co Ltd Osaka .... Japan
TDK Electronics Co Ltd Chiyoda-ku, Tokyo .... Japan
Tele Coil Co Inc Camden .... N J
Thordarson Meissner Inc Mt Carmel Ill
Toko Inc Ohta-ku Tokyo .... Japan
Transformer Manufacturers Inc Chicago Ill
Transformer Technicians Inc Chicago Ill
Tricraft Products Corp Chicago Ill
United Transformer Co Div TRW Inc New York .... N Y
University Sound Div Ltv Ling Altec Inc Oklahoma City . . . Okla
Utrad Corp Huntington .... Ind
Vikoa Inc Hoboken .... N J
Wanlass Electric Co Santa Ana .... Cal
Wescoil Co Inc Tinley Park Ill
Whitewater Electronics Inc Whitewater .... Wis
Woodward-Schumacher Electric Corp Chicago Ill
Workman Electronic Products Inc Sarasota .... Fla

TRANSFORMERS—WIDEBAND

DELEVAN ELECTRONICS DIV AMER PREC INDUS INC EAST AURORA .... N Y
HISONIC INC OLATHE .... KAN
K G S ELECTRONICS INC PASADENA .... CAL
NIHON KOHDEN KOGYO CO LTD TOKYO ...... 161 JA
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UNITED TRANSFORMER CO DIV TRW INC NEW YORK . .
VARI-L CO INC STAMFORD CONN .... ADV PG
ADC Electronics, Inc Harbor City ....
ADC Products Minneapolis .... N
Anzac-Waltham, Div Adams-Russell Waltham .... M
Bayly Engineering Ltd Ajax ....
Bourns Pacific Magnetic Corp Romoland ....
Caddell-Burns Mfg Co Inc Mineola ....
Canadian Marconi Co Montreal 16 .... Que
Coilcraft Inc Cary ....
Delevan Electronics Div Amer Prec Indus Inc East Aurora .
Dietz Design Inc Belton ....
Dresser Systems, Inc Houston ....
Edwin Industries Corp Silver Spring ....
Electro Impulse Lab Inc Red Bank ....
Field Electronics Inc Chatham ....
Florida Transformer Co, Transitron Sub De Leon Springs . .
Fugle-Miller Labs Inc Kenilworth ....
Fullmer Electronics Inc Northridge ....
Hammond Mfg Co Ltd Guelph ....
Hisonic Inc Olathe ....
Instruments Inc San Diego ....
JB Electronic Transformers Inc Chicago ....
K G S Electronics Inc Pasadena ....
Magnetic Devices Inc Lemon Grove ....
Magnetico Inc East Northport ....
Marconi Co Ltd Chelmsford .... Engl
Merit Coil & Transformer Corp Hollywood ....
Microtran Co Inc Valley Stream ....
Montedoro Corp San Luis Obispo ....
Nihon Kohden Kogyo Co Ltd Tokyo .... 161 Ja
North Hills Electronics Inc Glen Cove ....
Nu-Devices Inc Norwalk C
Pacific Transformer Co Redwood City ....
Peerless Electrical Prods Div LTV Ling Altec Inc Anaheim .
Precision Coil Mfg Co Santa Monica ....
Pulse Engineering Inc Santa Clara ....
Qutronic Transformer Corp Oneonta ....
Radio Research Co Rockaway ....
Relcom Mountain View ....
Scott Electronics Corp Orlando ....
Siemens America Inc New York ....
S K G Associates Inc Boston .... M
Solid State Electronics Corp Sepulveda ....
Summit Engineering Corp Bozeman .... M
Tech-Ohm Electronics Inc Long Island City ....
Torotel, Inc Grandview ....
Torwico Electronics, Inc Lakewood ....
Transformer Design Inc of Milwaukee Milwaukee ....
Tresco Sci Devices Inc Tresco Transf Inc Div Philadelphia . .
United Transformer Co Div TRW Inc New York ....

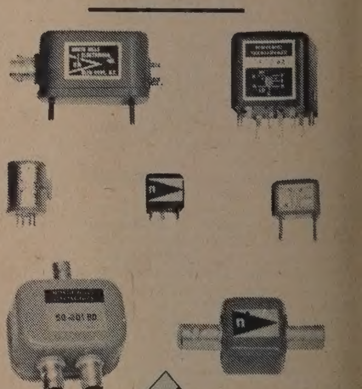
WIDEBAND

TRANSFORMERS,
BALUNS, HYBRIDS,
POWER ADDERS & DIVIDERS

20 Hz TO 400 MHz
SUBMINIATURE TO 10 KILOWATTS

Wide selection of standard designs available from stock in many case styles.

We do SPECIALS too!



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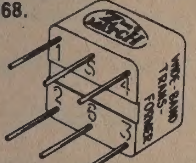
Z-MATCH

WIDEBAND TRANSFORMERS

The most widely used component for • **IMPEDANCE MATCHING** • **ANTENNA MATCHING** • **PHASE DETECTION** • **INPUT, OUTPUT, and INTERSTAGE COUPLING** • **FREQUENCY MULTIPLICATION** • **INSTRUMENT PROTECTION against DC-SURGE BURNOUT** • **VOLTAGE or CURRENT STEP-UP and STEP-DOWN.** Low Insertion Loss and VSWR. Power handling: 2-4 watts. Rugged, epoxy encapsulated package. See Bulletin 103.

We also make a stock line of **WIDEBAND HYBRID JUNCTION/ TRANSFORMERS** which are very useful for **DOUBLY BALANCED MIXERS** and for **VECTOR ADDITION and SUBTRACTION.** They are all DC isolated. Write for Bulletin 368.



ACTUAL SIZE

WIDEBAND TRANSFORMER TYPES AVAILABLE FROM STOCK

MODEL	DESCRIPTION	RANGE OF FREQUENCY RESPONSE = −1 dB, MAX.	PRICE each * 1-9 units
5012.5A	50 Ω unbal. / 12.5 Ω unbal.	100 KHz — 1 GHz	$20.80
5050A	50 Ω unbal. / 50 Ω unbal.	100 KHz — 1 GHz	12.90
5050B	50 Ω unbal. / 50 Ω unbal. reversing	100 KHz — 1 GHz	12.90
5050C	50 Ω unbal. / 50 Ω bal. symmetrical	50 KHz — 700 MHz	15.55
5050F	50 Ω unbal. / 50 Ω unbal. rev., DC-isol.	100 KHz — 500 MHz	15.55
5075B	50 Ω unbal. / 75 Ω unbal. reversing	40 KHz — 300 MHz	20.80
50200A	50 Ω unbal. / 200 Ω unbal.	250 KHz — 500 MHz	15.55
50200D	50 Ω unbal. / 200 Ω bal.	250 KHz — 500 MHz	15.55
50200E	50 Ω unbal. / 200 Ω bal. symmetrical	100 KHz — 1 GHz	20.80
50200F	50 Ω unbal. / 200 Ω unbal. rev., DC-isol.	200 KHz — 500 MHz	15.55
50200K	50 Ω bal. / 200 Ω bal. symmetrical	250 KHz — 1 GHz	20.80
50450A	50Ω unbal./450Ω unbal.	50 KHz-50 MHz	20.80
50600H	50 Ω unbal. / 600 Ω bal.	100 KHz — 100 MHz	20.80
7575B	75 Ω unbal. / 75 Ω unbal. reversing	150 KHz — 1 GHz	12.90
7575C	75 Ω unbal. / 75 Ω bal.	100 KHz — 1 GHz	15.55
75124H	75Ω unbal./124Ω bal. DC isol.	50 KHz-25 MHz	20.80
75300A	75 Ω unbal. / 300 Ω unbal.	250 KHz — 500 MHz	15.55
75300D	75 Ω unbal. / 300 Ω bal.	250 KHz — 500 MHz	15.55
75300E	75 Ω unbal. / 300 Ω bal. symmetrical	250 KHz — 900 MHz	20.80
75300K	75 Ω bal. / 300 Ω bal. symmetrical	400 KHz — 900 MHz	20.80
100100B	100 Ω unbal. / 100 Ω unbal. reversing	200 KHz — 1 GHz	12.90
100100C	100 Ω unbal. / 100 Ω bal.	100 KHz — 1 GHz	15.55

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RANSIENT RECORDERS

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RANSISTOR ANALYZERS

See **Testers—Transistor**

RANSISTORIZED EQUIPMENT

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RANSISTOR MANUFACTURING MACHINES

See **Machines—Diode & Transistor Manufacturing**

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ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
KMC Semiconductor Corp Long Valley . . . . N J
Lake Engineering Co Ltd Scarborough . . . . Ont
Lansdale Transistor & Electronics Inc Colmar . . . . Pa
La Radiotechnique Compelec Paris 11e . . . . France
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Microwave Semiconductor Corp Somerset . . . . N J
Motorola Semiconductor Products Inc Phoenix . . . . Ariz
MS Transistor Corp Sub Silicon Transistor Corp Elmhurst . N Y
Mullard Ltd London, WC 1 . . . . Eng
National Semiconductor Corp Santa Clara . . . . Cal
Nippon Electric Co Ltd Tokyo . . . . Japan
Philco-Ford Corp Washington . . . . D C
Pirgo Electronics Inc Farmingdale . . . . N Y
Radio Corp of America, Electronic Components Harrison . . N J
Semicoa City of Industry . . . . Cal
Semiconductor Products Inc Lawrence . . . . Mass
Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York . . . . N Y
Sensitron Inc Costa Mesa . . . . Cal
Shiba Electric Co Ltd Chiyoda-Ku Tokyo . . . . Japan
Silicon Transistor Corp Garden City . . . . NY
Slater Electric Inc Glen Cove . . . . N Y
Solid State Products Div Unitrode Corp Salem . . . . Mass
Solid State Scientific Corp Montgomery . . . . Pa
Solitron Devices Inc Tappan . . . . NY
Solitron Devices Inc Transistor Div Riviera Beach . . . . Fla
Standard Telephones & Cables Ltd London WC 2 . . . . England
Texas Instruments Incorporated Dallas . . . . Tex
Transitron Electronic Corp Wakefield . . . . Mass
Varian Palo Alto . . . . Cal
Walkirt Co Los Angeles . . . . Cal
Westinghouse Electric Corp, Semiconductor Div
Youngwood . . . . Pa
Workman Electronic Products Inc Sarasota . . . . Fla

TRANSISTORS—SWITCHING, GERMANIUM

DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO . . IND
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y . . . . ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO JAPAN . . . . ADV PG 675
SIEMENS AMERICA INC NEW YORK . . . . N Y
AMC Semiconductor Corp New York . . . . N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div
Slatersville . . . . R I
Ates Componenti Elettronici SpA Milano . . . . Italy
Bendix Corp Semiconductor Div Holmdel . . . . N J
Corvair Electronics New York . . . . N Y
Delco Radio Div General Motors Corp Kokomo . . . . Ind
Electronic Transistors Corp Flushing . . . . N Y
Fujitsu Ltd Tokyo . . . . Japan
General Electric Co, ECSO Schenectady . . . . N Y
General Instrument Corp, Semiconductor Prods Grp
Hicksville . . . . N Y
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japan
Industro Transistor Corp Long Island City . . . . N Y
International Diode Corp Jersey City . . . . N J
International Electronics Corp Melville . . . . NY
International Rectifier Semiconductor Div El Segundo . . . . Cal
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
KSC Semiconductor Corp Chelmsford . . . . Mass
Lansdale Transistor & Electronics Inc Colmar . . . . Pa
La Radiotechnique Compelec Paris 11e . . . . France
Motorola Semiconductor Products Inc Phoenix . . . . Ariz
MS Transistor Corp Sub Silicon Transistor Corp Elmhurst . N Y
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
NPC Electronics Canoga Park . . . . Cal
Oki Electric Industry Co Ltd Tokyo . . . . Japan

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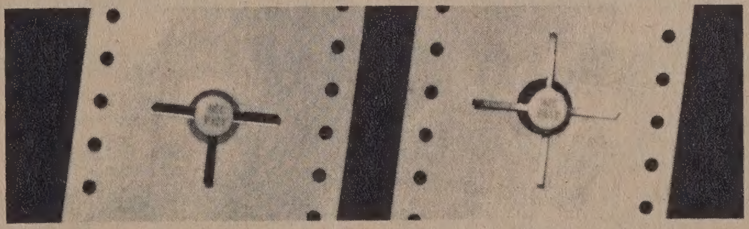

NEC MICROWAVE TRANSISTORS—enthusiastically approved by leading telecommunications and electronic data processing engineers. In complex communications systems, NEC Microwave Transistors provide consistently excellent performance under the most difficult ambient environmental conditions. Our type 2SC987A Microwave Transistor, which operates with NF 9bD at 4GHz, is well known. In this same group we also recommend our types 2SC989 and 2SC985A Microwave Transistors. Specification inquiries and consultations cordially invited, without obligation.

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Nippon Electric Company, Limited
P.O. BOX 1, TAKANAWA TOKYO, JAPAN

Philco-Ford Corp Washington .... D C
Radio Corp of America, Electronic Components Harrison .. N J
Semiconductor Products Inc Lawrence .... Mass
Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York .... N Y
Siemens America Inc New York .... N Y
Silicon Transistor Corp Garden City .... NY
Solitron Devices Inc Tappan .... NY
Solitron Devices Inc Transistor Div Riviera Beach .... Fla
Sprague Electric Co North Adams .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Telefunken Sales Corp Garden City .... N Y
Texas Instruments Incorporated Dallas .... Tex
Walkirt Co Los Angeles .... Cal
Workman Electronic Products Inc Sarasota .... Fla

TRANSISTORS—SWITCHING, SILICON

DELCO RADIO DIV GENERAL MOTORS CORP KOKOMO .. IND
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO JAPAN .... ADV PG 675
SIEMENS AMERICA INC NEW YORK .... N Y
Akers Electronics Horten .... Norway
AMC Semiconductor Corp New York .... N Y
Amelco Semiconductor, A Teledyne Co Mountain View .... Cal
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Ates Componenti Elettronici SpA Milano .... Italy
Avantek Inc Santa Clara .... Cal
Bendix Corp Semiconductor Div Holmdel .... N J
Continental Device Corp Hawthorne .... Cal
Corvair Electronics New York .... N Y
Crystalonics A Teledyne Co Cambridge .... Mass
Delco Radio Div General Motors Corp Kokomo .... Ind
Electronic Transistors Corp Flushing .... N Y
Emihus Microcomponents Ltd Hounslow Mdsx .... England
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View .... Cal
Ferranti Electric Inc Plainview .... N Y
Ferranti, Ltd Lancashire .... England
Fujitsu Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
General Instrument of Canada Ltd Waterloo .... Ont
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
Industro Transistor Corp Long Island City .... N Y
International Diode Corp Jersey City .... N J
International Electronics Corp Melville .... NY
International Rectifier Semiconductor Div El Segundo .... Cal
Intersil Inc Cupertino .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Semiconductors West Palm Beach .... Fla
Kyodo Electronic Labs Inc Sagamihara shi .... Kanagawa-Ken Jap
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Lansdale Transistor & Electronics Inc Colmar .... Pa
La Radiotechnique Compelec Paris 11e .... France
Marconi Co Ltd Chelmsford .... England
Motorola Semiconductor Products Inc Phoenix .... Ariz
MS Transistor Corp Sub Silicon Transistor Corp Elmhurst . N Y
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
NPC Electronics Canoga Park .... Cal
Oki Electric Industry Co Ltd Tokyo .... Japan
Philco-Ford Corp Washington .... D C
Pirgo Electronics Inc Farmingdale .... N Y
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Semiconductor Oper Mountain View .... Cal
Semicoa City of Industry .... Cal
Semiconductor Products Inc Lawrence .... Mass
Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York .... N Y
Siemens America Inc New York .... N Y
Silicon Transistor Corp Garden City .... NY
Slater Electric Inc Glen Cove .... N Y
Solid State Products Div Unitrode Corp Salem .... Mass
Solid State Scientific Corp Montgomery .... Pa
Solitron Devices Inc Tappan .... NY
Solitron Devices Inc Transistor Div Riviera Beach .... Fla
Sprague Electric Co North Adams .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Telefunken Sales Corp Garden City .... N Y
Texas Instruments Incorporated Dallas .... Tex
Transitron Electronic Corp Wakefield .... Mass
Union Carbide Electronics, Semiconductor Dept. San Diego .... Cal
Walkirt Co Los Angeles .... Cal
Westinghouse Electric Corp, Semiconductor Div Youngwood .... Pa
Workman Electronic Products Inc Sarasota .... Fla

TRANSISTORS—TETRODE

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
Corvair Electronics New York .... N Y
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View .... Cal
General Electric Co, ECSO Schenectady .... N Y
Motorola Semiconductor Products Inc Phoenix .... Ariz
National Semiconductor Corp Santa Clara .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York .... N Y
Solitron Devices Inc Tappan .... NY
Solitron Devices Inc Transistor Div Riviera Beach .... Fla
Texas Instruments Incorporated Dallas .... Tex
Transitron Electronic Corp Wakefield .... Mass

TRANSISTORS—UHF

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
HEWLETT-PACKARD PALO ALTO .... CAL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
AEI Semiconductors Ltd Lincoln .... U K
Amelco Semiconductor, A Teledyne Co Mountain View .... Cal
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Ates Componenti Elettronici SpA Milano .... Italy
Bendix Corp Semiconductor Div Holmdel .... N J
Continental Device Corp Hawthorne .... Cal
Corvair Electronics New York .... N Y
Electronic Transistors Corp Flushing .... N Y
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View .... Cal
Ferranti, Ltd Lancashire .... England
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
Hewlett-Packard Palo Alto .... Cal
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
International Rectifier Semiconductor Div El Segundo .... Cal
Intersil Inc Cupertino .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Semiconductors West Palm Beach .... Fla
KMC Semiconductor Corp Long Valley .... N J
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Lansdale Transistor & Electronics Inc Colmar .... Pa
La Radiotechnique Compelec Paris 11e .... France
Microwave Semiconductor Corp Somerset .... N J
Motorola Semiconductor Products Inc Phoenix .... Ariz
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
NPC Electronics Canoga Park .... Cal
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Semiconductor Oper Mountain View .... Cal
Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York .... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo .... Japan
Siemens America Inc New York .... N Y
Solid State Scientific Corp Montgomery .... Pa
Solitron Devices Inc Transistor Div Riviera Beach .... Fla
Sprague Electric Co North Adams .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Telefunken Sales Corp Garden City .... N Y
Texas Instruments Incorporated Dallas .... Tex
Union Carbide Electronics, Semiconductor Dept. San Diego .... Cal
Workman Electronic Products Inc Sarasota .... Fla

TRANSISTORS—VHF

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
AEI Semiconductors Ltd Lincoln .... U K
Amelco Semiconductor, A Teledyne Co Mountain View .... Cal
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Ates Componenti Elettronici SpA Milano .... Italy
Bendix Corp Semiconductor Div Holmdel .... N J
Continental Device Corp Hawthorne .... Cal
Corvair Electronics New York .... N Y
Electronic Transistors Corp Flushing .... N Y
Fairchild Semiconductor Div Fairchild Cam & Inst Corp Mountain View .... Cal
Ferranti, Ltd Lancashire .... England
General Electric Co, ECSO Schenectady .... N Y
General Instrument Corp, Semiconductor Prods Grp Hicksville .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
Intersil Inc Cupertino .... Cal
ITT Europe Inc Components Gp Brussels 1 .... Belgium
ITT Semiconductors West Palm Beach .... Fla
KMC Semiconductor Corp Long Valley .... N J
Lansdale Transistor & Electronics Inc Colmar .... Pa
La Radiotechnique Compelec Paris 11e .... France
Marconi Co Ltd Chelmsford .... England
Microwave Semiconductor Corp Somerset .... N J
Motorola Semiconductor Products Inc Phoenix .... Ariz
MS Transistor Corp Sub Silicon Transistor Corp Elmhurst . N Y
Mullard Ltd London, WC 1 .... Eng
National Semiconductor Corp Santa Clara .... Cal
Nippon Electric Co Ltd Tokyo .... Japan
NPC Electronics Canoga Park .... Cal
Oki Electric Industry Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Semiconductor Oper Mountain View .... Cal
Semicoa City of Industry .... Cal
Semiconductor Specialists Inc Chicago Ill
Semitronics Corp New York .... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo .... Japan
Siemens America Inc New York .... N Y
Silicon Transistor Corp Garden City .... NY
Solid State Scientific Corp Montgomery .... Pa
Solitron Devices Inc Transistor Div Riviera Beach .... Fla
Sprague Electric Co North Adams .... Mass
Standard Telephones & Cables Ltd London WC 2 .... England
Telefunken Sales Corp Garden City .... N Y
Texas Instruments Incorporated Dallas .... Tex
Union Carbide Electronics, Semiconductor Dept. San Diego .... Cal
Workman Electronic Products Inc Sarasota .... Fla

TRANSISTOR TESTERS

***See* Testers—Transistor**

TRANSISTOR-TYPE CONVERTERS—A-TO A-C

***See* Converters—Power**

TRANSITIONS—COAXIAL

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN ..
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ....
Aircom Inc Union ....
Airtec Inc Roselle ....
Alford Mfg Co Winchester .... N
Americon Corp Waltham .... N
Andrew Corp Orland Park ....
Arra, Inc Bay Shore ....
Aviation Electric Ltd St Laurent, Montreal ....
Bendix Corp, Microwave Devices Div Franklin ....
Coax Devices Chelsea .... N
Compagnie Generale de Metrologie Haute Savoie .... Fra
Diamond Antenna & Microwave Corp Winchester .... N
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck ....
Gombos Microwave Inc Clifton ....
Greenpar Engineering Ltd, Electronics Div Essex .... Engl
Guide Industries Inc Sun Valley ....
Herley Industries, Inc Syosset ....
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... Fra
Maury Microwave Corp Cucamonga ....
Microwave Associates Inc Burlington .... M
Microwave Cavity Labs Div KMS Indus Inc La Grange ....
Microwave Development Labs Inc Needham Heights .... M
Montedoro Corp San Luis Obispo ....
Narda Microwave Corp Plainview ....
Omega Laboratories Inc Rowley .... M
Phelps Dodge Communications Co North Haven C
Rantec Div Emerson Electric Co Calabasas ....
RLC Electronics Inc Port Chester ....
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck ....
Tek-Wave Inc Princeton ....
Trompeter Electronics Inc Chatsworth ....
Victor Microwave Inc Wakefield .... M
Waveline Inc West Caldwell ....

TRANSITIONS—WAVEGUIDE

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN ..
HEWLETT-PACKARD PALO ALTO ....
NIPPON ELECTRIC CO LTD TOKYO .... JAP
PREMIER MICROWAVE CORP PORT CHESTER ....
SYSTRON-DONNER CORP CONCORD ....
Aircom Inc Union ....
Airtec Inc Roselle ....
Airtron, Div of Litton Industries, Inc Morris Plains ....
Alford Mfg Co Winchester .... M
Alpha Industries Inc Newton Upper Falls .... M
Americon Corp Waltham .... M
Andrew Corp Orland Park ....
Arra, Inc Bay Shore ....
Aviation Electric Ltd St Laurent, Montreal ....
Bendix Corp, Microwave Devices Div Franklin ....
Coax Devices Chelsea .... M
Diamond Antenna & Microwave Corp Winchester .... M
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck ....
Gabriel Electronics Div Maremont Corp Saco .... Ma
General Microwave Corp Farmingdale ....
Gombos Microwave Inc Clifton ....
Guide Industries Inc Sun Valley ....
Herley Industries, Inc Syosset ....
Hewlett-Packard Palo Alto ....
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... Fra
Laminair, Inc Los Angeles ....
Maury Microwave Corp Cucamonga ....
Meridian Metalcraft Inc Whittier ....
Microwave Associates Inc Burlington .... M
Microwave Development Labs Inc Needham Heights .... M
Narda Microwave Corp Plainview ....
Neico Microwave Co Waltham .... M
Nippon Electric Co Ltd Tokyo .... Ja
Omega Laboratories Inc Rowley .... M
Phelps Dodge Communications Co North Haven C
Premier Microwave Corp Port Chester ....
Radiation Systems Inc McLean ....
Rantec Div Emerson Electric Co Calabasas ....
R F Systems Inc Cohasset .... M
Specialty Waveguide Corp Burlington .... M
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck ....
Systron-Donner Corp Concord ....
Victor Microwave Inc Wakefield .... M
Waveline Inc West Caldwell ....

TRANSLATORS—TELEMETERING

NIPPON ELECTRIC CO LTD TOKYO .... JAP
SUPERIOR ELECTRIC CO THE BRISTOL .... CO
Aeroscience Div Elpac Inc Atlanta ....
Astrodata Inc Anaheim ....
Beckman Instruments Inc Fullerton, ...
Bristol Div, American Chain & Cable Co Waterbury C
Cae Industries Ltd, Elctns Div Montreal 3 ....
Dynatronics Oper Elctns Div Gen Dynamics Corp Orlando ..
Eon Instrumentation Inc Van Nuys ....
Giannini-Voltex-Radex-Irvine Whittier ....
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... Fra
Landis & Gyr AG Zug .... Switzerl
Melabs Palo Alto ....

pon Electric Co Ltd Tokyo ... Japan
th Electric Co Galion ... Ohio
sey Co Ltd Ilford Essex ... England
del Engineering Corp Pasadena ... Cal
d State Electronics Corp Sepulveda ... Cal
ex Inc Philadelphia ... Pa
erior Electric Co The Bristol ... Conn

ANSMISSION LINES—RIGID ONTROL

***ee Also* Cable—Coaxial; Cables—Unshielded; trip Transmission Line; Waveguide**

RITSU ELECTRIC CO LTD TOKYO ... JAPAN
slie Corp Braintree ... Mass
com Inc Union ... N H
ren Microwave Inc Syracuse ... N Y
rew Corp Orland Park ... Ill
itsu Electric Co Ltd Tokyo ... Japan
umbia Wire Products Co Chicago ... Ill
glas Microwave Co Div Struthers Electronics Corp lamaroneck ... N Y
eral Microwave Corp Farmingdale ... N Y
ley Industries, Inc Syosset ... N Y
Physics Corp Burlington ... Mass
ury Microwave Corp Cucamonga ... Cal
S Corp Monrovia ... Cal
crowave Associates Inc Burlington ... Mass
rda Microwave Corp Plainview ... N Y
tional Wire & Cable Corp Los Angeles ... Cal
cific Electricord Co Gardena ... Cal
elps Dodge Communications Co North Haven ... Conn
tchester Instrument Corp Port Chester ... N Y
delin Inc Hightstown ... N J
dio Corp of America, Comml Elctn Prods Div Camden ... N J
ecialty Waveguide Corp Burlington ... Mass
uthers Electronics Corp Sub Struthers-Wells Mamaroneck ... N Y
rface Conduction Inc New York ... N Y
co (Technical Appliance Corp Sub Jerrold Corp) Sherburne ... NY
k-Wave Inc Princeton ... N J
aveline Inc West Caldwell ... N J

RANSMISSION TEST SETS

***See* Test Systems**

RANSMITTERS, BROADCAST—A-M

PPON ELECTRIC CO LTD TOKYO ... JAPAN
nerican Electronic Labs Inc Lansdale ... Pa
npar Div Adams-Russell Waltham ... Mass
arker & Williamson Div Sunshine Mining Co Bristol ... Pa
auer Broadcast Div Granger Assoc Palo Alto ... Cal
anadian Marconi Co Montreal 16 ... Quebec
C A Electronics Corp Gloucester ... NJ
ollins Radio Co Dallas ... Tex
ontinental Electronics Mfg Co Sub LTV Electrosystems Inc Dallas ... Tex
& M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
ates Radio Co Quincy ... Ill
anger Associates Palo Alto ... Cal
arris-Intertype Corp Cleveland ... Ohio
okusai Electric Co Ltd Tokyo-105 ... Japan
larconi Co Ltd Chelmsford ... England
larconi Div, English Electric Corp New York ... N Y
latsushita Electric Industrial Co Ltd Osaka ... Japan
ippon Electric Co Ltd Tokyo ... Japan
ki Electric Industry Co Ltd Tokyo ... Japan
& H Electronics Lafayette ... Ind
hilips Electronics Indus Ltd Elctn Equip Div Toronto 17 ... Ont
acal Electronics Ltd Bracknell Berks ... England
adio Corp of America, Comml Elctn Prods Div Camden ... N J
hiba Electric Co Ltd Woodside ... N Y
hiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
echnical Materiel Corp Mamaroneck ... N Y
elefunken Sales Corp Garden City ... N Y
homson-CSF 78 Versailles ... France
homson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y

RANSMITTERS, BROADCAST—F-M

IPPON ELECTRIC CO LTD TOKYO ... JAPAN
merican Electronic Labs Inc Lansdale ... Pa
arker & Williamson Div Sunshine Mining Co Bristol ... Pa
auer Broadcast Div Granger Assoc Palo Alto ... Cal
elar Electronics Lab Inc Upper Darby ... Pa
anadian Marconi Co Montreal 16 ... Quebec
C C A Electronics Corp Gloucester ... NJ
ollins Radio Co Dallas ... Tex
& M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
ates Radio Co Quincy ... Ill
ranger Associates Palo Alto ... Cal
arris-Intertype Corp Cleveland ... Ohio
okusai Electric Co Ltd Tokyo-105 ... Japan
larconi Co Ltd Chelmsford ... England
larconi Div, English Electric Corp New York ... N Y
larti Electronics Cleburne ... Tex
latsushita Electric Industrial Co Ltd Osaka ... Japan
lippon Electric Co Ltd Tokyo ... Japan
hilips Electronics Indus Ltd Elctn Equip Div Toronto 17 ... Ont
adio Corp of America, Comml Elctn Prods Div Camden ... N J
hiba Electric Co Ltd Woodside ... N Y
hiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
elefunken Sales Corp Garden City ... N Y
homson-CSF 78 Versailles ... France
homson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y

TRANSMITTERS, BROADCAST—F-M, SCA

NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
American Electronic Labs Inc Lansdale ... Pa
Bauer Broadcast Div Granger Assoc Palo Alto ... Cal
Belar Electronics Lab Inc Upper Darby ... Pa
C C A Electronics Corp Gloucester ... NJ
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Gates Radio Co Quincy ... Ill
Harris-Intertype Corp Cleveland ... Ohio
Marti Electronics Cleburne ... Tex
Moseley Associates Inc Goleta ... Cal
Nippon Electric Co Ltd Tokyo ... Japan
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 ... Ont
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y

TRANSMITTERS, BROADCAST—STEREO, F-M

NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
American Electronic Labs Inc Lansdale ... Pa
Ampex Corp Redwood City ... Cal
Bauer Broadcast Div Granger Assoc Palo Alto ... Cal
Belar Electronics Lab Inc Upper Darby ... Pa
Canadian Marconi Co Montreal 16 ... Quebec
C C A Electronics Corp Gloucester ... NJ
Collins Radio Co Dallas ... Tex
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Gates Radio Co Quincy ... Ill
Granger Associates Palo Alto ... Cal
Harris-Intertype Corp Cleveland ... Ohio
Kokusai Electric Co Ltd Tokyo-105 ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Moseley Associates Inc Goleta ... Cal
Nippon Electric Co Ltd Tokyo ... Japan
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
Shiba Electric Co Ltd Woodside ... N Y
Telefunken Sales Corp Garden City ... N Y
Thomson-CSF 78 Versailles ... France

TRANSMITTERS, BROADCAST—TV, COLOR

NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Ampex Corp Redwood City ... Cal
Canadian Marconi Co Montreal 16 ... Quebec
Electronics Missiles & Communications Inc White Haven ... Pa
Energy Systems Inc Palo Alto ... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Gates Radio Co Quincy ... Ill
Harris-Intertype Corp Cleveland ... Ohio
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Microwave Associates Inc Burlington ... Mass
Nippon Electric Co Ltd Tokyo ... Japan
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 ... Ont
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
Rohde & Schwarz Sales Co USA Inc Passaic ... N J
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Shiba Electric Co Ltd Woodside ... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Technical Materiel Corp Mamaroneck ... N Y
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y

TRANSMITTERS, BROADCAST—TV, MONACHROME

NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Alto Scientific Co, Inc Palo Alto ... Cal
Ampex Corp Redwood City ... Cal
Benco Television Assoc Div Redifon Can Ltd Rexdale ... Ont
Canadian Marconi Co Montreal 16 ... Quebec
Electronics Missiles & Communications Inc White Haven ... Pa
Energy Systems Inc Palo Alto ... Cal
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
Gates Radio Co Quincy ... Ill
Harris-Intertype Corp Cleveland ... Ohio
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
Kokusai Electric Co Ltd Tokyo-105 ... Japan
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Microwave Associates Inc Burlington ... Mass
Nippon Electric Co Ltd Tokyo ... Japan
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 ... Ont
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
Rohde & Schwarz Sales Co USA Inc Passaic ... N J
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Telefunken Sales Corp Garden City ... N Y
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y

TRANSMITTERS—FACSIMILE

***See* Facsimile Equipment**

TRANSMITTERS—JAMMING & COUNTERMEASURE

Alto Scientific Co, Inc Palo Alto ... Cal
Amecom Div Litton Industries College Park ... Md
American Astrionics Inc Palo Alto ... Cal
American Electronic Labs Inc Lansdale ... Pa
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Avco Electronics Div Cincinnati ... Ohio
C C A Electronics Corp Gloucester ... NJ
Cober Electronics Inc Stamford ... Conn
Conductron-Missouri St Charles ... Mo
Cosmos Industries Inc Brooklyn ... N Y
Data-Design Labs Cucamonga ... Cal
Electro-Data Inc Garland ... Tex
Energy Systems Inc Palo Alto ... Cal
Engineering Associates Dayton ... Ohio
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown ... Md
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp Paramus ... N J
General Atronics Corp, Military Elctns Div Philadelphia ... Pa
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Goodyear Aerospace Corp Akron ... Ohio
Instruments for Industry Inc Farmingdale ... N Y
Itek Corp Lexington ... Mass
ITT Gilfillan Inc Van Nuys ... Cal
Labtron Corp of Amer Div KDI Corp Dayton ... Ohio
Litton Industries, Electron Tube Div San Carlos ... Cal
Loral Electronic Systems, Div Loral Corp New York ... NY
Motorola, Govt Electronics Div Scottsdale ... Ariz
Philco-Ford Corp Washington ... D C
Raytheon Co, Government Marketing Lexington ... Mass
RCA, Defense Electronic Products Moorestown ... N J
Reflectone. Inc, Englewood Cliffs ... N J
Resdel Engineering Corp Pasadena ... Cal
R F Communications Inc Rochester ... N Y
Scope Inc Reston ... Va
Sierra Research Corp Buffalo ... N Y
Sylvania Electronic Systems Waltham ... Mass
Systems Research Labs Inc Dayton ... Ohio
Tasker Industries, Radar Div Van Nuys ... Cal
Technical Materiel Corp Mamaroneck ... N Y
Telephonics Div, Instrument Systems Corp Huntington ... NY
TRW Systems Group Redondo Beach ... Cal
Watkins-Johnson Co Palo Alto ... Cal
Wilcox Electric Co Kansas City ... Mo
Wiltek, Inc Wilton ... Conn

TRANSMITTERS—RADAR

***See* Radar**

TRANSMITTERS, RADIO COMMUNICATION—AIRCRAFT

ANRITSU ELECTRIC CO LTD TOKYO ... JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK ... N Y
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE ... ILL
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Advanced Energy Conversion Menlo Park ... Cal
Aerocom Miami ... Fla
Aircraft Components Inc Benton Harbor ... Mich
Aircraft Radio Corp Boonton ... N J
Allen Aircraft Radio Inc Elk Grove Village ... Ill
American Electronic Labs Inc Lansdale ... Pa
Anritsu Electric Co Ltd Tokyo ... Japan
Autonetics Div North American Rockwell Corp Anaheim ... Cal
Avco Electronics Div Cincinnati ... Ohio
Bendix Corp Avionics Div Fort Lauderdale ... Fla
Bendix Corp, Communications Div Towson ... Md
Brelonix Inc Seattle ... Wash
C C A Electronics Corp Gloucester ... NJ
Cie De Signaux Et D'Entreprises Electriques Paris 17eme ... France
Collins Radio Co Dallas ... Tex
Communication Associates Inc New Hyde Park ... N Y
Communications Co Coral Gables ... Fla
Cosmos Industries Inc Brooklyn ... N Y
Dayton Aircraft Products Inc Fort Lauderdale ... Fla
Dynair Electronics Inc San Diego ... Cal
Electronic Communications Inc Div NCR St Petersburg ... Fla
Emcee Electronics Inc New Castle ... Del
General Dynamics, Electronics Div Rochester ... N Y
General Instrument Corp Electronics Sys Div. Hicksville ... N Y
Harris-Intertype Corp Cleveland ... Ohio
ITT Aerospace, Optical Div Fort Wayne ... Ind
Kokusai Electric Co Ltd Tokyo-105 ... Japan
Labtron Corp of Amer Div KDI Corp Dayton ... Ohio
Linear Systems Inc Watsonville ... Cal
Loral Electronic Systems, Div Loral Corp New York ... NY
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Microwave Cavity Labs Div KMS Indus Inc La Grange ... Ill
Miles Reproducer Co Inc New York ... N Y
Motorola, Govt Electronics Div Scottsdale ... Ariz
Narco Avionics Div Narco Scientific Indus Fort Washington ... Pa
Nippon Electric Co Ltd Tokyo ... Japan
Philco-Ford Corp Washington ... D C
Plessey Co Ltd Ilford Essex ... England
Prod-El, Prodotti Elettronici Spa 20132 Milan ... Italy
RCA, Defense Electronic Products Moorestown ... N J
Resdel Engineering Corp Pasadena ... Cal
R F Communications Inc Rochester ... N Y
Robins Electronics La Mesa ... Cal
Sonex Inc Philadelphia ... Pa
Sparton Electronics, Div Sparton Corp Jackson ... Mich
Standard Telephones & Cables Ltd London WC 2 ... England
Summit Engineering Corp Bozeman ... Mont
Sylvania Electronic Systems Waltham ... Mass
Technical Materiel Corp Mamaroneck ... N Y
Telephonics Div, Instrument Systems Corp Huntington ... NY
Thomson-CSF 78 Versailles ... France
Transcom Electronics Inc La Mesa ... Cal

TRW Systems Group Redondo Beach	Cal
VP Co Pasadena	Cal
Wilcox Electric Co Kansas City	Mo

TRANSMITTERS, RADIO COMMUNICATION—AMATEUR

HEATH CO BENTON HARBOR	**MICH**
Alltronics-Howard Co Boston	Mass
American Geloso Electronics Inc New York	N Y
Automatic Radio Sales Inc Melrose	Mass
Collins Radio Co Dallas	Tex
Cosmos Industries Inc Brooklyn	N Y
Dayton Aircraft Products Inc Fort Lauderdale	Fla
Delta Electronics Ltd Rexdale	Ont
Dowa Trading Co Ltd Kobe	Japan
Drake Co, R L Miamisburg	Ohio
EICO Electronic Instrument Co Inc Brooklyn	NY
Galaxy Electronics Inc Council Bluffs	Iowa
Hammarlund Mfg Co Inc, The Mars Hill	N C
Harris-Intertype Corp Cleveland	Ohio
Heath Co Benton Harbor	Mich
ITT Aerospace, Optical Div Fort Wayne	Ind
Johnson Co, E F Waseca	Minn
Labtron Corp of Amer Div KDI Corp Dayton	Ohio
Linear Systems Inc Watsonville	Cal
Miles Reproducer Co Inc New York	N Y
Multronics Inc Rockville	Md
National Radio Co Inc Melrose	Mass
Solar Instrumentation Co South Lake Tahoe Cal	Cal
Summit Engineering Corp Bozeman	Mont
Technical Materiel Corp Mamaroneck	N Y
Weitermann Electronics Milwaukee	Wis

TRANSMITTERS, RADIO COMMUNICATION—CITIZENS' BAND

HEATH CO BENTON HARBOR	**MICH**
Autronics Corp Pasadena	Cal
Claricon Products Elizabeth	N J
Dowa Trading Co Ltd Kobe	Japan
EICO Electronic Instrument Co Inc Brooklyn	NY
Electronic Applications Co Pine Brook	N J
Electronic Homes Co New York	N Y
Fargo Co San Francisco	Cal
Fujitsu Ltd Tokyo	Japan
Heath Co Benton Harbor	Mich
Johnson Co, E F Waseca	Minn
Linear Systems Inc Watsonville	Cal
Matsushita Electric Industrial Co Ltd Osaka	Japan
Mobil Electronics Inc Anderson	Ind
Pearce-Simpson Inc Div Gladding Corp Miami	Fla
Regency Electronics Inc Indianapolis	Ind
Round Hill Assoc Inc New York	NY
Squires-Sanders Inc Liberty Corner	N J
States Electronics Corp, Bludworth Marine Div Linden	N J
Trott Electronics Inc Rochester	N Y

TRANSMITTERS, RADIO COMMUNICATION—F-M

ANRITSU ELECTRIC CO LTD TOKYO	**JAPAN**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
R H G ELECTRONICS LAB INC FARMINGDALE N Y	**ADV PG 503**
Advanced Communications Inc Sub Conductron Corp Chatsworth	Cal
Aeromarine Electronics, Inc San Diego	Cal
Alto Scientific Co, Inc Palo Alto	Cal
American Electronic Labs Inc Lansdale	Pa
Anritsu Electric Co Ltd Tokyo	Japan
Avco Electronics Div Cincinnati	Ohio
Aviation Electric Ltd St Laurent, Montreal	Que
Babcock Electronic Corp Costa Mesa	Cal
Bell & Howell Communications Co Waltham	Mass
Bendix Corp, Communications Div Towson	Md
Bergen Lab, Inc Paterson	N J
B F Electronics Solana Beach	Cal
Canadian Marconi Co Montreal 16	Quebec
Canadian Motorola Electronics Ltd Willowdale 425	Ont
Cardion Communications Woodbury	N Y
C C A Electronics Corp Gloucester	NJ
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	France
Claricon Products Elizabeth	N J
Collins Radio Co Dallas	Tex
Communications Co Coral Gables	Fla
Dowa Trading Co Ltd Kobe	Japan
Dumont Mobile Commun Div Hammarlund Anaheim	Cal
Electronic Communications Inc Div NCR St Petersburg	Fla
ELIT-Elettronica Italiana S r l 20151 Milan	Italy
Fargo Co San Francisco	Cal
Farinon Electric San Carlos	Cal
Gates Radio Co Quincy	Ill
General Dynamics, Electronics Div Rochester	N Y
General Electric Co, Mobile Radio Dept Lynchburg	Va
General Instrument Corp Electronics Sys Div. Hicksville	N Y
Giannini-Voltex-Radex-Irvine Whittier	Cal
Hammarlund Mfg Co Inc, The Mars Hill	N C
Harris-Intertype Corp Cleveland	Ohio
Kokusai Electric Co Ltd Tokyo-105	Japan
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Marti Electronics Cleburne	Tex
Micro Communications Co Denver	Colo
Miles Reproducer Co Inc New York	N Y
Moseley Associates Inc Goleta	Cal
Motorola Communications & Electronics Div Schaumburg	Ill
Motorola Communications & Electronics Inc Chicago	Ill
Motorola, Govt Electronics Div Scottsdale	Ariz
Nippon Electric Co Ltd Tokyo	Japan
Oki Electric Industry Co Ltd Tokyo	Japan
Parzen Research Elctn Prods Gr Ovitron Corp Westbury	N Y
Philco-Ford Corp Washington	D C
Plessey Co Ltd Ilford Essex	England
Racal Electronics Ltd Bracknell Berks	England
Radio Engineering Labs, Div DCA Long Island City	N Y
Radiomarine Corp Red Bank	N J
RCA, Defense Electronic Products Moorestown	N J
R H G Electronics Lab Inc Farmingdale	N Y
Robins Electronics La Mesa	Cal
Schjeldahl Co, G T Northfield	Minn
Sennheiser Electronic Corp (NY) New York	N Y
Simpson Electronics, Inc Miami	Fla
Sonex Inc Philadelphia	Pa
Summit Engineering Corp Bozeman	Mont
Sylvania Electronic Systems Waltham	Mass
Systems Engineering Ltd Grouse Creek	Utah
Teledyne Telemetry Co Los Angeles	Cal
Telefunken Sales Corp Garden City	N Y
Thomson-CSF 78 Versailles	France
Transcom Electronics Inc La Mesa	Cal
Union Switch & Signal Div Westinghouse Air Brake Co Pittsburgh	Pa
Ventron Electronics Corp, Controls/Matls Div Bradford	Pa

TRANSMITTERS, RADIO COMMUNICATION—MARINE (SHIP)

ANRITSU ELECTRIC CO LTD TOKYO	**JAPAN**
COMMUNICATION ASSOCIATES INC NEW HYDE PARK	**N Y**
HEATH CO BENTON HARBOR	**MICH**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Anritsu Electric Co Ltd Tokyo	Japan
Atlantic Instruments & Electronics, Inc Watertown	Mass
Brelonix Inc Seattle	Wash
Canadian Marconi Co Montreal 16	Quebec
C C A Electronics Corp Gloucester	NJ
CEC-Benmar Santa Ana	Cal
Collins Radio Co Dallas	Tex
Communication Associates Inc New Hyde Park	N Y
Communications Co Coral Gables	Fla
Dayton Aircraft Products Inc Fort Lauderdale	Fla
Decitron Electronics Corp Brooklyn	N Y
Electronic Communications Inc Div NCR St Petersburg	Fla
EMI Electronics Canada Ltd Dartmouth	N S Can
Gates Radio Co Quincy	Ill
General Coil Products Corp Brooklyn	N Y
General Dynamics, Electronics Div Rochester	N Y
General Instrument Corp Electronics Sys Div. Hicksville	N Y
Gray Radio Co Inc West Palm Beach	Fla
Hammarlund Mfg Co Inc, The Mars Hill	N C
Harris-Intertype Corp Cleveland	Ohio
Heath Co Benton Harbor	Mich
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa	Japan
Jetronic Industries Inc Philadelphia	Pa
Konigsberg Electronics Inc So San Francisco	Cal
Linear Systems Inc Watsonville	Cal
Marconi Co Ltd Chelmsford	England
Marconi Div, English Electric Corp New York	N Y
Miles Reproducer Co Inc New York	N Y
Motorola Communications & Electronics Div Schaumburg	Ill
Motorola Communications & Electronics Inc Chicago	Ill
Motorola, Govt Electronics Div Scottsdale	Ariz
Nippon Electric Co Ltd Tokyo	Japan
Oki Electric Industry Co Ltd Tokyo	Japan
Pearce-Simpson Inc Div Gladding Corp Miami	Fla
Plessey Co Ltd Ilford Essex	England
Racal Communications Inc Silver Spring	Md
Racal Electronics Ltd Bracknell Berks	England
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Radiomarine Corp Red Bank	N J
Raytheon Co, Marine Products Operation S San Francisco	Cal
RCA, Defense Electronic Products Moorestown	N J
R F Communications Inc Rochester	N Y
Servo-Tek Products Co, Marine Div Hawthorne	N J
Servo-Tek Products Co Hawthorne	N J
Simpson Electronics, Inc Miami	Fla
Standard Telephones & Cables Ltd London WC 2	England
States Electronics Corp, Bludworth Marine Div Linden	N J
Summit Engineering Corp Bozeman	Mont
Technical Materiel Corp Mamaroneck	N Y
Thomson-CSF 78 Versailles	France
VP Co Pasadena	Cal

TRANSMITTERS, RADIO COMMUNICATION—MOBILE

ANRITSU ELECTRIC CO LTD TOKYO	**JAPAN**
COMMUNICATION ASSOCIATES INC NEW HYDE PARK	**N Y**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Anritsu Electric Co Ltd Tokyo	Japan
Autonetics Div North American Rockwell Corp Anaheim	Cal
Avco Electronics Div Cincinnati	Ohio
Bell & Howell Communications Co Waltham	Mass
Bendix Corp, Communications Div Towson	Md
Brelonix Inc Seattle	Wash
Canadian Marconi Co Montreal 16	Quebec
Canadian Motorola Electronics Ltd Willowdale 425	Ont
Claricon Products Elizabeth	N J
Collins Radio Co Dallas	Tex
Communication Associates Inc New Hyde Park	N Y
Communications Co Coral Gables	Fla
Daltronics Inc Providence	R I
Dayton Aircraft Products Inc Fort Lauderdale	Fla
Dewey Corp, G C New York	N Y
Dumont Mobile Commun Div Hammarlund Anaheim	Cal
Electronic Communications Inc Div NCR St Petersburg	Fla
EMI Electronics Canada Ltd Dartmouth	N S Can
Farinon Electric San Carlos	Cal
Fujitsu Ltd Tokyo	Japan
Gates Radio Co Quincy	
General Dynamics, Electronics Div Rochester	
General Electric Co, Mobile Radio Dept Lynchburg	
General Instrument Corp Electronics Sys Div. Hicksville	
Ground/data Corp Fort Lauderdale	
Hammarlund Mfg Co Inc, The Mars Hill	
Harris-Intertype Corp Cleveland	
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa	Ja
Itek Corp Lexington	
Johnson Co, E F Waseca	
Kokusai Electric Co Ltd Tokyo-105	Ja
Linear Systems Inc Watsonville	
Marconi Co Ltd Chelmsford	Eng
Marconi Div, English Electric Corp New York	
Marti Electronics Cleburne	
Matsushita Communication Industrial Co Ltd Yokohama	Ja
Memcor Div LTV Electrosystems Inc Huntington	
Micro Communications Co Denver	
Mobil Electronics Inc Anderson	
Motorola Communications & Electronics Div Schaumburg	
Motorola Communications & Electronics Inc Chicago	
Motorola, Govt Electronics Div Scottsdale	
National Radio Co Inc Melrose	
Nippon Electric Co Ltd Tokyo	Ja
Oki Electric Industry Co Ltd Tokyo	Ja
Pearce-Simpson Inc Div Gladding Corp Miami	
Philco-Ford Corp Washington	
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17	
Racal Communications Inc Silver Spring	
Racal Electronics Ltd Bracknell Berks	Engl
Radio Corp of America, Comml Elctn Prods Div Camden	
Radio Engineering Labs, Div DCA Long Island City	
Raytheon Co, Marine Products Operation S San Francisco	
RCA, Defense Electronic Products Moorestown	
R F Communications Inc Rochester	
Robins Electronics La Mesa	
Standard Telephones & Cables Ltd London WC 2	Engl
Summit Engineering Corp Bozeman	M
Sylvania Electronic Systems Waltham	M
Symetrics Engineering Corp Satellite Beach	
Technical Materiel Corp Mamaroneck	
Telefunken Sales Corp Garden City	
Thomson-CSF 78 Versailles	Fra
Transcom Electronics Inc La Mesa	
Union Switch & Signal Div Westinghouse Air Brake Co Pittsburgh	
VP Co Pasadena	

TRANSMITTERS, RADIO COMMUNICATION—MULTIPLEX CARRIER

ANRITSU ELECTRIC CO LTD TOKYO	**JAP**
NIPPON ELECTRIC CO LTD TOKYO	**JAP**
R H G ELECTRONICS LAB INC FARMINGDALE N Y	**ADV PG**
TELE-SIGNAL CORP SUB SINGER CO WOODBURY	
Advanced Technology Corp Chambersburg	
Aeroscience Div Elpac Inc Atlanta	
Aerospace Research, Inc Boston	M
Alto Scientific Co, Inc Palo Alto	
Anritsu Electric Co Ltd Tokyo	Ja
A R F Products, Inc Raton	
Autonetics Div North American Rockwell Corp Anaheim	
Avco Electronics Div Cincinnati	
Canadian Motorola Electronics Ltd Willowdale 425	
Cardion Communications Woodbury	
C C A Electronics Corp Gloucester	
Cie De Signaux Et D'Entreprises Electriques Paris 17eme	Fra
Collins Radio Co Dallas	
Dorsett Electronics Inc Tulsa	
Electronic Communications Inc Div NCR St Petersburg	
EMI Electronics Canada Ltd Dartmouth	N S
Epsco Inc Westwood	M
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown	
Farinon Electric San Carlos	
Gates Radio Co Quincy	
General Atronics Corp, Military Elctns Div Philadelphia	
General Dynamics, Electronics Div Rochester	
General Electric Co Communication Products Dept Lynchburg	
General Instrument Corp Electronics Sys Div. Hicksville	
Harris-Intertype Corp Cleveland	
Kokusai Electric Co Ltd Tokyo-105	Ja
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	Fra
Lenkurt Electric Co Inc San Carlos	
Lynch Communication Systems San Francisco	
Marconi Co Ltd Chelmsford	Engl
Marconi Div, English Electric Corp New York	
Moseley Associates Inc Goleta	
Motorola, Govt Electronics Div Scottsdale	
Nippon Electric Co Ltd Tokyo	Ja
Oki Electric Industry Co Ltd Tokyo	Ja
Oki Electronics of America, Inc Fort Lauderdale	
Philco-Ford Corp Washington	
Racal Electronics Ltd Bracknell Berks	Engl
Radio Engineering Labs, Div DCA Long Island City	
Raytheon Co, Communications & Data Processing Oper Norwood	M
Raytheon Co, Government Marketing Lexington	M
RCA, Defense Electronic Products Moorestown	
R F Communications Inc Rochester	
R H G Electronics Lab Inc Farmingdale	
Sierra Research Corp Buffalo	
Sonex Inc Philadelphia	
Technical Materiel Corp Mamaroneck	
Telefunken Sales Corp Garden City	
Tele-Signal Corp Sub Singer Co Woodbury	
Thomson-CSF 78 Versailles	Fra
VP Co Pasadena	
Wilcox Electric Co Kansas City	

ANSMITTERS, RADIO OMMUNICATION—PORTABLE

RITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
MMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
TH CO BENTON HARBOR . . . . MICH
PON ELECTRIC CO LTD TOKYO . . . . JAPAN
oscience Div Elpac Inc Atlanta . . . . Ga
craft Components Inc Benton Harbor . . . . Mich
n Aircraft Radio Inc Elk Grove Village Ill
itsu Electric Co Ltd Tokyo . . . . Japan
onetics Div North American Rockwell Corp Anaheim . . . Cal
o Electronics Div Cincinnati . . . . Ohio
& Howell Communications Co Waltham . . . . Mass
dix Corp, Communications Div Towson . . . . Md
adian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
A Electronics Corp Gloucester . . . . NJ
lins Radio Co Dallas . . . . Tex
nmunication Associates Inc New Hyde Park . . . . N Y
nmunications Co Coral Gables . . . . Fla
smos Industries Inc Brooklyn . . . . N Y
tronics Inc Providence . . . . R I
yton Aircraft Products Inc Fort Lauderdale . . . . Fla
mont Mobile Commun Div Hammarlund Anaheim . . . . . . Cal
hair Electronics Inc San Diego . . . . Cal
ctronic Communications Inc Div NCR St Petersburg . . . Fla
jitsu Ltd Tokyo . . . . Japan
tes Radio Co Quincy Ill
neral Dynamics, Electronics Div Rochester . . . . N Y
neral Electric Co, Mobile Radio Dept Lynchburg . . . . Va
neral Instrument Corp Electronics Sys Div. Hicksville . . . N Y
ound/data Corp Fort Lauderdale . . . . Fla
mmarlund Mfg Co Inc, The Mars Hill . . . . N C
rris-Intertype Corp Cleveland . . . . Ohio
ath Co Benton Harbor . . . . Mich
gami Tsushinki Co Ltd Kawasaki, Kanagawa . . . . Japan
T Aerospace, Optical Div Fort Wayne . . . . Ind
hnson Co, E F Waseca . . . . Minn
kusai Electric Co Ltd Tokyo-105 . . . . Japan
near Systems Inc Watsonville . . . . Cal
arconi Co Ltd Chelmsford . . . . England
arti Electronics Cleburne . . . . Tex
atsushita Communication Industrial Co Ltd
Yokohama . . . . Japan
emcor Div LTV Electrosystems Inc Huntington . . . . Ind
cro Communications Co Denver . . . . Colo
crowave Associates Inc Burlington . . . . Mass
otorola Communications & Electronics Div Schaumburg . . Ill
otorola Communications & Electronics Inc Chicago Ill
otorola, Govt Electronics Div Scottsdale . . . . Ariz
ultitone Electronics Inc New York . . . . N Y
ational Radio Co Inc Melrose . . . . Mass
ppon Electric Co Ltd Tokyo . . . . Japan
i Electric Industry Co Ltd Tokyo . . . . Japan
i Electronics of America, Inc Fort Lauderdale . . . . Fla
arzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
ilco-Ford Corp Washington . . . . D C
acal Electronics Ltd Bracknell Berks . . . . England
A, Defense Electronic Products Moorestown . . . . N J
pco Inc Orlando . . . . Fla
F Communications Inc Rochester . . . . N Y
bins Electronics La Mesa . . . . Cal
chjeldahl Co, G T Northfield . . . . Minn
quires-Sanders Inc Liberty Corner . . . . N J
ylvania Electronic Systems Waltham . . . . Mass
ymetrics Engineering Corp Satellite Beach . . . . Fla
echnical Materiel Corp Mamaroneck . . . . N Y
elefunken Sales Corp Garden City . . . . N Y
homson-CSF 78 Versailles . . . . France
ranscom Electronics Inc La Mesa . . . . Cal
nion Switch & Signal Div Westinghouse Air Brake Co
Pittsburgh . . . . Pa

RANSMITTERS, RADIO COMMUNICATION—PULSE TIME MODULATION

IPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
erospace Research, Inc Boston . . . . Mass
utonetics Div North American Rockwell Corp Anaheim . . . Cal
ie De Signaux Et D'Entreprises Electriques
Paris 17eme . . . . France
ober Electronics Inc Stamford . . . . Conn
onductron-Missouri St Charles . . . . Mo
onic Corp San Diego . . . . Cal
ontrol Science Corp Alexandria . . . . Va
ayton Aircraft Products Inc Fort Lauderdale . . . . Fla
orsett Electronics Inc Tulsa . . . . Okla
ates Radio Co Quincy Ill
eneral Dynamics, Electronics Div Rochester . . . . N Y
eneral Instrument Corp Electronics Sys Div. Hicksville . . . N Y
iannini-Voltex-Radex-Irvine Whittier . . . . Cal
aboratoires De Marcoussis Ctr De Rsch De La CGE
91 Marcoussis . . . . France
abtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
AD Electro-Systems Inc Hicksville . . . . N Y
ippon Electric Co Ltd Tokyo . . . . Japan
hilco-Ford Corp Washington . . . . D C
aytheon Co, Communications & Data Processing Oper
Norwood . . . . Mass
CA, Defense Electronic Products Moorestown . . . . N J
F Communications Inc Rochester . . . . N Y
onex Inc Philadelphia . . . . Pa
homson-CSF 78 Versailles . . . . France
RW Systems Group Redondo Beach . . . . Cal
estinghouse Electric Corp, Relay & Instr Div Newark . . . N J

TRANSMITTERS, RADIO COMMUNICATION—RAILROAD

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Anritsu Electric Co Ltd Tokyo . . . . Japan
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
C C A Electronics Corp Gloucester . . . . NJ
Farinon Electric San Carlos . . . . Cal
Gates Radio Co Quincy Ill
General Electric Co, Mobile Radio Dept Lynchburg . . . . Va
Hammarlund Mfg Co Inc, The Mars Hill . . . . N C
Harris-Intertype Corp Cleveland . . . . Ohio
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Lenkurt Electric Co Inc San Carlos . . . . Cal
Lynch Communication Systems San Francisco . . . . Cal
Micro Communications Co Denver . . . . Colo
Motorola Communications & Electronics Div Schaumburg . . Ill
Motorola Communications & Electronics Inc Chicago Ill
Nippon Electric Co Ltd Tokyo . . . . Japan
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Union Switch & Signal Div Westinghouse Air Brake Co
Pittsburgh . . . . Pa

TRANSMITTERS, RADIO COMMUNICATION—SINGLE SIDEBAND

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
HEATH CO BENTON HARBOR . . . . MICH
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Advanced Communications Inc Sub Conductron Corp
Chatsworth . . . . Cal
Aerocom Miami . . . . Fla
Allen Aircraft Radio Inc Elk Grove Village Ill
American Electronic Labs Inc Lansdale . . . . Pa
Anritsu Electric Co Ltd Tokyo . . . . Japan
Aquadyne Inc East Falmouth . . . . Mass
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Avco Electronics Div Cincinnati . . . . Ohio
Bendix Corp, Communications Div Towson . . . . Md
Brelonix Inc Seattle . . . . Wash
Canadian Marconi Co Montreal 16 . . . . Quebec
C C A Electronics Corp Gloucester . . . . NJ
CEC-Benmar Santa Ana . . . . Cal
Collins Radio Co Dallas . . . . Tex
Communication Associates Inc New Hyde Park . . . . N Y
Communications Co Coral Gables . . . . Fla
Continental Electronics Mfg Co Sub LTV Electrosystems Inc
Dallas . . . . Tex
Cosmos Industries Inc Brooklyn . . . . N Y
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Delta Electronics Ltd Rexdale . . . . Ont
Drake Co, R L Miamisburg . . . . Ohio
EICO Electronic Instrument Co Inc Brooklyn . . . . NY
EMI Electronics Canada Ltd Dartmouth . . . . N S Can
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp
Paramus . . . . N J
Galaxy Electronics Inc Council Bluffs . . . . Iowa
Gates Radio Co Quincy Ill
General Atronics Corp, Military Elctns Div Philadelphia . . . . Pa
General Dynamics, Electronics Div Rochester . . . . N Y
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Granger Associates Palo Alto . . . . Cal
Ground/data Corp Fort Lauderdale . . . . Fla
Hammarlund Mfg Co Inc, The Mars Hill . . . . N C
Harris-Intertype Corp Cleveland . . . . Ohio
Heath Co Benton Harbor . . . . Mich
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa . . . . Japan
Johnson Co, E F Waseca . . . . Minn
Kahn Research Labs Inc Freeport . . . . N Y
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Konigsberg Electronics Inc So San Francisco . . . . Cal
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Linear Systems Inc Watsonville . . . . Cal
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
National Radio Co Inc Melrose . . . . Mass
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
P & H Electronics Lafayette . . . . Ind
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . . Ont
Plessey Co Ltd Ilford Essex . . . . England
Racal Communications Inc Silver Spring . . . . Md
Racal Electronics Ltd Bracknell Berks . . . . England
Radio Corp of America, Comml Elctn Prods Div Camden . . N J
Radiomarine Corp Red Bank . . . . N J
Raytheon Co, Communications & Data Processing Oper
Norwood . . . . Mass
RCA, Defense Electronic Products Moorestown . . . . N J
R F Communications Inc Rochester . . . . N Y
Robins Electronics La Mesa . . . . Cal
Summit Engineering Corp Bozeman . . . . Mont
Sylvania Electronic Systems Waltham . . . . Mass
Technical Materiel Corp Mamaroneck . . . . N Y
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Transcom Electronics Inc La Mesa . . . . Cal
TRW Systems Group Redondo Beach . . . . Cal
VP Co Pasadena . . . . Cal
Weitermann Electronics Milwaukee . . . . Wis
Wilcox Electric Co Kansas City . . . . Mo

TRANSMITTERS, RADIO COMMUNICATION—SINGLE SIDEBAND ADAPTER

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Ampar Div Adams-Russell Waltham . . . . Mass
Anritsu Electric Co Ltd Tokyo . . . . Japan
C C A Electronics Corp Gloucester . . . . NJ
Cosmos Industries Inc Brooklyn . . . . N Y
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Dero Research & Devel Corp Huntington . . . . N Y
Gates Radio Co Quincy Ill
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Kahn Research Labs Inc Freeport . . . . N Y
Marconi Co Ltd Chelmsford . . . . England
Nippon Electric Co Ltd Tokyo . . . . Japan
Racal Electronics Ltd Bracknell Berks . . . . England
R F Communications Inc Rochester . . . . N Y
Technical Materiel Corp Mamaroneck . . . . N Y
Thomson-CSF 78 Versailles . . . . France
VP Co Pasadena . . . . Cal
Wilcox Electric Co Kansas City . . . . Mo

TRANSMITTERS, RADIO COMMUNICATION—TELEMETERING

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
VEGA PRECISION LABS VIENNA . . . . VA
Advanced Communications Inc Sub Conductron Corp
Chatsworth . . . . Cal
Aeromarine Electronics, Inc San Diego . . . . Cal
Aeroscience Div Elpac Inc Atlanta . . . . Ga
Aerospace Research, Inc Boston . . . . Mass
Aerotherm Corp Mountain View . . . . Cal
Aircom Inc Union . . . . N H
Alto Scientific Co, Inc Palo Alto . . . . Cal
AMBAC Industries Inc Garden City . . . . N Y
American Electronic Labs Inc Lansdale . . . . Pa
Anritsu Electric Co Ltd Tokyo . . . . Japan
Aquadyne Inc East Falmouth . . . . Mass
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Avco Electronics Div Cincinnati . . . . Ohio
Babcock Electronic Corp Costa Mesa . . . . Cal
Ball Brothers Research Corp Boulder . . . . Colo
Beukers Labs Inc Hauppauge . . . . NY
B F Electronics Solana Beach . . . . Cal
B I F Unit General Signal Corp Providence . . . . R I
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
C C A Electronics Corp Gloucester . . . . NJ
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme . . . . France
Concord Control Inc Boston . . . . Mass
Conic Corp San Diego . . . . Cal
Control Science Corp Alexandria . . . . Va
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Dorsett Electronics Inc Tulsa . . . . Okla
Dresser Controls Houston . . . . Texas
Electrac Inc Anaheim . . . . Cal
Electro Marine Corp Falmouth . . . . Mass
Electronic Communications Inc Div NCR St Petersburg . . . Fla
EMR Div Weston Instruments Inc Princeton . . . . N J
EMR Telemetry Sarasota . . . . Fla
Energy Systems Inc Palo Alto . . . . Cal
Epsco Inc Westwood . . . . Mass
Fairchild Hiller Corp, Space & Elctns Sys Div Germantown . Md
Fujitsu Ltd Tokyo . . . . Japan
Gates Radio Co Quincy Ill
GCA Technology Div GCA Corp Bedford . . . . Mass
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Giannini-Voltex-Radex-Irvine Whittier . . . . Cal
Industrial Electronetics Corp Satellite Beach . . . . Fla
International Components Corp Asbury Park . . . . N J
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Lear Siegler Inc Santa Monica . . . . Cal
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Lynch Communication Systems San Francisco . . . . Cal
Marti Electronics Cleburne . . . . Tex
Matsushita Communication Industrial Co Ltd
Yokohama . . . . Japan
Micro Communications Co Denver . . . . Colo
Microdot, Inc South Pasadena . . . . Cal
Micromega Div Bunker-Ramo Corp Venice . . . . Cal
Microwave Associates Inc Burlington . . . . Mass
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Moore Associates Div Rucker Co San Carlos . . . . Cal
Moseley Associates Inc Goleta . . . . Cal
Nippon Electric Co Ltd Tokyo . . . . Japan
Noller Control Systems Richmond . . . . Cal
Philco-Ford Corp Washington . . . . D C
Raven Electronics Inc Burbank . . . . Cal
RCA, Defense Electronic Products Moorestown . . . . N J
Repco Inc Orlando . . . . Fla
Resdel Engineering Corp Pasadena . . . . Cal
R F Communications Inc Rochester . . . . N Y
Rodale Electronics Inc Garden City . . . . NY
Rouge Electronics Co Oklahoma City . . . . Okla
Siemens America Inc New York . . . . N Y
Sierra Research Corp Buffalo . . . . N Y
Sonex Inc Philadelphia . . . . Pa
Stoelting Co, C H Chicago Ill
Summit Engineering Corp Bozeman . . . . Mont
Sylvania Electronic Systems Waltham . . . . Mass
Tele-Dynamics Div, American Bosch Arma Corp
Philadelphia . . . . Pa
Teledyne Telemetry Co Los Angeles . . . . Cal
Telemet Co, Video Prods & Airborne Telemetry Amityville . N Y
Thomson-CSF 78 Versailles . . . . France
TRF Inc Springfield . . . . Va
TRW Systems Group Redondo Beach . . . . Cal
Vega Precision Labs Vienna . . . . Va
Westinghouse Electric Corp, Relay & Instr Div Newark . . . N J

TRANSMITTERS, RADIO COMMUNICATION—TROPOSCATTER

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Alto Scientific Co, Inc Palo Alto . . . . Cal
Bell Aerosystems Co Buffalo . . . . N Y
C C A Electronics Corp Gloucester . . . . NJ
Cober Electronics Inc Stamford . . . . Conn
Collins Radio Co Dallas . . . . Tex

Continental Electronics Mfg Co Sub LTV Electrosystems Inc
Dallas . . . . Tex
Energy Systems Inc Palo Alto . . . . Cal
Epsco Inc Westwood . . . . Mass
Gates Radio Co Quincy Ill
General Atronics Corp, Military Elctns Div Philadelphia . . . . Pa
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
ITT Defense Communications Div Nutley . . . . N J
Laboratoires De Marcoussis Ctr De Rsch De La CGE
91 Marcoussis . . . . France
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
National Radio Co Inc Melrose . . . . Mass
Nippon Electric Co Ltd Tokyo . . . . Japan
Philco-Ford Corp Washington . . . . D C
Radio Engineering Labs, Div DCA Long Island City . . . . N Y
RCA, Defense Electronic Products Moorestown . . . . N J
Standard Telephones & Cables Ltd London WC 2 . . . . England
Sylvania Electronic Systems Waltham . . . . Mass
Thomson-CSF 78 Versailles . . . . France
TRW Systems Group Redondo Beach . . . . Cal

TRANSMITTERS, RADIO COMMUNICATION—UHF

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SERVO CORP OF AMERICA HICKSVILLE . . . . N Y
VEGA PRECISION LABS VIENNA . . . . VA
Advanced Communications Inc Sub Conductron Corp
Chatsworth . . . . Cal
Aerospace Research, Inc Boston . . . . Mass
Allen Aircraft Radio Inc Elk Grove Village Ill
Anritsu Electric Co Ltd Tokyo . . . . Japan
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Avco Electronics Div Cincinnati . . . . Ohio
Avtel Corp Covina . . . . Cal
Babcock Electronic Corp Costa Mesa . . . . Cal
Bell & Howell Communications Co Waltham . . . . Mass
Bendix Corp, Communications Div Towson . . . . Md
B F Electronics Solana Beach . . . . Cal
Canadian Marconi Co Montreal 16 . . . . Quebec
Canadian Motorola Electronics Ltd Willowdale 425 . . . . Ont
Cardion Communications Woodbury . . . . N Y
C C A Electronics Corp Gloucester . . . . NJ
Cober Electronics Inc Stamford . . . . Conn
Collins Radio Co Dallas . . . . Tex
Communication Associates Inc New Hyde Park . . . . N Y
Communications Co Coral Gables . . . . Fla
Conic Corp San Diego . . . . Cal
Continental Electronics Mfg Co Sub LTV Electrosystems Inc
Dallas . . . . Tex
Control Science Corp Alexandria . . . . Va
Cosmos Industries Inc Brooklyn . . . . N Y
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Electronic Communications Inc Div NCR St Petersburg . . . Fla
Energy Systems Inc Palo Alto . . . . Cal
Epsco Inc Westwood . . . . Mass
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp
Paramus . . . . N J
Fargo Co San Francisco . . . . Cal
Farinon Electric San Carlos . . . . Cal
Fujitsu Ltd Tokyo . . . . Japan
Gates Radio Co Quincy Ill
General Dynamics, Electronics Div Rochester . . . . N Y
General Electric Co, Mobile Radio Dept Lynchburg . . . . Va
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Giannini-Voltex-Radex-Irvine Whittier . . . . Cal
Ground/data Corp Fort Lauderdale . . . . Fla
Harris-Intertype Corp Cleveland . . . . Ohio
Itek Corp Lexington . . . . Mass
ITT Aerospace, Optical Div Fort Wayne . . . . Ind
ITT Defense Communications Div Nutley . . . . N J
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lear Siegler Inc Santa Monica . . . . Cal
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
Micro Communications Co Denver . . . . Colo
Microdot, Inc South Pasadena . . . . Cal
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Moseley Associates Inc Goleta . . . . Cal
Motorola Communications & Electronics Div Schaumburg . . Ill
Motorola Communications & Electronics Inc Chicago Ill
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Philco-Ford Corp Washington . . . . D C
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . . Ont
Plessey Co Ltd Ilford Essex . . . . England
Radio Engineering Labs, Div DCA Long Island City . . . . N Y
Raven Electronics Inc Burbank . . . . Cal
RCA, Defense Electronic Products Moorestown . . . . N J
Resdel Engineering Corp Pasadena . . . . Cal
Robins Electronics La Mesa . . . . Cal
Servo Corp of America Hicksville . . . . N Y
Somerset Radiation Lab Inc Arlington . . . . Va
Standard Telephones & Cables Ltd London WC 2 . . . . England
Sylvania Electronic Systems Waltham . . . . Mass
Tele-Dynamics Div, American Bosch Arma Corp
Philadelphia . . . . Pa
Teledyne Telemetry Co Los Angeles . . . . Cal
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Thomson Electric Co, Sub Cie Fran Thomson Houston
New York . . . . N Y
Transcom Electronics Inc La Mesa . . . . Cal
TRW Systems Group Redondo Beach . . . . Cal
Vega Precision Labs Vienna . . . . Va

TRANSMITTERS, RADIO COMMUNICATION—VHF

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
COMMUNICATION ASSOCIATES INC NEW HYDE PARK . N Y
HEATH CO BENTON HARBOR . . . . MICH
MICROWAVE CAVITY LABS DIV KMS INDUS INC
LA GRANGE ILL
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SERVO CORP OF AMERICA HICKSVILLE . . . . N Y
VEGA PRECISION LABS VIENNA . . . . VA
Advanced Communications Inc Sub Conductron Corp
Chatsworth . . . . Cal
Aerocom Miami . . . . Fla
Aerospace Research, Inc Boston . . . . Mass
Allen Aircraft Radio Inc Elk Grove Village Ill
American Electronic Labs Inc Lansdale . . . . Pa
Anritsu Electric Co Ltd Tokyo . . . . Japan
A R F Products, Inc Raton . . . . N M
Autonetics Div North American Rockwell Corp Anaheim . . . Cal
Avco Electronics Div Cincinnati . . . . Ohio
Bell & Howell Communications Co Waltham . . . . Mass
Bendix Corp Avionics Div Fort Lauderdale . . . . Fla
Bendix Corp, Communications Div Towson . . . . Md
B F Electronics Solana Beach . . . . Cal
Canadian Marconi Co Montreal 16 . . . . Quebec
Canadian Motorola Electronics Ltd Willowdale 425 . . . . Ont
C C A Electronics Corp Gloucester . . . . NJ
CEC-Benmar Santa Ana . . . . Cal
Cober Electronics Inc Stamford . . . . Conn
Collins Radio Co Dallas . . . . Tex
Communication Associates Inc New Hyde Park . . . . N Y
Communications Co Coral Gables . . . . Fla
Conic Corp San Diego . . . . Cal
Continental Electronics Mfg Co Sub LTV Electrosystems Inc
Dallas . . . . Tex
Control Science Corp Alexandria . . . . Va
Dayton Aircraft Products Inc Fort Lauderdale . . . . Fla
Dumont Mobile Commun Div Hammarlund Anaheim . . . . Cal
Dynair Electronics Inc San Diego . . . . Cal
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp
Paramus . . . . N J
Fargo Co San Francisco . . . . Cal
Farinon Electric San Carlos . . . . Cal
Fujitsu Ltd Tokyo . . . . Japan
Gates Radio Co Quincy Ill
General Dynamics, Electronics Div Rochester . . . . N Y
General Electric Co, Mobile Radio Dept Lynchburg . . . . Va
General Instrument Corp Electronics Sys Div. Hicksville . . . N Y
Giannini-Voltex-Radex-Irvine Whittier . . . . Cal
Granger Associates Palo Alto . . . . Cal
Ground/data Corp Fort Lauderdale . . . . Fla
Hammarlund Mfg Co Inc, The Mars Hill . . . . N C
Harris-Intertype Corp Cleveland . . . . Ohio
Heath Co Benton Harbor . . . . Mich
Instruments for Industry Inc Farmingdale . . . . N Y
ITT Aerospace, Optical Div Fort Wayne . . . . Ind
ITT Defense Communications Div Nutley . . . . N J
Kokusai Electric Co Ltd Tokyo-105 . . . . Japan
Labtron Corp of Amer Div KDI Corp Dayton . . . . Ohio
Lear Siegler Inc Santa Monica . . . . Cal
Marconi Co Ltd Chelmsford . . . . England
Marconi Div, English Electric Corp New York . . . . N Y
Marti Electronics Cleburne . . . . Tex
Microdot, Inc South Pasadena . . . . Cal
Micro State Electronics Oper Raytheon Co Murray Hill . . . N J
Microwave Cavity Labs Div KMS Indus Inc La Grange Ill
Millen Mfg Co Inc, James Malden . . . . Mass
Motorola Communications & Electronics Div Schaumburg . . Ill
Motorola Communications & Electronics Inc Chicago Ill
Motorola, Govt Electronics Div Scottsdale . . . . Ariz
Multitone Electronics Inc New York . . . . N Y
Narco Avionics Div Narco Scientific Indus Fort Washington . Pa
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Pace Communications Corp Harbor City . . . . Cal
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N Y
Pearce-Simpson Inc Div Gladding Corp Miami . . . . Fla
Philco-Ford Corp Washington . . . . D C
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . . Ont
Plessey Co Ltd Ilford Essex . . . . England
Racal Electronics Ltd Bracknell Berks . . . . England
Radiomarine Corp Red Bank . . . . N J
RCA, Defense Electronic Products Moorestown . . . . N J
Regency Electronics Inc Indianapolis . . . . Ind
Resdel Engineering Corp Pasadena . . . . Cal
Robins Electronics La Mesa . . . . Cal
Schjeldahl Co, G T Northfield . . . . Minn
Servo Corp of America Hicksville . . . . N Y
Simpson Electronics, Inc Miami . . . . Fla
Sonex Inc Philadelphia . . . . Pa
Standard Telephones & Cables Ltd London WC 2 . . . . England
Summit Engineering Corp Bozeman . . . . Mont
Sylvania Electronic Systems Waltham . . . . Mass
Tele-Dynamics Div, American Bosch Arma Corp
Philadelphia . . . . Pa
Teledyne Telemetry Co Los Angeles . . . . Cal
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Thomson Electric Co, Sub Cie Fran Thomson Houston
New York . . . . N Y
Transcom Electronics Inc La Mesa . . . . Cal
TRW Systems Group Redondo Beach . . . . Cal
Vega Precision Labs Vienna . . . . Va
Wilcox Electric Co Kansas City . . . . Mo

TRANSMITTERS, RADIO COMMUNICATION—VLF

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAPAN
C M L INC PLAINFIELD . . . . N J
Anritsu Electric Co Ltd Tokyo . . . . Japan
Beukers Labs Inc Hauppauge . . . . NY
C C A Electronics Corp Gloucester . . . . NJ
Cie De Signaux Et D'Entreprises Electriques
Paris 17eme . . . . Fr
C M L Inc Plainfield . . . .
Collins Radio Co Dallas . . . .
Continental Electronics Mfg Co Sub LTV Electrosystems In
Dallas . . . .
Gates Radio Co Quincy . . . .
General Dynamics, Electronics Div Rochester . . . .
Instruments Inc San Diego . . . .
Labtron Corp of Amer Div KDI Corp Dayton . . . .
Ling Electronics Div LTV Altec Inc Anaheim . . . .
Marconi Co Ltd Chelmsford . . . . Eng
Pearce-Simpson Inc Div Gladding Corp Miami . . . .
Philco-Ford Corp Washington . . . .
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . .
RCA, Defense Electronic Products Moorestown . . . .
Southern Avionics Co Beaumont . . . .
Sylvania Electronic Systems Waltham . . . . M
Technical Materiel Corp Mamaroneck . . . .
Thomson-CSF 78 Versailles . . . . Fra
Thomson Electric Co, Sub Cie Fran Thomson Houston
New York . . . .
TRW Systems Group Redondo Beach . . . .

TRANSMITTERS, RADIO NAVIGATION—BEACON

ANRITSU ELECTRIC CO LTD TOKYO . . . . JAP
COMMUNICATION ASSOCIATES INC NEW HYDE PARK .
NIPPON ELECTRIC CO LTD TOKYO . . . . JAP
VEGA PRECISION LABS VIENNA . . . .
ACR Electronics Corp New York . . . .
Aerocom Miami . . . .
Aerospace Research, Inc Boston . . . . M
Anritsu Electric Co Ltd Tokyo . . . . Ja
Autonetics Div North American Rockwell Corp Anaheim . . .
Bell Aerosystems Co Buffalo . . . .
C C A Electronics Corp Gloucester . . . .
Communication Associates Inc New Hyde Park . . . .
Concord Control Inc Boston . . . . M
Conic Corp San Diego . . . .
Control Science Corp Alexandria . . . .
Cosmos Industries Inc Brooklyn . . . .
Dayton Aircraft Products Inc Fort Lauderdale . . . .
Dero Research & Devel Corp Huntington . . . .
Dewey Corp, G C New York . . . .
Dorsett Electronics Inc Tulsa . . . . O
Dowa Trading Co Ltd Kobe . . . . Ja
E G & G Int'l Inc Geodyne Div Waltham . . . . M
Electro Marine Corp Falmouth . . . . M
Epsco Inc Westwood . . . . M
Gates Radio Co Quincy . . . .
General Dynamics, Electronics Div Rochester . . . .
General Instrument Corp Electronics Sys Div. Hicksville . . .
Geodyne Div EG&G Int'l Waltham . . . . M
Hydro Products Div Dillingham Corp San Diego . . . .
ITT Decca Marine Inc New York . . . .
Kokusai Electric Co Ltd Tokyo-105 . . . . Jap
Labtron Corp of Amer Div KDI Corp Dayton . . . . O
Loral Electronic Systems, Div Loral Corp New York . . . .
Marconi Co Ltd Chelmsford . . . . Engla
Marconi Div, English Electric Corp New York . . . .
Motorola, Govt Electronics Div Scottsdale . . . . A
Nippon Electric Co Ltd Tokyo . . . . Jap
Philips Electronics Indus Ltd Elctn Equip Div Toronto 17 . .
Raven Electronics Inc Burbank . . . .
RCA, Defense Electronic Products Moorestown . . . .
Resdel Engineering Corp Pasadena . . . .
R F Communications Inc Rochester . . . .
Rouge Electronics Co Oklahoma City . . . . O
Southern Avionics Co Beaumont . . . . T
Sperry Flight Systems Div Sperry Rand Corp Phoenix . . . A
Standard Telephones & Cables Ltd London WC 2 . . . . Engla
Sylvania Electronic Systems Waltham . . . . Ma
Teledyne Telemetry Co Los Angeles . . . .
Thomson-CSF 78 Versailles . . . . Fran
Topping Electronics Ltd Scarborough . . . .
TRF Inc Springfield . . . .
Tridea Electronics, Sub Conductron Corp El Monte . . . .
TRW Systems Group Redondo Beach . . . .
Vega Precision Labs Vienna . . . .
Ventron Electronics Corp, Controls/Matls Div Bradford . . .
Wilcox Electric Co Kansas City . . . .

TRANSMITTERS, RADIO NAVIGATION—DIRECTION FINDING

Aerocom Miami . . . . F
American Electronic Labs Inc Lansdale . . . .
Autonetics Div North American Rockwell Corp Anaheim . . .
Beukers Labs Inc Hauppauge . . . .
C C A Electronics Corp Gloucester . . . .
Collins Radio Co Dallas . . . . T
Cosmos Industries Inc Brooklyn . . . . N
Dayton Aircraft Products Inc Fort Lauderdale . . . . F
Dero Research & Devel Corp Huntington . . . . N
Dewey Corp, G C New York . . . . N
Dowa Trading Co Ltd Kobe . . . . Jap
Electro Marine Corp Falmouth . . . . Ma
Gates Radio Co Quincy . . . .
General Dynamics, Electronics Div Rochester . . . . N
Labtron Corp of Amer Div KDI Corp Dayton . . . . Oh
Loral Electronic Systems, Div Loral Corp New York . . . .
Marconi Co Ltd Chelmsford . . . . Engla
Marconi Div, English Electric Corp New York . . . . N
Parzen Research Elctn Prods Gr Ovitron Corp Westbury . . N
Radio Corp of America, Comml Elctn Prods Div Camden . . N
Rouge Electronics Co Oklahoma City . . . . Ok
Southern Avionics Co Beaumont . . . . T
Standard Telephones & Cables Ltd London WC 2 . . . . Engla
States Electronics Corp, Bludworth Marine Div Linden . . . N
Sylvania Electronic Systems Waltham . . . . Ma
TRW Systems Group Redondo Beach C
Wilcox Electric Co Kansas City . . . . M

ANSMITTERS, RADIO NAVIGATION—ORAN

PON ELECTRIC CO LTD TOKYO . . . . JAPAN
netics Div North American Rockwell Corp Anaheim . . . Cal
inental Electronics Mfg Co Sub LTV Electrosystems Inc
allas . . . . Tex
Research & Devel Corp Huntington . . . . N Y
a Trading Co Ltd Kobe . . . . Japan
es Radio Co Quincy Ill
Electronics Waltham . . . . Mass
pon Electric Co Ltd Tokyo . . . . Japan
rry Gyroscope Div Sperry Rand Corp Great Neck . . . . . N Y
V Systems Group Redondo Beach . . . . Cal

ANSMITTERS, RADIO NAVIGATION—ADIO RANGE

Aerosystems Co Buffalo . . . . N Y
A Electronics Corp Gloucester . . . . NJ
mos Industries Inc Brooklyn . . . . N Y
o Research & Devel Corp Huntington . . . . N Y
va Trading Co Ltd Kobe . . . . Japan
es Radio Co Quincy Ill
eral Dynamics, Electronics Div Rochester . . . . N Y
eral Instrument Corp Electronics Sys Div. Hicksville . . . N Y
de Industries Inc Sun Valley . . . . Cal
al Electronic Systems, Div Loral Corp New York . . . . . . NY

ANSMITTERS, RADIO NAVIGATION—ACAN

PPON ELECTRIC CO LTD TOKYO . . . . JAPAN
plied Devices Corp College Point . . . . n y
tonetics Div North American Rockwell Corp Anaheim . . . Cal
wa Trading Co Ltd Kobe . . . . Japan
tes Radio Co Quincy Ill
neral Dynamics, Electronics Div Rochester . . . . N Y
neral Instrument Corp Electronics Sys Div. Hicksville . . . N Y
mcor Div LTV Electrosystems Inc Huntington . . . . Ind
tional Radio Co Inc Melrose . . . . Mass
pon Electric Co Ltd Tokyo . . . . Japan
public Electronic Industries Corp Melville . . . . N Y
rra Research Corp Buffalo . . . . N Y
andard Telephones & Cables Ltd London WC 2 . . . . England
lcox Electric Co Kansas City . . . . Mo

RANSMITTERS, RADIO NAVIGATION—VHF OMNIRANGE

PPON ELECTRIC CO LTD TOKYO . . . . JAPAN
GA PRECISION LABS VIENNA . . . . VA
tonetics Div North American Rockwell Corp Anaheim . . . Cal
smos Industries Inc Brooklyn . . . . N Y
ro Research & Devel Corp Huntington . . . . N Y
wa Trading Co Ltd Kobe . . . . Japan
tes Radio Co Quincy Ill
neral Dynamics, Electronics Div Rochester . . . . N Y
neral Instrument Corp Electronics Sys Div. Hicksville . . . N Y
ral Electronic Systems, Div Loral Corp New York . . . . . . NY
ppon Electric Co Ltd Tokyo . . . . Japan
gency Electronics Inc Indianapolis . . . . Ind
andard Telephones & Cables Ltd London WC 2 . . . . England
W Systems Group Redondo Beach . . . . Cal
ga Precision Labs Vienna . . . . Va
ilcox Electric Co Kansas City . . . . Mo

RANSMITTERS—SONAR

***See* Sonar**

RANSPONDERS

***See* Radar—Beacons**

RANSPORTS—MAGNETIC TAPE

***See* Tape Decks**

RAPS—ION

***See* Magnets—Permanent**

RAVELING-WAVE TUBES

***See* Tubes—Microwave**

R TUBES

***See* Tube—TR**

ROPOSCATTER

***See* Antennas—Troposcatter; Communication Systems; Transmitters**

UBE COOLING UNITS

***See* Cooling Units**

TUBE MANUFACTURING MACHINES

***See* Machines—Tube Electron Manufacturing**

TUBE PARTS—ANODES, CARBON & GRAPHITE

STACKPOLE CARBON CO, ELECTRONIC COMPONENTS DIV
ST MARYS . . . . PA
Acheson Colloids Co Port Huron . . . . Mich
Eimac Div, Varian Associates San Carlos . . . . Cal
Electro Technic Products Chicago Ill
Energy Beams Inc Haskell . . . . N J
Helwig Carbon Products Inc Milwaukee . . . . Wisc
Met-Bay Inc Bay City . . . . Mich
Poco Graphite, Inc Garland . . . . Tex
Semi-Alloys Inc Mt Vernon . . . . N Y
Stackpole Carbon Co, Electronic Components Div
St Marys . . . . Pa
Ultra Carbon Corp Bay City . . . . Mich
Union Carbide Corp, Carbon Products Div New York . . . . . N Y
U S Graphite Co Div The Wickes Corp Saginaw . . . . Mich

TUBE PARTS—ANODES, METAL

ART WIRE & STAMPING CO NEWARK . . . . N J
SUPERIOR TUBE CO NORRISTOWN . . . . PA
VOLKERT STAMPINGS INC SUB STANLEY WORKS
QUEENS VILLAGE . . . . N Y
Art Wire & Stamping Co Newark . . . . N J
Associated Engineering & Mfg Corp Glen Ridge . . . . N J
Cleveland Refractory Metals, Div Chase Brass Copper Co
Solon . . . . Ohio
Clover Co Inc F G Rockaway . . . . N J
Eimac Div, Varian Associates San Carlos . . . . Cal
Electro Technic Products Chicago Ill
Energy Beams Inc Haskell . . . . N J
Fansteel Inc North Chicago Ill
Griffiths Electronics Inc Linden . . . . N J
Haydu Products Inc Opa Locka . . . . Fla
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . . . Pa
Johnson & Hoffman Mfg Corp Carle Place . . . . N Y
Kentucky Electronics Inc Owensboro . . . . Ky
Norrich Plastics Corp Roosevelt . . . . N Y
Norton Co Metals Div Newton . . . . Mass
Philips Metalonics Mount Vernon . . . . N Y
Premium Allied Tool Inc Owensboro . . . . Ky
Richards Metal Products Inc Wolcott . . . . Conn
Romac Electronics Inc Long Island City . . . . N Y
Semi-Alloys Inc Mt Vernon . . . . N Y
Spectra-Mat Inc Watsonville . . . . Cal
Superior Tube Co Norristown . . . . Pa
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
Volkert Stampings Inc Sub Stanley Works Queens Village . N Y
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . N J

TUBE PARTS—BASE PINS

ART WIRE & STAMPING CO NEWARK N J . . . . ADV PG 727
Anaconda American Brass Co Waterbury . . . . Conn
Art Wire & Stamping Co Newark . . . . N J
Associated Engineering & Mfg Corp Glen Ridge . . . . N J
Auto-Swage Products, Inc Shelton . . . . Conn
Bead Chain Mfg Co Bridgeport . . . . Conn
Eimac Div, Varian Associates San Carlos . . . . Cal
Eyelematic Mfg Co Inc Watertown . . . . Conn
GTI Corp Meadville . . . . Pa
Haydu Products Inc Opa Locka . . . . Fla
Norrich Plastics Corp Roosevelt . . . . N Y
Richards Metal Products Inc Wolcott . . . . Conn
Schurter AG, H 6002 Lucerne . . . . Switzerland
Semi-Alloys Inc Mt Vernon . . . . N Y
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
Vector Electronic Co Inc Sylmar . . . . Cal
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . N J

TUBE PARTS—BASES

NATIONAL ELECTRONICS INC VARIAN SUB GENEVA . . . ILL
Associated Engineering & Mfg Corp Glen Ridge . . . . N J
Atlantic Optical Moulding Co Dudley . . . . Mass
Atomite Electronics Corp Roosevelt . . . . N Y
Ceramics International Corp Mahwah . . . . NJ
Device Seals Inc Sun Valley . . . . Cal
Eimac Div, Varian Associates San Carlos . . . . Cal
Eljay Corp Columbia . . . . Md
Epoxy Products Co Div Allied Prod Inc New Haven . . . . . . Conn
Griffiths Electronics Inc Linden . . . . N J
Haveg Industries, Inc, Precision Molding Div Taunton . . . Mass
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . . . Pa
National Electronics Inc Varian Sub Geneva Ill
Norrich Plastics Corp Roosevelt . . . . N Y
Romac Electronics Inc Long Island City . . . . N Y
Saxonburg Ceramics Inc Pittsburgh . . . . Pa
Schrack Electrical Sales Corp New York . . . . N Y
Schurter AG, H 6002 Lucerne . . . . Switzerland
Semi-Alloys Inc Mt Vernon . . . . N Y
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
20th Century Electronics Ltd
New Addington Croydon Cr 90 BG . . . . England
Vector Electronic Co Inc Sylmar . . . . Cal
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . N J

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TUBE PARTS—BULBS (ENVELOPES), CERAMIC

AMERICAN LAVA CORP CHATTANOOGA . . . . TENN
CENTRALAB, DIV GLOBE-UNION INC MILWAUKEE . . . . WIS
Alberox Corp New Bedford . . . . Mass
American Lava Corp Chattanooga . . . . Tenn
Basic Ceramics Inc Sub Basic Inc Hawthorne . . . . NJ
Carborundum Co Electrical & Elctns Br Niagara Falls . . . . NY
Centralab, Div Globe-Union Inc Milwaukee . . . . Wis
Consolidated Ceramics & Metalizing Corp Flemington . . . . N J
Coors Porcelain Co Golden . . . . Colo
Diamonite Products Mfg Co Shreve . . . . Ohio
Eimac Div, Varian Associates San Carlos . . . . Cal
Frenchtown/CFI Inc Frenchtown . . . . N J
Glass Beads Co Latrobe . . . . Pa
GTI Corp Meadville . . . . Pa
Kyoto Ceramic Co Ltd Nakagyo-ku, Kyoto . . . . Japan
Latronics Corp Latrobe . . . . Pa
McDanel Refractory Porcelain Co Beaver Falls . . . . Pa
National Beryllia Corp Haskell . . . . N J
NGK Spark Plug Co Ltd Mizuho-ku Nagoya . . . . Japan
Norton Co Chemical Process Prods Div Orrville . . . . Ohio
Royal Worcester Industrial Ceramics Inc Charlotte . . . . . . N C
Saxonburg Ceramics Inc Pittsburgh . . . . Pa
Schurter AG, H 6002 Lucerne . . . . Switzerland
Semi-Alloys Inc Mt Vernon . . . . N Y
Spectra-Mat Inc Watsonville . . . . Cal
Western Gold & Platinum Co Belmont . . . . Cal

TUBE PARTS—BULBS (ENVELOPES), GLASS

Amglo Corp Chicago Ill
Corning Glass Works Corning . . . . N Y
Eimac Div, Varian Associates San Carlos . . . . Cal
Electron Technology Inc Kearny . . . . N J
Friedrich & Dimmock, Inc Mays Landing . . . . N J
General Electric Co, Lamp Glass Dept Willoughby . . . . Ohio
Giannini-Voltex-Radex-Irvine Whittier . . . . Cal
Lancaster Glass Corp Lancaster . . . . Ohio
Owens-Illinois Consumer & Tech Products Div Toledo . . . . Ohio
Precision Optics Div Penna Optical Co Reading . . . . Pa
Syncor Products Co, Inc Malden . . . . Mass
20th Century Electronics Ltd
New Addington Croydon Cr 90 BG . . . . England

TUBE PARTS—BULBS (ENVELOPES), METAL

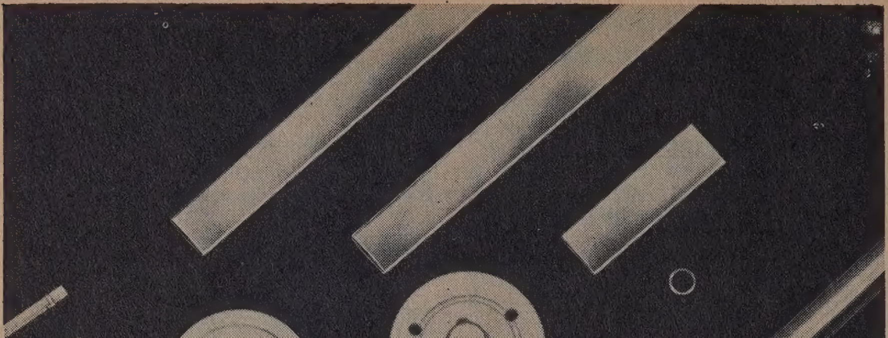
Cleveland Refractory Metals, Div Chase Brass Copper Co
Solon . . . . Ohio
Eimac Div, Varian Associates San Carlos . . . . Cal
Eyelematic Mfg Co Inc Watertown . . . . Conn
Fansteel Inc North Chicago Ill
Radio Corp of America, Electronic Components Harrison . . N J
Romac Electronics Inc Long Island City . . . . N Y

TUBE PARTS—BUTTON STEMS

Eimac Div, Varian Associates San Carlos . . . . Cal
Electron Technology Inc Kearny . . . . N J
Eyelematic Mfg Co Inc Watertown . . . . Conn
General Electric Co, Lamp Glass Dept Willoughby . . . . Ohio
Radio Corp of America, Electronic Components Harrison . . N J
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
20th Century Electronics Ltd
New Addington Croydon Cr 90 BG . . . . England
Veritron West Inc Chatsworth . . . . Cal

TUBE PARTS—CAPS (TOP)

SUPERIOR STEATITE & CERAMIC CORP ENGLEWOOD . . . N J
VOLKERT STAMPINGS INC SUB STANLEY WORKS
QUEENS VILLAGE . . . . N Y
Alden Products Co, Inc Brockton . . . . Mass
Associated Engineering & Mfg Corp Glen Ridge . . . . N J
Eimac Div, Varian Associates San Carlos . . . . Cal
Eljay Corp Columbia . . . . Md
Eyelematic Mfg Co Inc Watertown . . . . Conn
Hobson Brothers Inc Chicago Ill
National Radio Co Inc Melrose . . . . Mass
Norrich Plastics Corp Roosevelt . . . . N Y
Richards Metal Products Inc Wolcott . . . . Conn
Romac Electronics Inc Long Island City . . . . N Y
Schurter AG, H 6002 Lucerne . . . . Switzerland
Superior Steatite & Ceramic Corp Englewood . . . . N J
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
20th Century Electronics Ltd
New Addington Croydon Cr 90 BG . . . . England
United Mineral & Chemical Corp New York . . . . N Y
Volkert Stampings Inc Sub Stanley Works Queens Village . N Y



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TUBE PARTS—CATHODES (SLEEVES, DISKS & TUBES)

SUPERIOR TUBE CO NORRISTOWN PA . . . . ADV PG
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon . . . .
C M Mfg Co Bloomfield . . . .
Eimac Div, Varian Associates San Carlos . . . .
Energy Beams Inc Haskell . . . .
Eyelematic Mfg Co Inc Watertown C
Fansteel Inc North Chicago . . . .
Griffiths Electronics Inc Linden . . . .
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . .
Johnson & Hoffman Mfg Corp Carle Place . . . .
Kentucky Electronics Inc Owensboro . . . .
Norton Co Chemical Process Prods Div Orrville . . . .
Philips Metalonics Mount Vernon . . . .
Premium Allied Tool Inc Owensboro . . . .
Radio Corp of America, Electronic Components Harrison . .
Richards Metal Products Inc Wolcott C
Romac Electronics Inc Long Island City . . . .
Semicon Associates Inc Lexington . . . .
Spectra-Mat Inc Watsonville . . . .
Superior Tube Co Norristown . . . .
Sylvania Elec Prods Inc, Chem & Met Div Towanda . . . . . .
Varian Palo Alto . . . .

TUBE PARTS—CONTACTS, SIDE (CATHODE RAY TUBE)

ART WIRE & STAMPING CO NEWARK . . . . N
VOLKERT STAMPINGS INC SUB STANLEY WORKS QUEENS VILLAGE . . . . N
Art Wire & Stamping Co Newark . . . . N
Eimac Div, Varian Associates San Carlos . . . .
Electronic Instrument Div Gen Atronics Corp Philadelphia . .
Fansteel Inc North Chicago . . . .
General Atronics Corp Tube Div Philadelphia . . . .
Haydu Products Inc Opa Locka . . . . F
Micro Contacts, Inc Hicksville . . . . N
Premium Allied Tool Inc Owensboro . . . .
Radio Corp of America, Electronic Components Harrison . . N
Sylvania Electric Prods Inc, Parts Div Warren . . . .
Volkert Stampings Inc Sub Stanley Works Queens Village . N

TUBE PARTS—ELECTRON GUN MOUNTS

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE . . . . N
VOLKERT STAMPINGS INC SUB STANLEY WORKS QUEENS VILLAGE . . . . N
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon . . . . Oh
Electronic Instrument Div Gen Atronics Corp Philadelphia . .
Emporium Specialties Co Inc Chagrin Falls . . . . Oh
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N
General Atronics Corp Tube Div Philadelphia . . . .
Griffiths Electronics Inc Linden . . . . N
Haydu Products Inc Opa Locka . . . . F
Kentucky Electronics Inc Owensboro . . . .
Norton Co Chemical Process Prods Div Orrville . . . . Oh
Radio Corp of America, Electronic Components Harrison . . N
Spectra-Mat Inc Watsonville C
Superior Electronics Co Div Aiken Indus, Inc Clifton . . . . . . N
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . Engla
Union Carbide Corp, Carbon Products Div New York . . . . . N
Volkert Stampings Inc Sub Stanley Works Queens Village . N

TUBE PARTS—ELECTRON GUNS

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE . . . . N
Apex Electronics, Inc Passaic . . . . N
Edwards High Vacuum Inc Grand Island . . . . N
Electronic Instrument Div Gen Atronics Corp Philadelphia . .
Energy Beams Inc Haskell . . . . N
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N
General Atronics Corp Tube Div Philadelphia . . . .
Griffiths Electronics Inc Linden . . . . N
Kentucky Electronics Inc Owensboro . . . .
Litton Industries, Electron Tube Div San Carlos C
National Video Corp Chicago . . . .
Nuclide Corp, AGV Div Acton . . . . Ma
Premium Allied Tool Inc Owensboro . . . .
Radio Corp of America, Electronic Components Harrison . . N
Richards Metal Products Inc Wolcott . . . . Co
Spectra-Mat Inc Watsonville C
Sylvania Electric Prods Inc, Parts Div Warren . . . .
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . Engla
Veeco Instruments Inc Plainview . . . . N

TUBE PARTS—GETTERS

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE . . . . N
Bram Metallurgical Chemical Co Philadelphia . . . .
C M Mfg Co Bloomfield . . . . N
Eimac Div, Varian Associates San Carlos C
Fansteel Inc North Chicago . . . .
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N
Griffiths Electronics Inc Linden . . . . N
King Laboratories Inc Syracuse . . . . N
Romac Electronics Inc Long Island City . . . . N
Ronson Metals Corp Newark . . . . N
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . . . N

BE PARTS—GRIDS & SUPPORTS

WIRE & STAMPING CO NEWARK . . . . N J
ERAL TOOL ENGINEERING CO DIV ARVIN INDS EDAR GROVE . . . . N J
'ERIOR TUBE CO NORRISTOWN . . . . PA
KERT STAMPINGS INC SUB STANLEY WORKS UEENS VILLAGE . . . . N Y
ITTAKER CORP GEN COM DIV PLAINVIEW . . . . N Y
Wire & Stamping Co Newark . . . . N J
/eland Refractory Metals, Div Chase Brass Copper Co olon . . . . Ohio
l Mfg Co Bloomfield . . . . N J
ıac Div, Varian Associates San Carlos . . . . Cal
ɛrgy Beams Inc Haskell . . . . N J
ısteel Inc North Chicago Ill
leral Tool Engineering Co Div Arvin Inds Cedar Grove . . . N J
ıeral Electric Co Lamp Metals & Components Dept leveland . . . . Ohio
/du Products Inc Opa Locka . . . . Fla
ıney Cylinder Co Sub Edgewater Corp Philadelphia . . . . . Pa
ınson & Hoffman Mfg Corp Carle Place . . . . N Y
ıtucky Electronics Inc Owensboro . . . . Ky
wark Wire Cloth Co Newark . . . . N J
ton Co Metals Div Newton . . . . Mass
lips Metalonics Mount Vernon . . . . N Y
mium Allied Tool Inc Owensboro . . . . Ky
dio Corp of America, Electronic Components Harrison . . N J
hards Metal Products Inc Wolcott . . . . Conn
ıac Electronics Inc Long Island City . . . . N Y
ıurter AG, H 6002 Lucerne . . . . Switzerland
perior Tube Co Norristown . . . . Pa
vania Electric Prods Inc, Parts Div Warren . . . . Pa
on Carbide Corp, Carbon Products Div New York . . . . . N Y
kert Stampings Inc Sub Stanley Works Queens Village . N Y
ıittaker Corp Gen Com Div Plainview . . . . N Y

JBE PARTS—HEAT RADIATORS

lee Corp Winchester . . . . Mass
ɛveland Refractory Metals, Div Chase Brass Copper Co Solon . . . . Ohio
VI Mfg Co Bloomfield . . . . N J
ıac Div, Varian Associates San Carlos . . . . Cal
ergy Beams Inc Haskell . . . . N J
ınsteel Inc North Chicago Ill
ıeral Electric Co Lamp Metals & Components Dept Cleveland . . . . Ohio
ternational Electronic Research Corp Burbank . . . . Cal
ckhart Industries Inc Paramount . . . . Cal
ıFin Inc Waltham . . . . Mass
mac Electronics Inc Long Island City . . . . N Y
lvania Electric Prods Inc, Parts Div Warren . . . . Pa

UBE PARTS—POWDERS, CATHODE RAY SCREEN

cheson Colloids Co Port Huron . . . . Mich
eneral Electric Co Lamp Metals & Components Dept Cleveland . . . . Ohio
riffiths Electronics Inc Linden . . . . N J
adio Corp of America, Electronic Components Harrison . . N J
igmatron Inc Goleta . . . . Cal
ylvania Elec Prods Inc, Chem & Met Div Towanda . . . . . . Pa
homas Electronics Inc Wayne . . . . NJ
nited States Radium Corp Morristown . . . . N J

UBE PARTS—SPACERS, CERAMIC

MERICAN LAVA CORP CHATTANOOGA . . . . TENN
ENTRALAB, DIV GLOBE-UNION INC MILWAUKEE . . . . WIS
UPERIOR STEATITE & CERAMIC CORP ENGLEWOOD . . . N J
OLKERT STAMPINGS INC SUB STANLEY WORKS QUEENS VILLAGE . . . . N Y
lberox Corp New Bedford . . . . Mass
merican Lava Corp Chattanooga . . . . Tenn
tlantic Optical Moulding Co Dudley . . . . Mass
asic Ceramics Inc Sub Basic Inc Hawthorne . . . . NJ
arborundum Co Electrical & Elctns Br Niagara Falls . . . . NY
entralab, Div Globe-Union Inc Milwaukee . . . . Wis
eram Corp La Mesa . . . . Cal
oors Porcelain Co Golden . . . . Colo
orning Glass Works Corning . . . . N Y
u-Co Ceramics Co Saxonburg . . . . Pa
imac Div, Varian Associates San Carlos . . . . Cal
lectrical Refractories Co East Palestine . . . . Ohio
renchtown/CFI Inc Frenchtown . . . . N J
ısaco Inc Quakertown . . . . Pa
yoto Ceramic Co Ltd Nakagyo-ku, Kyoto . . . . Japan
laryland Lava Co Inc Bel Air . . . . Md
laterials for Electronics, Inc Jamaica . . . . N Y
lcDanel Refractory Porcelain Co Beaver Falls . . . . Pa
letalized Ceramics Corp Providence . . . . R I
litronics Inc Murray Hill . . . . N J
lational Beryllia Corp Haskell . . . . N J
lorton Co Chemical Process Prods Div Orrville . . . . Ohio
uartzite Processing, Inc Malden . . . . Mass
axonburg Ceramics Inc Pittsburgh . . . . Pa
pectra-Mat Inc Watsonville . . . . Cal
teward Mfg Co, D M Chattanooga . . . . Tenn
uperior Steatite & Ceramic Corp Englewood . . . . N J
yncor Products Co, Inc Malden . . . . Mass
Jnion Carbide Corp, Carbon Products Div New York . . . . . N Y
eritron West Inc Chatsworth . . . . Cal
olkert Stampings Inc Sub Stanley Works Queens Village . N Y
Vestern Gold & Platinum Co Belmont . . . . Cal

TUBE PARTS—SPACERS, MICA

MAGNETIC SHIELD DIV, PERFECTION MICA CO BENSENVILLE ILL
Asheville-Schoonmaker Mica Co Newport News . . . . Va
Budd Co Polychem Div Newark . . . . Del
Cleveland Mica Co Lakewood . . . . Ohio
Columbia Technical Corp Woodside . . . . N Y
Ford Radio & Mica Corp Brooklyn . . . . N Y
Magnetic Shield Div, Perfection Mica Co Bensenville Ill
Micacraft Products, Inc Newark . . . . N J
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
United Mineral & Chemical Corp New York . . . . N Y

TUBE PARTS—SUPPORTS (INCL. WIRE PARTS)

ART WIRE & STAMPING CO NEWARK N J . . . . ADV PG 727
FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE . . . . N J
Art Wire & Stamping Co Newark . . . . N J
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon . . . . Ohio
Clover Co Inc F G Rockaway . . . . N J
Electronic Parts Mfg Co Inc Union City . . . . N J
Emporium Specialties Co Inc Chagrin Falls . . . . Ohio
Emtec Inc, Empire Spring Div Elyria . . . . Ohio
Fansteel Inc North Chicago Ill
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N J
General Electric Co Lamp Metals & Components Dept Cleveland . . . . Ohio
Haydu Products Inc Opa Locka . . . . Fla
Janney Cylinder Co Sub Edgewater Corp Philadelphia . . . . . Pa
Johnson & Hoffman Mfg Corp Carle Place . . . . N Y
Kentucky Electronics Inc Owensboro . . . . Ky
King Laboratories Inc Syracuse . . . . N Y
Norton Co Metals Div Newton . . . . Mass
O'Hara Metal Products Co San Francisco . . . . Cal
Pix Mfg Co Murray Hill . . . . N J
Premium Allied Tool Inc Owensboro . . . . Ky
Radio Corp of America, Electronic Components Harrison . . N J
Schurter AG, H 6002 Lucerne . . . . Switzerland
Semi-Alloys Inc Mt Vernon . . . . N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda . . . . . . Pa
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
Veritron West Inc Chatsworth . . . . Cal
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . N J

TUBE PARTS—TUBE, SEAL LEADS

ART WIRE & STAMPING CO NEWARK . . . . N J
SUPERIOR TUBE CO NORRISTOWN . . . . PA
Art Wire & Stamping Co Newark . . . . N J
Associated Engineering & Mfg Corp Glen Ridge . . . . N J
Bead Chain Mfg Co Bridgeport . . . . Conn
Eimac Div, Varian Associates San Carlos . . . . Cal
Electronic Parts Mfg Co Inc Union City . . . . N J
General Electric Co Lamp Metals & Components Dept Cleveland . . . . Ohio
MacKay Research Labs Wickenburg . . . . Ariz
Superior Tube Co Norristown . . . . Pa
Sylvania Electric Prods Inc, Parts Div Warren . . . . Pa
Union City Filament Corp Union City . . . . N J
Veritron West Inc Chatsworth . . . . Cal
Westinghouse Electric Corp, Lamp Div Bloomfield . . . . N J

TUBE SHIELDS

***See* Shields—Tube**

TUBE SOCKETS

***See* Sockets**

TUBES—BALLAST

AMPERITE CO INC UNION CITY N J . . . . ADV PG 547
ELECTRONIC ENTERPRISES INC NEWARK . . . . N J
Amperite Co Inc Union City . . . . N J
Corvair Electronics New York . . . . N Y
Electronic Enterprises Inc Newark . . . . N J
International Electronics Corp Melville . . . . NY

TUBES—BEAM-DEFLECTION

***See* Tubes—Counter**

TUBES, CATHODE RAY—DATA STORAGE

HUGHES AIRCRAFT CO VAC TUBE PRODS DV STORAGE TUBES & COML DISP SYS OCEANSIDE . . . . CAL
Allen Aircraft Radio Inc Elk Grove Village Ill
Computer Displays Inc Waltham . . . . Mass
Corvair Electronics New York . . . . N Y
Digital Equipment Corp Maynard . . . . Mass
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
EMI Electronics Ltd Hayes . . . . Middlesex Eng
English Electric Valve Co, Ltd Essex . . . . England
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japan
Hughes Aircraft Co Vac Tube Prods Dv Storage Tubes & Coml Disp Sys Oceanside . . . . Cal
Industrial Electronic Engineers Inc Van Nuys . . . . Cal
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
National Union Electric Corp Electronics Div Bloomington . . . Ill
Philco-Ford Corp Washington . . . . D C
Radio Corp of America, Electronic Components Harrison . . N J
Rauland Div Zenith Radio Corp Melrose Park Ill
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Sarco Co Harrisonburg . . . . Va
Shiba Electric Co Ltd Woodside . . . . N Y
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Thomas Electronics Inc Wayne . . . . NJ
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Warnecke Electron Tubes Inc Des Plaines Ill
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TUBES, CATHODE RAY—IMAGE ORTHICON

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
WHITTAKER CORP GEN COM DIV PLAINVIEW . . . . N Y
Corvair Electronics New York . . . . N Y
Denson Electronics Corp Rockville . . . . Conn
EMI Electronics Ltd Hayes . . . . Middlesex Eng
English Electric Valve Co, Ltd Essex . . . . England
General Electric Co, ECSO Schenectady . . . . N Y
International Electronics Corp Melville . . . . NY
MacKay Research Labs Wickenburg . . . . Ariz
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Nippon Electric Co Ltd Tokyo . . . . Japan
Philco-Ford Corp Washington . . . . D C
Radio Corp of America, Electronic Components Harrison . . N J
Sarco Co Harrisonburg . . . . Va
Shiba Electric Co Ltd Woodside . . . . N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo . . . . Japan
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Whittaker Corp Gen Com Div Plainview . . . . N Y

TUBES, CATHODE RAY—OSCILLOSCOPE MULTIPLE GUN

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE . . . . N J
Albion Optical Co Inc West Nyack . . . . N Y
Allstate Electronics, Inc Ossining . . . . N Y
Corvair Electronics New York . . . . N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
Electronic Instrument Div Gen Atronics Corp Philadelphia . . Pa
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N J
General Atronics Corp Tube Div Philadelphia . . . . Pa
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japan
Industrial Electronic Engineers Inc Van Nuys . . . . Cal
Inter-Technical Group Inc Irvington-on-Hudson . . . . N Y
La Radiotechnique Compelec Paris 11e . . . . France
MacKay Research Labs Wickenburg . . . . Ariz
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
Mullard Ltd London, WC 1 . . . . Eng
Rayonic Corp Philadelphia . . . . Pa
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass
Sarco Co Harrisonburg . . . . Va
Silver Glo Picture Tubes Ltd Edmonton . . . . Alb
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF Electron Tubes Inc New York . . . . N Y
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY

TUBES, CATHODE RAY—OSCILLOSCOPE SINGLE GUN

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE . . . . N J
Albion Optical Co Inc West Nyack . . . . N Y
Allstate Electronics, Inc Ossining . . . . N Y
Amperex Electronic Corp, Electro Optical Devices Div Slatersville . . . . R I
Corvair Electronics New York . . . . N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
E G & G Inc, Systems Group Bedford . . . . Mass
Electronic Instrument Div Gen Atronics Corp Philadelphia . . Pa
EMI Electronics Ltd Hayes . . . . Middlesex Eng
Federal Tool Engineering Co Div Arvin Inds Cedar Grove . . . N J
General Atronics Corp Tube Div Philadelphia . . . . Pa
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japan
International Electronics Corp Melville . . . . NY
Inter-Technical Group Inc Irvington-on-Hudson . . . . N Y
La Radiotechnique Compelec Paris 11e . . . . France
MacKay Research Labs Wickenburg . . . . Ariz
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
Mullard Ltd London, WC 1 . . . . Eng
National Union Electric Corp Electronics Div Bloomington . . . Ill
Polaris Engineering Corp Chicago Ill
Radio Corp of America, Electronic Components Harrison . . N J

Rayonic Corp Philadelphia .... Pa
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy .... Mass
Sarco Co Harrisonburg .... Va
Silver Glo Picture Tubes Ltd Edmonton .... Alb
Standard TV Tube Co Jacksonville .... Fla
Sylvania Electric Prods Inc, Electronic Tube Div
  Seneca Falls .... N Y
Telefunken Sales Corp Garden City .... N Y
Thomas Electronics Inc Wayne .... NJ
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
20th Century Electronics Ltd
  New Addington Croydon Cr 90 BG .... England
Westinghouse Electric Corp, Electronic Tube Div
  Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, CATHODE RAY—SCAN CONVERTER

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS
CEDAR GROVE .... N J
HUGHES AIRCRAFT CO VAC TUBE PRODS DV STORAGE
TUBES & COML DISP SYS OCEANSIDE CAL . ADV PG 684
Corvair Electronics New York .... N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton .. N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
General Electrodynamics Corp Garland .... Tex
Hughes Aircraft Co Vac Tube Prods Dv Storage Tubes & Coml
  Disp Sys Oceanside .... Cal
ITT Electron Tube Div Easton .... Pa
MacKay Research Labs Wickenburg .... Ariz
M-O Valve Co Ltd Hammersmith, London W6 .... Eng
Philco-Ford Corp Washington .... D C
Radio Corp of America, Electronic Components Harrison .. N J
Rauland Div Zenith Radio Corp Melrose Park Ill
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy .... Mass
Sarco Co Harrisonburg .... Va
Sylvania Electric Prods Inc, Electronic Tube Div
  Seneca Falls .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
20th Century Electronics Ltd
  New Addington Croydon Cr 90 BG .... England
Warnecke Electron Tubes Inc Des Plaines Ill
Westinghouse Electric Corp, Electronic Tube Div
  Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY
Zenith Radio Co Govt & Special Prod Div Chicago Ill

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For further information write to Hughes Aircraft Company, Storage Tube Marketing, 2020 Oceanside Blvd., Oceanside, Calif. 92054.

HUGHES
HUGHES AIRCRAFT COMPANY
VACUUM TUBE PRODUCTS DIV.
OCEANSIDE, CALIFORNIA

TUBES, CATHODE RAY—SHAPED BEAM & CHARACTER

Albion Optical Co Inc West Nyack .... N Y
Corvair Electronics New York .... N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton .. N J
Industrial Electronic Engineers Inc Van Nuys .... Cal
Litton Industries, Electron Tube Div San Carlos .... Cal
MacKay Research Labs Wickenburg .... Ariz
Marconi Co Ltd Chelmsford .... England
Philco-Ford Corp Washington .... D C
Rauland Div Zenith Radio Corp Melrose Park Ill
Rayonic Corp Philadelphia .... Pa
Raytheon Co, Components Div, Ind Compnts Oper
  Quincy .... Mass
Sylvania Electric Prods Inc, Electronic Tube Div
  Seneca Falls .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Transistor Electronics Corp Minneapolis .... Minn
Varian Palo Alto .... Cal
Westinghouse Electric Corp, Tube Div Elmira .... NY
Zenith Radio Co Govt & Special Prod Div Chicago Ill

TUBES, CATHODE RAY--TV, BLACK & WHITE

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS
CEDAR GROVE .... N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
Allstate Electronics, Inc Ossining .... N Y
Dalto Electronics Corp Norwood .... N J
Denson Electronics Corp Rockville .... Conn
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton .. N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
Ferranti, Ltd Lancashire .... England
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
ITT Europe Inc Components Gp Brussels 1 .... Belgium
La Radiotechnique Compelec Paris 11e .... France
Litton Industries, Electron Tube Div San Carlos .... Cal
MacKay Research Labs Wickenburg .... Ariz
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mullard Ltd London, WC 1 .... Eng
National Cash Register Co Dayton .... Ohio
National Television Tube Inc Saddle Brook .... N J
Philco-Ford Corp Washington .... D C
Polaris Engineering Corp Chicago Ill
Radio Corp of America, Electronic Components Harrison .. N J
Rauland Div Zenith Radio Corp Melrose Park Ill
Rayonic Corp Philadelphia .... Pa
Sarco Co Harrisonburg .... Va
Sigmatron Inc Goleta .... Cal
Silver Glo Picture Tubes Ltd Edmonton .... Alb
Standard TV Tube Co Jacksonville .... Fla
Sylvania Electric Prods Inc, Electronic Tube Div
  Seneca Falls .... N Y
Thomas Electronics Inc Wayne .... NJ
Westinghouse Electric Corp, Electronic Tube Div
  Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

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TUBES, CATHODE RAY—TV, COLOR

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS
CEDAR GROVE .... N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
Allstate Electronics, Inc Ossining .... N Y
Dalto Electronics Corp Norwood .... N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
ITT Europe Inc Components Gp Brussels 1 .... Belgium
La Radiotechnique Compelec Paris 11e .... France
MacKay Research Labs Wickenburg .... Ariz
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mullard Ltd London, WC 1 .... Eng
National Television Tube Inc Saddle Brook .... N J
National Video Corp Chicago Ill
Philco-Ford Corp Washington .... D C
Polaris Engineering Corp Chicago Ill
Radio Corp of America, Electronic Components Harrison .. N J
Rauland Div Zenith Radio Corp Melrose Park Ill
Sarco Co Harrisonburg .... Va
Sigmatron Inc Goleta .... Cal
Standard TV Tube Co Jacksonville .... Fla
Sylvania Electric Prods Inc, Electronic Tube Div
  Seneca Falls .... N Y
Telefunken Sales Corp Garden City .... N Y
Thomas Electronics Inc Wayne .... NJ
Westinghouse Electric Corp, Electronic Tube Div
  Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, CATHODE RAY—VIDICON

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS
CEDAR GROVE .... N J
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
HAMAMATSU TV CO LTD SHIZUOKA PRE .... JAPAN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
WHITTAKER CORP GEN COM DIV PLAINVIEW .... N Y
Amperex Electronic Corp, Electro Optical Devices Div
  Slatersville .... R I
Corvair Electronics New York .... N Y

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Electronics Buyers' Guide

Denson Electronics Corp Rockville .... Conn
EMI Electronics Ltd Hayes .... Middlesex Eng
English Electric Valve Co, Ltd Essex .... England
Federal Tool Engineering Co Div Arvin Inds Cedar Grove ... N J
General Electric Co, ECSO Schenectady .... N Y
General Electrodynamics Corp Garland .... Tex
Hamamatsu TV Co Ltd Shizuoka Pre .... Japan
Heimann GMBH 62 Wiesbaden-Dotzheim .... Germany
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa .... Japan
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
La Radiotechnique Compelec Paris 11e .... France
MacKay Research Labs Wickenburg .... Ariz
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mullard Ltd London, WC 1 .... Eng
Nippon Electric Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Sarco Co Harrisonburg .... Va
Shiba Electric Co Ltd Woodside .... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo .... Japan
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY
Whittaker Corp Gen Com Div Plainview .... N Y

TUBES—CERAMIC (ELECTRON)

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
SIEMENS AMERICA INC NEW YORK .... N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Ceram Corp La Mesa .... Cal
Corvair Electronics New York .... N Y
E G & G Inc, Electronic Prods Div Boston .... Mass
Eimac Div, Varian Associates San Carlos .... Cal
English Electric Valve Co, Ltd Essex .... England
General Electric Co, ECSO Schenectady .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
Machlett Labs Inc, The Stamford .... Conn
M-O Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
NGK Spark Plug Co Ltd Mizuho-ku Nagoya .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Paul & Stein Bros Inc, F H New York .... N Y
Radio Corp of America, Electronic Components Harrison .. N J
Siemens America Inc New York .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Tung-Sol Div Wagner Electric Corp Newark .... N J
Varian Palo Alto .... Cal
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, COUNTER—DECADE & PULSE

NATIONAL ELECTRONICS INC VARIAN SUB GENEVA ... ILL
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Baird-Atomic, Inc Cambridge .... Mass
Burroughs Corp, Defense, Space & Spec Sys Group Paoli .. Pa
Burroughs Corp Electronic Components Div Plainfield .... N J
Corvair Electronics New York .... N Y
Elesta Ltd Electronics Bad Ragaz .... Switzerland
Industrial Electronic Engineers Inc Van Nuys .... Cal
Integrated Circuit Electronics Div Datatronics Waltham . Mass
International Electronics Corp Melville .... NY
ITT Europe Inc Components Gp Brussels 1 .... Belgium
La Radiotechnique Compelec Paris 11e .... France
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mullard Ltd London, WC 1 .... Eng
National Electronics Inc Varian Sub Geneva Ill
Okaya Electric Industries Co Ltd Tokyo .... Japan
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Tracerlab-The Instrument Div of ICN Oakland .... Cal

TUBES, COUNTER—RADIATION

WHITTAKER CORP GEN COM DIV PLAINVIEW .... N Y
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Atomic Labs, Div Cenco Instr Corp Chicago Ill
Corvair Electronics New York .... N Y
Eberline Instrument Corp Santa Fe .... N M
EON Corp Brooklyn .... N Y
International Electronics Corp Melville .... NY
In-Val-Co Tulsa .... Okla
Isotopes A Teledyne Co Westwood .... N J
Johnston Labs, Inc Cockeysville .... Md
Landis & Gyr AG Zug .... Switzerland
Landsverk Electrometer Co Glendale .... Cal
La Radiotechnique Compelec Paris 11e .... France
Mullard Ltd London, WC 1 .... Eng
Nuclear-Chicago Des Plaines Ill
Nuclear Corp of America, Nuclear Div Denville .... N J
Nuclear Development Lab, Inc Kansas City .... Mo
Nuclear Enterprises Ltd Edinburgh .... Scotland
Nuclear Equipment Chemical Corp Farmingdale .... N Y
Nuclear Supplies Encino .... Cal
Picker Nuclear White Plains .... N Y
Plessey Co Ltd Ilford Essex .... England
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Reuter-Stokes Electronic Components Inc Cleveland .... Ohio
RIL Electronics Inc Southampton .... Pa
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Tracerlab-The Instrument Div of ICN Oakland .... Cal
20th Century Electronics Ltd New Addington Croydon Cr 90 BG .... England
Victoreen Instrument Div Cleveland .... Ohio
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY
Whittaker Corp Gen Com Div Plainview .... N Y
Wood Counter Laboratory Inc, N Chicago Ill

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TUBES—ELECTROMETER

Corvair Electronics New York .... N Y
International Electronics Corp Melville .... NY
Landsverk Electrometer Co Glendale .... Cal
La Radiotechnique Compelec Paris 11e .... France
Mullard Ltd London, WC 1 .... Eng
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Telefunken Sales Corp Garden City .... N Y
Tracerlab-The Instrument Div of ICN Oakland .... Cal
Victoreen Instrument Div Cleveland .... Ohio

TUBES—ELECTROSTATIC PRINTING

Amglo Corp Chicago Ill
Corvair Electronics New York .... N Y
National Union Electric Corp Electronics Div Bloomington ... Ill
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Thomas Electronics Inc Wayne .... NJ

TUBES—GAS LASER

See **Lasers—Gaseous**

TUBES, GLOW OR DISCHARGE—COLD CATHODE

SIGNALITE INC NEPTUNE N J .... ADV PG 686
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
Amglo Corp Chicago Ill
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Baird-Atomic, Inc Cambridge .... Mass
Black Light Corp of America San Gabriel .... Cal
Burroughs Corp Electronic Components Div Plainfield .... N J
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York .... N Y
Dimensions Inc Hempstead .... N Y
E G & G Inc, Electronic Prods Div Boston .... Mass
Elesta Ltd Electronics Bad Ragaz .... Switzerland
English Electric Valve Co, Ltd Essex .... England
General Laboratory Assoc Inc Norwich .... N Y
Illumination Industries Inc Sunnyvale .... Cal
Industrial Electronic Engineers Inc Van Nuys .... Cal
Integrated Circuit Electronics Div Datatronics Waltham . Mass
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Joslyn Electronic Systems Div Goleta .... Cal
Kemlite Labs Inc Chicago Ill
La Radiotechnique Compelec Paris 11e .... France
Mackay Inc, A D New York .... N Y
Matsushita Electric Industrial Co Ltd Osaka .... Japan
M-O Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
Mura Corp Great Neck .... N Y
National Union Electric Corp Electronics Div Bloomington ... Ill
Radio Corp of America, Electronic Components Harrison .. N J
Ray Proof Corp Norwalk .... Conn
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Signalite Inc Neptune .... N J
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Systems Engineering Ltd Grouse Creek .... Utah
Telefunken Sales Corp Garden City .... N Y
Tung-Sol Div Wagner Electric Corp Newark .... N J
Ultra-Violet Products Inc San Gabriel .... Cal
Victoreen Instrument Div Cleveland .... Ohio
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, GLOW OR DISCHARGE—COLD CATHODE TRIGGER

SIGNALITE INC NEPTUNE N J .... ADV PG 686
Aerolux Light Co Inc Div Duro Test Corp New York ...... N Y
Amglo Corp Chicago Ill
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Baird-Atomic, Inc Cambridge .... Mass
Black Light Corp of America San Gabriel .... Cal
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York .... N Y
E G & G Inc, Electronic Prods Div Boston .... Mass
Electro Technic Products Chicago Ill
Elesta Ltd Electronics Bad Ragaz .... Switzerland
English Electric Valve Co, Ltd Essex .... England
General Laboratory Assoc Inc Norwich .... N Y
Integrated Circuit Electronics Div Datatronics Waltham . Mass
International Electronics Corp Melville .... NY
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Joslyn Electronic Systems Div Goleta .... Cal
La Radiotechnique Compelec Paris 11e .... France
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mullard Ltd London, WC 1 .... Eng
National Union Electric Corp Electronics Div Bloomington ... Ill
Okaya Electric Industries Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Signalite Inc Neptune .... N J
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Ultra-Violet Products Inc San Gabriel .... Cal
Victoreen Instrument Div Cleveland .... Ohio
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, GLOW OR DISCHARGE—HOT CATHODE

SIGNALITE INC NEPTUNE N J .... ADV PG 686
Aerolux Light Co Inc Div Duro Test Corp New York ...... N Y
Amglo Corp Chicago Ill
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Black Light Corp of America San Gabriel .... Cal
Corvair Electronics New York .... N Y
International Electronics Corp Melville .... NY
La Radiotechnique Compelec Paris 11e .... France
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Mullard Ltd London, WC 1 .... Eng
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Signalite Inc Neptune .... N J
Ultra-Violet Products Inc San Gabriel .... Cal
Victoreen Instrument Div Cleveland .... Ohio
Westinghouse Electric Corp, Tube Div Elmira .... NY

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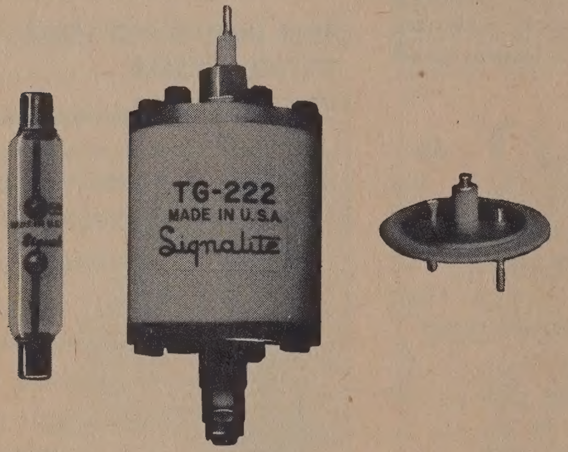

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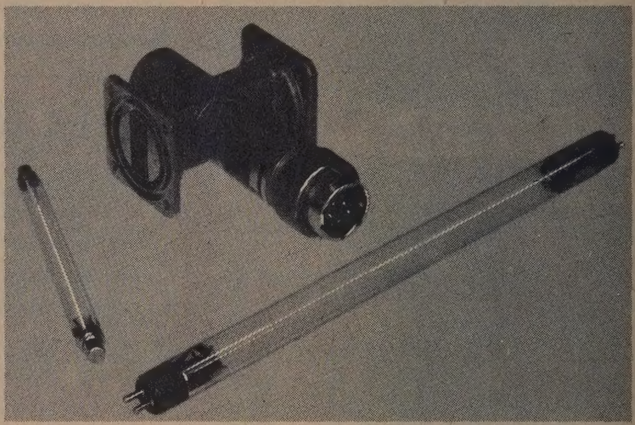

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TUBES—HEARING-AID

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La Radiotechnique Compelec Paris 11e . . . . France
Mullard Ltd London, WC 1 . . . . Eng
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Mass

TUBES—HYDROGEN-THYRATRON

***See* Tubes—Thyratron**

TUBES—IGNITRON

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
NATIONAL ELECTRONICS INC VARIAN SUB GENEVA . . . ILL
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Corvair Electronics New York . . . . N Y
English Electric Valve Co, Ltd Essex . . . . England
Fivre Dept Fabbrica Ital Mag Marelli Pavia . . . . Italy
General Electric Co, ECSO Schenectady . . . . N Y
International Electronics Corp Melville . . . . NY
La Radiotechnique Compelec Paris 11e . . . . France
Mitsubishi Electric Corp Tokyo . . . . Japan
Mullard Ltd London, WC 1 . . . . Eng
National Electronics Inc Varian Sub Geneva Ill
Radio Corp of America, Electronic Components Harrison . . N J
Sarco Co Harrisonburg . . . . Va
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY

TUBES—IMAGE CONVERTER

HAMAMATSU TV CO LTD SHIZUOKA PRE . . . . JAPAN
WHITTAKER CORP GEN COM DIV PLAINVIEW . . . . N Y
Abtronics, Inc Livermore . . . . Cal
Amperex Electronic Corp, Electro Optical Devices Div Slatersville . . . . R I
Bailey Co Washington . . . . D C
Beckman & Whitley Mountain View . . . . Cal
Bendix Corp Electro Optics Div Ann Arbor . . . . Mich
Corvair Electronics New York . . . . N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
EMI Electronics Ltd Hayes . . . . Middlesex Eng
EMR Div Weston Instruments Inc Princeton . . . . N J
Hamamatsu TV Co Ltd Shizuoka Pre . . . . Japan
Heimann GMBH 62 Wiesbaden-Dotzheim . . . . Germany
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
La Radiotechnique Compelec Paris 11e . . . . France
Machlett Labs Inc, The Stamford . . . . Conn
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
Mullard Ltd London, WC 1 . . . . Eng
Radio Corp of America, Electronic Components Harrison . . N J
Rauland Div Zenith Radio Corp Melrose Park Ill
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
TRW Systems Group Redondo Beach . . . . Cal
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Warnecke Electron Tubes Inc Des Plaines Ill
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Whittaker Corp Gen Com Div Plainview . . . . N Y

TUBES—IMAGE TRANSFER

Corvair Electronics New York . . . . N Y
EMR Div Weston Instruments Inc Princeton . . . . N J
Keleket-CGR Corp Waltham . . . . Mass
Thomson-CSF Electron Tubes Inc New York . . . . N Y
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Westinghouse Electric Corp, Tube Div Elmira . . . . NY

TUBES—IONIZATION

***See* Chambers—Ionization**

TUBES, MICROWAVE—BACKWARD WAVE (INCL. CARCINOTRON)

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
Bomac Div Varian Associates Beverly . . . . Mass
Corvair Electronics New York . . . . N Y
English Electric Valve Co, Ltd Essex . . . . England
Hughes Aircraft Co, Electron Dynamics Div Torrance . . . . . Cal
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
ITT Europe Inc Components Gp Brüssels 1 . . . . Belgium
Klystronics Inc Eatontown . . . . N J
La Radiotechnique Compelec Paris 11e . . . . France
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Microwave Associates Inc Burlington . . . . Mass
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Siemens America Inc New York . . . . N Y
Sperry Electronic Tube Div, Sperry Rand Corp Gainesville . Fla
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal
Warnecke Electron Tubes Inc Des Plaines Ill
Watkins-Johnson Co Palo Alto . . . . Cal

TUBES, MICROWAVE—CROSSED FIELD (EXCEPT MAGNETRON)

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Bomac Div Varian Associates Beverly . . . . Mass
Corvair Electronics New York . . . . N Y
International Electronics Corp Melville . . . . NY
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Microwave Associates Inc Burlington . . . . Mass
Nippon Electric Co Ltd Tokyo . . . . Japan
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
S-F-D Labs Inc Union . . . . N J
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal
Warnecke Electron Tubes Inc Des Plaines Ill
Watkins-Johnson Co Palo Alto . . . . Cal

TUBES, MICROWAVE—KLYSTRON

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PGS 7,687
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
WHITTAKER CORP GEN COM DIV PLAINVIEW . . . . N Y
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Beam Tube Corp Milford . . . . Mass
Bomac Div Varian Associates Beverly . . . . Mass
Canadian Motorola Electronics Ltd Willowdale 425 . . . . . . Ont
Corvair Electronics New York . . . . N Y
EMI Electronics Ltd Hayes . . . . Middlesex Eng
English Electric Valve Co, Ltd Essex . . . . England
Ferranti Electric Inc Plainview . . . . N Y
Fivre Dept Fabbrica Ital Mag Marelli Pavia . . . . Italy
General Electric Co, ECSO Schenectady . . . . N Y
Hughes Aircraft Co, Electron Dynamics Div Torrance . . . . . Cal
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Klystronics Inc Eatontown . . . . N J
La Radiotechnique Compelec Paris 11e . . . . France
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Metcom Inc Salem . . . . Mass
Microwave Associates Inc Burlington . . . . Mass
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electric Industry Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Radio Corp of America, Electronic Components Harrison . . N J
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Siemens America Inc New York . . . . N Y
Sperry Electronic Tube Div, Sperry Rand Corp Gainesville . Fla
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal
Whittaker Corp Gen Com Div Plainview . . . . N Y

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Triode and tetrode designs for high-power gain and broad bandwidth capabilities in a wide variety of advanced VHF-UHF RF power amplifier and oscillator applications.

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G-E offers an extensive line of planar tubes in diode and triode designs for oscillators, amplifiers, mixers, detectors, and other high-reliability applications for d-c to 10 gc. Highest available ratio of power, efficiency, and gain-bandwidth to size and weight.

VOLTAGE TUNABLE MAGNETRONS

VTMs are available from milliwatts to hundreds of watts, 1000 to 6000 megahertz. Packages include magnetic shielding and integral isolators.

For information contact nearest GE Sales Office from list on page 7, or write to Section 998-67, General Electric Co., Schenectady, N. Y. 12305

TUBES, MICROWAVE—MAGNETRON

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Bomac Div Varian Associates Beverly . . . . Mass
Corvair Electronics New York . . . . N Y
English Electric Valve Co, Ltd Essex . . . . England
Ferranti Electric Inc Plainview . . . . N Y
General Electric Co, ECSO Schenectady . . . . N Y
International Electronics Corp Melville . . . . NY
La Radiotechnique Compelec Paris 11e . . . . France
Litton Industries, Electron Tube Div San Carlos . . . . Cal
MacKay Research Labs Wickenburg . . . . Ariz
Metcom Inc Salem . . . . Mass
Microwave Associates Inc Burlington . . . . Mass
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Radio Corp of America, Electronic Components Harrison . . N J
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
S-F-D Labs Inc Union . . . . N J
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal

TUBES, MICROWAVE—MAGNETRON, VOLTAGE TUNABLE

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
Bomac Div Varian Associates Beverly . . . . Mass
Corvair Electronics New York . . . . N Y
General Electric Co, ECSO Schenectady . . . . N Y
International Electronics Corp Melville . . . . NY
La Radiotechnique Compelec Paris 11e . . . . France
Microwave Associates Inc Burlington . . . . Mass
Mictron Div KMS Ind Inc Sarasota . . . . Fla
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal

TUBES, MICROWAVE—TRAVELING WAVE

NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
SIEMENS AMERICA INC NEW YORK . . . . N Y
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Corvair Electronics New York . . . . N Y
English Electric Valve Co, Ltd Essex . . . . England
Fivre Dept Fabbrica Ital Mag Marelli Pavia . . . . Italy
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japan
Hughes Aircraft Co, Electron Dynamics Div Torrance . . . . . Cal
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
ITT Europe Inc Components Gp Brussels 1 . . . . Belgium
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Microwave Associates Inc Burlington . . . . Mass
Microwave Electronics A Teledyne Co Palo Alto . . . . Cal
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
Oki Electronics of America, Inc Fort Lauderdale . . . . Fla
Radio Corp of America, Electronic Components Harrison . . N J
Raytheon Co, Microwave & Power Tube Div Waltham . . . Mass
Siemens America Inc New York . . . . N Y
Sperry Electronic Tube Div, Sperry Rand Corp Gainesville . Fla
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Varian Palo Alto . . . . Cal
Warnecke Electron Tubes Inc Des Plaines Ill
Watkins-Johnson Co Palo Alto . . . . Cal

TUBES—NOISE SOURCE

SIGNALITE INC NEPTUNE . . . . N J
Airborne Instruments Lab, Div Cutler-Hammer Inc Deer Park . . . . N Y
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Burroughs Corp Electronic Components Div Plainfield . . . . N J
Corvair Electronics New York . . . . N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
English Electric Valve Co, Ltd Essex . . . . England
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa

Lake Engineering Co Ltd Scarborough . . . . Ont
Litton Industries, Electron Tube Div San Carlos . . . . Cal
Metcom Inc Salem . . . . Mass
M-O Valve Co Ltd Hammersmith, London W6 . . . . Eng
Signalite Inc Neptune . . . . N J
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Thermosen Inc Stamford . . . . Conn
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Varian Palo Alto . . . . Cal
Warnecke Electron Tubes Inc Des Plaines Ill
Watkins-Johnson Co Palo Alto . . . . Cal

TUBES—NUMERAL-INDICATING

See **Indicators—Digital Tube Type**

TUBES—PENCIL

SIEMENS AMERICA INC NEW YORK . . . . N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK . . . . N J
Apollo Corp Shinagawa Tokyo . . . . Japan
Corvair Electronics New York . . . . N Y
International Electronics Corp Melville . . . . NY
Mullard Ltd London, WC 1 . . . . Eng
Radio Corp of America, Electronic Components Harrison . . N J
Siemens America Inc New York . . . . N Y
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Tung-Sol Div Wagner Electric Corp Newark . . . . N J

TUBES, PHOTOTUBES—GENERAL PURPOSE

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
HAMAMATSU TV CO LTD SHIZUOKA PRE . . . . JAPAN
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK . . . . N J
WHITTAKER CORP GEN COM DIV PLAINVIEW . . . . N Y
Abtronics, Inc Livermore . . . . Cal
Amperex Electronic Corp, Electro Optical Devices Div Slatersville . . . . R I
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York . . . . N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
General Electric Co, ECSO Schenectady . . . . N Y
Grace Electronics Inc Cleveland . . . . Ohio
Hamamatsu TV Co Ltd Shizuoka Pre . . . . Japan
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japan
Illumination Industries Inc Sunnyvale . . . . Cal
Instrumentation Lab Inc Lexington . . . . Mass

R427
R 106
R303
R300

HAMAMATSU tailors photomultipliers to your specs

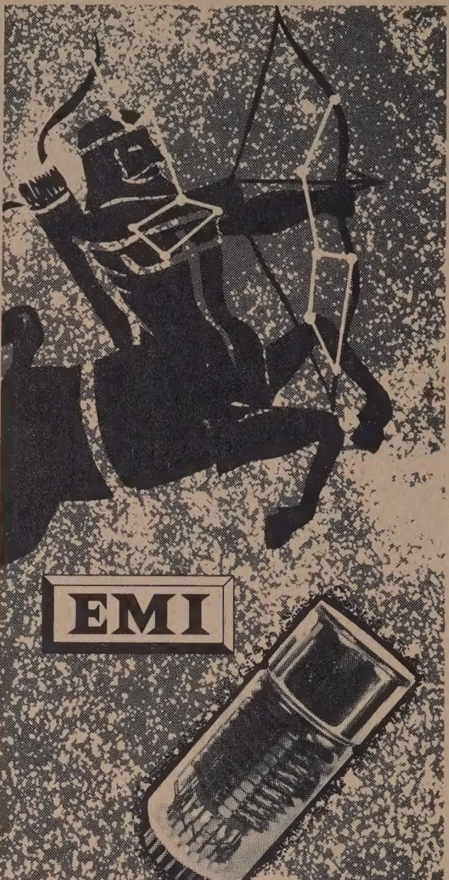
This 9-stage, 1/2″ diameter photomultiplier series, although tiny, equals performance of conventional standard size tubes.

R300
Miniaturized version of 1P28 with UV transmitting glass. S-5 spectral response.
R303
Miniaturized version of R213 with UV transmitting glass. 1850 to 8000 Å spectral response.
R306
Miniaturized version of R106 with fused silica window having S-19 spectral response.
R427
Miniaturized with Cs-Te photocathode having solar blind characteristics similar R166.
1600 to 32000 Å spectral response.

OUR PRODUCTS
• Phototubes • Photomultiplier Tubes
• Photoconductive cells • Special Vidicons

HAMAMATSU TV CO., LTD.
1126 Ichino-cho, Hamamatsu city, Japan.
Telex: 4225-185 Japan
Cable: HAMA TV HAMAMATSU JAPAN

WORKHORSE!



TYPE 9750

Nothing fancy, and not expensive. Just a good old 10 stage photo-multiplier but: It has a superb bialkali cathode with excellent collection efficiency (which is fundamental for good S/N ratio), highly stable CsSb dynodes which provide a gain of 10^6 at just over 1,000 volts, and a dark current of 10^{-10} A. at that voltage (50 A/L).

As usual EMI has provided a number of variations: 9750QB with a spectrosil window for UV and low level counting applications, (liquid scintillation) 9750B with Pyrex window for visible applications, and finally 9750KB for those who prefer the B-14A overcapped base. In the "K" configuration, it is directly interchangeable with our 9656KB or a number of competitive types.

The 9750 with its high quantum efficiency and low dark current gives excellent resolution for low energy gamma rays. When used with a thin two inch sodium iodide crystal with a beryllium window, the resolution for Fe^{55} is of the order of 40%.

Flying spot scanners, photometers, thermoluminescent dosimeters, low level scintillation counting are all applications for which the 9750 is highly suitable. Detailed specifications on request from:

GENCOM DIVISION
varian/EMI
80 EXPRESS STREET, PLAINVIEW, N. Y. 11803
TELEPHONE: (516) 433-5900

International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
Johnston Labs, Inc Cockeysville . . . . Md
La Radiotechnique Compelec Paris 11e . . . . France
Lektra Labs Inc Div Kriser Corp College Point . . . . N Y
MacKay Research Labs Wickenburg . . . . Ariz
Mullard Ltd London, WC 1 . . . . Eng
National Union Electric Corp Electronics Div Bloomington . . . Ill
Radio Corp of America, Electronic Components Harrison . . N J
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Sylvania Elec Prods Inc Special Prod Div Danvers . . . . . . Mass
Telefunken Sales Corp Garden City . . . . N Y
Thomson-CSF Electron Tubes Inc New York . . . . N Y
Thomson-CSF 78 Versailles . . . . France
Tung-Sol Div Wagner Electric Corp Newark . . . . N J
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Whittaker Corp Gen Com Div Plainview . . . . N Y

TUBES, PHOTOTUBES—MULTIPLIER

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG 7
HAMAMATSU TV CO LTD SHIZUOKA PRE JAPAN . . . . ADV PG 688
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPAN
WHITTAKER CORP GEN COM DIV PLAINVIEW N Y . . . . ADV PG 688
Bailey Co Washington . . . . D C
Bendix Corp Electro Optics Div Ann Arbor . . . . Mich
Corvair Electronics New York . . . . N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton . . N J
EMI Electronics Ltd Hayes . . . . Middlesex Eng
EMR Div Weston Instruments Inc Princeton . . . . N J
English Electric Valve Co, Ltd Essex . . . . England
General Electric Co, ECSO Schenectady . . . . N Y
Grace Electronics Inc Cleveland . . . . Ohio
Hamamatsu TV Co Ltd Shizuoka Pre . . . . Japan
Heimann GMBH 62 Wiesbaden-Dotzheim . . . . Germany
International Electronics Corp Melville . . . . NY
ITT Electron Tube Div Easton . . . . Pa
Johnston Labs, Inc Cockeysville . . . . Md
La Radiotechnique Compelec Paris 11e . . . . France
Lektra Labs Inc Div Kriser Corp College Point . . . . N Y
MacKay Research Labs Wickenburg . . . . Ari
Mullard Ltd London, WC 1 . . . . Eng
Nippon Electric Co Ltd Tokyo . . . . Japan
Radio Corp of America, Electronic Components Harrison . . N J
Schoeffel Instrument Corp Westwood . . . . N J
Science Accessories Corp Southport . . . . Conn
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls . . . . N Y
Sylvania - Electro-Optics Organization Mountain View . . . . Ca
20th Century Electronics Ltd New Addington Croydon Cr 90 BG . . . . England
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh . . . . Pa
Westinghouse Electric Corp, Tube Div Elmira . . . . NY
Whittaker Corp Gen Com Div Plainview . . . . N Y

TUBES—PIRANI

See **Gages—Vacuum**

TUBES—PLANAR

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG
SIEMENS AMERICA INC NEW YORK . . . . N
Abtronics, Inc Livermore . . . . Ca
Amperex Electronic Corp, Professional Tube Div Hicksville . N
Corvair Electronics New York . . . . N
Eimac Div, Varian Associates San Carlos . . . . Ca
General Electric Co, ECSO Schenectady . . . . N
Litton Industries, Electron Tube Div San Carlos . . . . Ca
Machlett Labs Inc, The Stamford . . . . Con
Siemens America Inc New York . . . . N
Thomson-CSF Electron Tubes Inc New York . . . . N
Thomson-CSF 78 Versailles . . . . Franc

TUBES—POWER AMPLIFIER

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y . . . . ADV PG
NIPPON ELECTRIC CO LTD TOKYO . . . . JAPA
SIEMENS AMERICA INC NEW YORK . . . . N
Amperex Electronic Corp, Professional Tube Div Hicksville . N
Cetron Electronic Corp Geneva I
Corvair Electronics New York . . . . N
Eimac Div, Varian Associates San Carlos . . . . Ca
Electronic Enterprises Inc Newark . . . . N
English Electric Valve Co, Ltd Essex . . . . Englan
General Electric Co, ECSO Schenectady . . . . N
Hitachi Ltd Chiyoda-Ku, Tokyo . . . . Japa
International Electronics Corp Melville . . . . N
ITT Electron Tube Div Easton . . . . P
ITT Europe Inc Components Gp Brussels 1 . . . . Belgiu
Klystronics Inc Eatontown . . . . N
Litton Industries, Electron Tube Div San Carlos C
Machlett Labs Inc, The Stamford . . . . Con
Matsushita Electric Industrial Co Ltd Osaka . . . . Japa
M-O Valve Co Ltd Hammersmith, London W6 . . . . En
Mullard Ltd London, WC 1 . . . . En
National Union Electric Corp Electronics Div Bloomington . . .
Nippon Electric Co Ltd Tokyo . . . . Japa
Radio Corp of America, Electronic Components Harrison . . N
Raytheon Co, Components Div, Ind Compnts Oper Quincy . . . . Ma

Siemens America Inc New York .... N Y
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Telefunken Sales Corp Garden City .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Varian Palo Alto .... Cal
Watkins-Johnson Co Palo Alto .... Cal
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES—RADIAL-BEAM

***See* Tubes—Counter**

TUBES—RECEIVING

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Corvair Electronics New York .... N Y
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
ITT Europe Inc Components Gp Brussels 1 .... Belgium
La Radiotechnique Compelec Paris 11e .... France
Matsushita Electric Industrial Co Ltd Osaka .... Japan
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
Nippon Electric Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Sampson Electronic Products Div Chicago Ill
Siemens America Inc New York .... N Y
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Telefunken Sales Corp Garden City .... N Y
Thermosen Inc Stamford .... Conn
Thomson-CSF Electron Tubes Inc New York .... N Y
Toyo Musen Co Ltd Tokyo .... Japan
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, RECTIFYING—GAS FILLED

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NATIONAL ELECTRONICS INC VARIAN SUB GENEVA ... ILL
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
Aerolux Light Co Inc Div Duro Test Corp New York .... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York .... N Y
Electronic Enterprises Inc Newark .... N J
Electrons Co Newark .... N J
English Electric Valve Co, Ltd Essex .... England
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
Gordos Corp Bloomfield .... N J
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
ITT Europe Inc Components Gp Brussels 1 .... Belgium
La Radiotechnique Compelec Paris 11e .... France
Matsushita Electric Industrial Co Ltd Osaka .... Japan
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
National Electronics Inc Varian Sub Geneva Ill
Nippon Electric Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Rectifier Engineering & Supply Co Inc St Louis .... Mo
Siemens America Inc New York .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Tung-Sol Div Wagner Electric Corp Newark .... N J
United Electronics Co Newark .... N J
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES, RECTIFYING—VACUUM

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Apollo Corp Shinagawa Tokyo .... Japan
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York .... N Y
DuMont Electron Tubes Div Fairchild Cam & Inst Clifton .. N J
Eimac Div, Varian Associates San Carlos .... Cal
Electronic Enterprises Inc Newark .... N J
English Electric Valve Co, Ltd Essex .... England
Eureka X-Ray Tube Corp Div Litton Indus Chicago Ill
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Keleket-CGR Corp Waltham .... Mass
Klystronics Inc Eatontown .... N J
La Radiotechnique Compelec Paris 11e .... France
Machlett Labs Inc, The Stamford .... Conn
Matsushita Electric Industrial Co Ltd Osaka .... Japan
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
Nippon Electric Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Siemens America Inc New York .... N Y
Sylvania Electric Prods Inc, Electronic Tube Div Seneca Falls .... N Y
Telefunken Sales Corp Garden City .... N Y
Thermosen Inc Stamford .... Conn
Thomson-CSF Electron Tubes Inc New York .... N Y
Torr Labs Inc Los Angeles .... Cal
Tung-Sol Div Wagner Electric Corp Newark .... N J
United Electronics Co Newark .... N J
Victoreen Instrument Div Cleveland .... Ohio
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES—STORAGE

***See* Tubes—Cathode-Ray**

TUBES—STROBOSCOPIC

***See* Lamps**

TUBES—THYRATRON

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NATIONAL ELECTRONICS INC VARIAN SUB GENEVA ... ILL
SIEMENS AMERICA INC NEW YORK .... N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
Aerolux Light Co Inc Div Duro Test Corp New York .... N Y
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York .... N Y
E G & G Inc, Electronic Prods Div Boston .... Mass
Electronic Enterprises Inc Newark .... N J
Electrons Co Newark .... N J
English Electric Valve Co, Ltd Essex .... England
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Keleket-CGR Corp Waltham .... Mass
La Radiotechnique Compelec Paris 11e .... France
Matsushita Electric Industrial Co Ltd Osaka .... Japan
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
National Electronics Inc Varian Sub Geneva Ill
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Siemens America Inc New York .... N Y
Telefunken Sales Corp Garden City .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Tung-Sol Div Wagner Electric Corp Newark .... N J
Varian Palo Alto .... Cal
Warnecke Electron Tubes Inc Des Plaines Ill
Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES—TRANSMITTING

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
SIEMENS AMERICA INC NEW YORK .... N Y
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Canadian Motorola Electronics Ltd Willowdale 425 .... Ont
Cetron Electronic Corp Geneva Ill
Corvair Electronics New York .... N Y
Eimac Div, Varian Associates San Carlos .... Cal
Electronic Enterprises Inc Newark .... N J
English Electric Valve Co, Ltd Essex .... England
Fivre Dept Fabbrica Ital Mag Marelli Pavia .... Italy
General Electric Co, ECSO Schenectady .... N Y
Hitachi Ltd Chiyoda-Ku, Tokyo .... Japan
International Electronics Corp Melville .... NY
ITT Electron Tube Div Easton .... Pa
ITT Europe Inc Components Gp Brussels 1 .... Belgium
Litton Industries, Electron Tube Div San Carlos .... Cal
Machlett Labs Inc, The Stamford .... Conn
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Microwave Associates Inc Burlington .... Mass
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng
Mullard Ltd London, WC 1 .... Eng
Nippon Electric Co Ltd Tokyo .... Japan
Radio Corp of America, Electronic Components Harrison .. N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy .... Mass
Siemens America Inc New York .... N Y
Telefunken Sales Corp Garden City .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Torr Labs Inc Los Angeles .... Cal
Tung-Sol Div Wagner Electric Corp Newark .... N J
United Electronics Co Newark .... N J
Varian Palo Alto .... Cal
Watkins-Johnson Co Palo Alto .... Cal

Works in Seconds.

The '70 Electronics Buyers' Guide lets you find people, places, and things in seconds. In the Directory of Manufacturers and Sales Offices, for example, more than 6,000 manufacturers are listed, including addresses, telephone numbers, sales offices, the people to call for information, the total number of engineers and employees and sales volumes. So use your EBG. It works in seconds.

Electronics Buyers' Guide

Westinghouse Electric Corp, Electronic Tube Div Pittsburgh .... Pa
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES—TR, PRE TR & ANTI TR

Bomac Div Varian Associates Beverly .... Mass
Corvair Electronics New York .... N Y
English Electric Valve Co, Ltd Essex .... England
Ferranti Electric Inc Plainview .... N Y
International Electronics Corp Melville .... NY
Metcom Inc Salem .... Mass
Microwave Associates Inc Burlington .... Mass
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Varian Palo Alto .... Cal

TUBES—TV CAMERA PICKUP

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
Amperex Electronic Corp, Electro Optical Devices Div Slatersville .... R I
English Electric Valve Co, Ltd Essex .... England
General Electric Co, ECSO Schenectady .... N Y
Radio Corp of America, Electronic Components Harrison .. N J
Telefunken Sales Corp Garden City .... N Y
Thomson-CSF Electron Tubes Inc New York .... N Y
Thomson-CSF 78 Versailles .... France
Westinghouse Electric Corp, Tube Div Elmira .... NY

TUBES—VOLTAGE REFERENCE OR REGULATING (INCL. CORONA-TYPE)

GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y .... ADV PG 7
SIGNALITE INC NEPTUNE .... N J
TUNG-SOL DIV WAGNER ELECTRIC CORP NEWARK .... N J
WHITTAKER CORP GEN COM DIV PLAINVIEW .... N Y
Aerolux Light Co Inc Div Duro Test Corp New York .... N Y
Amperex Electronic Corp Semiconductor & Microcircuits Div Slatersville .... R I
Corvair Electronics New York .... N Y
Elesta Ltd Electronics Bad Ragaz .... Switzerland
English Electric Valve Co, Ltd Essex .... England
EON Corp Brooklyn .... N Y
General Electric Co, ECSO Schenectady .... N Y
International Electronics Corp Melville .... NY
Matsushita Electric Industrial Co Ltd Osaka .... Japan
M-0 Valve Co Ltd Hammersmith, London W6 .... Eng

Mullard Ltd London, WC 1	Eng
National Union Electric Corp Electronics Div Bloomington	Ill
Radio Corp of America, Electronic Components Harrison	N J
Raytheon Co, Components Div, Ind Compnts Oper Quincy	Mass
Signalite Inc Neptune	N J
Telefunken Sales Corp Garden City	N Y
Thomson-CSF Electron Tubes Inc New York	N Y
Tracerlab-The Instrument Div of ICN Oakland	Cal
Tung-Sol Div Wagner Electric Corp Newark	N J
Victoreen Instrument Div Cleveland	Ohio
Westinghouse Electric Corp, Tube Div Elmira	NY
Whittaker Corp Gen Com Div Plainview	N Y

TUBES—X-RAY

AMERICANA X-RAY CO ENGLEWOOD N J	**ADV PG 690**
Americana X-Ray Co Englewood	N J
Comet Co Liebefeld, Berne	Switz
Corvair Electronics New York	N Y
Dunlee Corp Bellwood	Ill
Eureka X-Ray Tube Corp Div Litton Indus Chicago	Ill
Field Emission Corp McMinnville	Ore
Gilardoni S p A Mandello Lario Como	Italy
Hitachi Ltd Chiyoda-Ku, Tokyo	Japan
Keleket-CGR Corp Waltham	Mass
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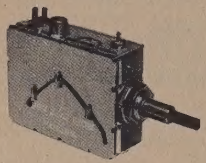

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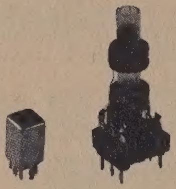
Mitsumi UHF TV tuners are high in accuracy and excellent in durability because not only materials, configurations and platings but also soldering of their mechanical sections were well researched and developed. They are available at present in 3 models.

VHF TV TUNERS

Mitsumi VHF TV tuners are provided with a change-over switch to a UHF tuner, and have built-in IF amplifier and AGC(automatic gain control). They are presently avaialble in 3 models.



VARIOUS COILS

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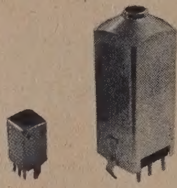
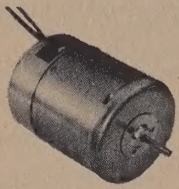


IF TRANSFORMER

There are many kinds of models for the use of television and radio receivers, various electronic equipments, etc. They are all specially quality-controlled so as to have stabilized mechanical characteristics and excellent electrical characteristics, and they are mass-produced by the full automatic coiling machines on the belt conveyor system.



MICRO MOTORS

At present, 11 models are available as those for small tape recorders, 8mm cinecameras, measuring instruments and so forth. They are excellent in starting movement, low in noise and long in life, resulting in the extremely stabilized revolutions. Super-flat type models are also available.

SYNCHRONOUS MOTORS

Mitsumi synchronous motors have the extremely high response and low revolving speed, resulting in less wear of bearings and moving parts, and higher durability.

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Polyvaricon is a miniature variable capacitor that was developed by our company. It has small size, light weight, strong resistivity for howling, excellent Q characteristics, high durabilities for use, temperature and humidity. Various models for AM and FM are available.

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Mitsumi trimmer capacitors are superb in Q characteristics, and temperature and humidity characteristics. Various models for BC, SW and FM bands are available in 2 kinds of film trimmer capacitor and air trimmer capacitor.

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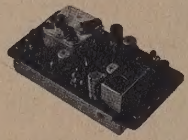
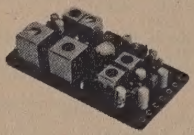
Mitsumi photo-conductive cells having 8 patents, can obtain spectro-wavelength characteristics which match their purpose of use, due to the development of new sintered film. Presently available are 16 model including their applied products.



FM TUNERS

They are all transistorized, and the output IFT has 2 types, namely, single tuning type and double tuning type. The employed transistor is either silicon transistor or germanium transistor.



FM MULTIPLEX ADAPTER

It employs transistors, and has a built-in automatic stereo-monaural indicator. Separation is so good as more than 25dB at 300Hz ~ 4KHz. Distortion (content of higher harmonics) is negligible, and temperature characteristics are excellent.

HYBRID IC

There are 2 types of hybrid integrated circuits, namely, thin film type and thick film type. They are most suitable for such consumer electronic products as radio receivers, television receivers, stereo players, etc. Besides, variable-capacity diodes of MOS type were also developed.

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UNGSTEN

OLYBDENUM CORP OF AMERICA NEW YORK ... N Y
ctive Alloys, Inc Elizabeth ... N J
merican Metal Climax Inc New York ... N Y
ssociated Engineering & Mfg Corp Glen Ridge ... N J
tomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place ... N Y
elmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights ... NY
emol Corp Newton ... Mass
ram Metallurgical Chemical Co Philadelphia ... Pa
erac Inc Butler ... Wis
erro Corp New York ... NY
leveland Refractory Metals, Div Chase Brass Copper Co Solon ... Ohio
M Mfg Co Bloomfield ... N J
ox Mfg Co San Antonio ... Tex
ross Co, H Weehawken ... N J
ansteel Inc North Chicago ... Ill
irth Sterling Corp McKeesport ... Pa
eneral Electric Co Lamp Metals & Components Dept Cleveland ... Ohio
ennametal Inc Latrobe ... Pa
och Light Labs Ltd Colnbrook, Bucks ... England
ackay Inc, A D New York ... N Y
aterials Research Corp Orangeburg ... N Y
etal Ceram Inc Mount Vernon ... N Y
M Company St Paul ... Minn
olybdenum Corp of America New York ... N Y
orton Co Metals Div Newton ... Mass
hilips Elmet Corp Lewiston ... Me
hilips Metalonics Mount Vernon ... N Y
embar Co Inc Dobbs Ferry ... N Y
yerson & Son Inc, J T Chicago ... Ill
emi-Alloys Inc Mt Vernon ... N Y
emicon Associates Inc Lexington ... Ky
emi-Elements Inc Saxonburg ... Pa
hieldalloy Corp Newfield ... N J
pectra-Mat Inc Watsonville ... Cal
ylvania Elec Prods Inc, Chem & Met Div Towanda ... Pa
nion Carbide Corp, Mining & Metals Div New York ... N Y
nion City Filament Corp Union City ... N J
nited Mineral & Chemical Corp New York ... N Y
ar-Lac-Oid Chemical Co Elizabeth ... N J
entron Electronics Corp, Controls/Matls Div Bradford ... Pa
itro Labs Div Vitro Corp of America W Orange ... N J
ah Chang A Teledyne Co Glen Cove ... N Y
estinghouse Electric Corp, Lamp Div Bloomfield ... N J

TUNING CAPACITORS

***See* Capacitors—Variable**

TUNING CONTROLS—AUTOMATIC

***See* Controls—Automatic Tuning**

TUNING DEVICES—RECEIVER, MECHANICAL

JFD ELECTRONICS CORP, COMPONENTS DIV BROOKLYN N Y ... ADV PG 95-97
MALLORY & CO INC, P R INDIANAPOLIS ... IND
MITSUMI ELECTRIC CO LTD TOKYO JAPAN ... ADV PG 692
All Star Products Inc Defiance ... Ohio
American Time Products, Elctns Div Bulova Watch Co Inc Woodside ... N Y
Bird & Sons Ltd, Sydney Poole Dorset ... England
Cardwell Condenser Corp Lindenhurst ... N Y
Hopt KG, R E Rottweil a Neckar ... Germany
Impectron Inc New York ... N Y
Instru-Lec Corp Mt Vernon ... N Y
Intratec Div. British Aircraft Corp. USA Inc. Arlington ... Va
JFD Electronics Corp, Components Div Brooklyn ... N Y
Mallory & Co Inc, P R Indianapolis ... Ind
Mallory Timers Co Indianapolis ... Ind
Mitsumi Electric Co Ltd Tokyo ... Japan
Plessey Co Ltd Ilford Essex ... England
Sankyo Seiki Mfg Co, Ltd Tokyo ... Japan
TRW Electronic Components Div TRW Inc Camden ... N J
Waller Corp Crystal Lake ... Ill

TUNING DEVICES—TRANSMITTER, MECHANICAL

American Time Products, Elctns Div Bulova Watch Co Inc Woodside ... N Y
Automation Development Co Culver City ... Cal
Avco Electronics Div Cincinnati ... Ohio
Cardwell Condenser Corp Lindenhurst ... N Y
Gillette Electronic Products Co Beverly ... N J
Hayakawa Electric Co Ltd Osaka ... Japan
Instru-Lec Corp Mt Vernon ... N Y
TRW Electronic Components Div TRW Inc Camden ... N J

TUNING FORK OSCILLATORS

***See* Oscillators—A-F**

TUNING FORKS

***See* Forks**

TURNTABLES

***See* Phonograph Turntables**

TV BROADCAST STATION ANTENNAS

***See* Antennas—Boradcast Station**

TV CAMERAS

***See* Cameras—TV**

TV RECEIVERS

***See* Receivers—TV**

TV RECEIVING ANTENNAS

***See* Antennas—TV, Receiving**

TV SIGNAL GENERATORS

***See* Generators—Signal**

TV SYSTEMS, CLOSED CIRCUIT—EDUCATIONAL

CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS ... N Y
NELSON-HERSHFIELD ELECTRONICS CO PHOENIX ... ARIZ
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Ameco Inc Phoenix ... Ariz
Ampex Corp Redwood City ... Cal
Amphicon Systems Inc Moonachie ... N J
Blonder-Tongue Labs Inc Newark ... N J
Canadian Marconi Co Montreal 16 ... Quebec
Canadian Motorola Electronics Ltd Willowdale 425 ... Ont
Canoga Industries Los Angeles ... Cal
Central Dynamics Ltd Pte Claire ... Que
Centurion Products Div St Louis ... Mo
Cohu Electronics Inc San Diego ... Cal
Concord Electronics Corp Los Angeles ... Cal
Conrac Corp New York ... N Y
Cunningham Corp Sub Gleason Wks Honeoye Falls ... N Y
Dalto Electronics Corp Norwood ... N J
Data Memory Inc Mountain View ... Cal
Dbm Research Corp Cocoa Beach ... Fla
Denson Electronics Corp Rockville ... Conn
Diamond Electronics Unit, Babcock & Wilcox Lancaster ... Ohio
Diamond Power Sub Babcock & Wilcox Lancaster ... Ohio
Dynair Electronics Inc San Diego ... Cal
Electronics Missiles & Communications Inc White Haven ... Pa
EMI Electronics Ltd Hayes ... Middlesex Eng
Entron Inc Silver Spring ... Md
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp Paramus ... N J
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
General Television Network Ferndale ... Mich
GPL Television The Singer Co Pleasantville ... N Y
Hayakawa Electric Co Ltd Osaka ... Japan
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
Inelco S p A Tavernerio ... Italy
I T I Electronics Inc Clifton ... N J
Jerrold Electronics Corp Philadelphia ... Pa
Kalart Co Inc Plainville ... Conn
K L A Labs Inc Detroit ... Mich
Lake Systems Corp Newton ... Mass
Link Div Singer Co Binghamton ... N Y
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Maryland Telecommunications Div KMS Indus Inc Cockeysville ... Md
Massey Dickinson Co Inc Saxonville ... Mass
Matsushita Communication Industrial Co Ltd Yokohama ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Micro-Link Systems, Varian Assoc Copiague ... NY
Monitor Systems Inc an Aydin Co Fort Washington ... Pa
Motorola Communications & Electronics Div Schaumburg ... Ill
Multi Media Engineering Inc Rockville ... Md
Nelson-Hershfield Electronics Co Phoenix ... Ariz
Nippon Electric Co Ltd Tokyo ... Japan
Packard Bell Electronics, Closed Circuit TV Prods Newbury Park ... Cal
Program Electronics Co New Hyde Park ... N Y
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
RCA, Defense Electronic Products Moorestown ... N J
Riker Video Inc Hauppauge ... N Y
Rust Corp Everett ... Mass
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Schneider Radio-Television Div Ivry ... France
Shiba Electric Co Ltd Woodside ... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Sony Corp Tokyo ... Japan
Spencer-Kennedy Labs Inc Boston ... Mass
Superior Continental Corp Hickory ... N C
Surface Conduction Inc New York ... N Y
Sylvania Electric Prods Inc, Coml Elctns Div Waltham ... Mass
Syscom Corp El Paso ... Tex
Technical Materiel Corp Mamaroneck ... N Y
Tele Measurements Inc Clifton ... N J
Telemet Co, Video Prods & Airborne Telemetry Amityville ... N Y
Tel-Instrument Electronics Corp Carlstadt ... N J
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y
T M C Systems & Power Corp Springfield ... Va
Varian Palo Alto ... Cal
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh ... Pa
Winegard Co Burlington ... Iowa

TV SYSTEMS, CLOSED CIRCUIT—ENTERTAINMENT

NELSON-HERSHFIELD ELECTRONICS CO PHOENIX ... ARIZ
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Ampex Corp Redwood City ... Cal
Amphicon Systems Inc Moonachie ... N J
Blonder-Tongue Labs Inc Newark ... N J
Central Dynamics Ltd Pte Claire ... Que
Centurion Products Div St Louis ... Mo
Concord Electronics Corp Los Angeles ... Cal
Dalto Electronics Corp Norwood ... N J
Data Memory Inc Mountain View ... Cal
Dbm Research Corp Cocoa Beach ... Fla
Denson Electronics Corp Rockville ... Conn
Diamond Electronics Unit, Babcock & Wilcox Lancaster ... Ohio
Diamond Power Sub Babcock & Wilcox Lancaster ... Ohio
Dynair Electronics Inc San Diego ... Cal
EMI Electronics Ltd Hayes ... Middlesex Eng
Entron Inc Silver Spring ... Md
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
General Television Network Ferndale ... Mich
GPL Television The Singer Co Pleasantville ... N Y
Hayakawa Electric Co Ltd Osaka ... Japan
Inelco S p A Tavernerio ... Italy
Jerrold Electronics Corp Philadelphia ... Pa
Kalart Co Inc Plainville ... Conn
K L A Labs Inc Detroit ... Mich
Lake Systems Corp Newton ... Mass
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Maryland Telecommunications Div KMS Indus Inc Cockeysville ... Md
Multi Media Engineering Inc Rockville ... Md
Nelson-Hershfield Electronics Co Phoenix ... Ariz
Nippon Electric Co Ltd Tokyo ... Japan
Packard Bell Electronics, Closed Circuit TV Prods Newbury Park ... Cal
Program Electronics Co New Hyde Park ... N Y
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
Riker Video Inc Hauppauge ... N Y
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Schneider Radio-Television Div Ivry ... France
Shiba Electric Co Ltd Woodside ... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Sony Corp Tokyo ... Japan
Spencer-Kennedy Labs Inc Boston ... Mass
Superior Continental Corp Hickory ... N C
Surface Conduction Inc New York ... N Y
Sylvania Electric Prods Inc, Coml Elctns Div Waltham ... Mass
Syscom Corp El Paso ... Tex
Technical Materiel Corp Mamaroneck ... N Y
Tele Measurements Inc Clifton ... N J
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston New York ... N Y
T M C Systems & Power Corp Springfield ... Va
Winegard Co Burlington ... Iowa

TV SYSTEMS, CLOSED CIRCUIT—INDUSTRIAL

CUNNINGHAM CORP SUB GLEASON WKS HONEOYE FALLS ... N Y
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y ... ADV PG 7
HAMAMATSU TV CO LTD SHIZUOKA PRE ... JAPAN
NELSON-HERSHFIELD ELECTRONICS CO PHOENIX ... ARIZ
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Admiral Systems Corp Chicago ... Ill
Ampex Corp Redwood City ... Cal
Amphicon Systems Inc Moonachie ... N J
Ball Brothers Research Corp Boulder ... Colo
Blonder-Tongue Labs Inc Newark ... N J
Brown Engineering-A Teledyne Co Huntsville ... Ala
Canadian Marconi Co Montreal 16 ... Quebec
Canadian Motorola Electronics Ltd Willowdale 425 ... Ont
Canoga Industries Los Angeles ... Cal
Centurion Products Div St Louis ... Mo
Cohu Electronics Inc San Diego ... Cal
Colorado Video Inc Boulder ... Colo
Concord Electronics Corp Los Angeles ... Cal
Conrac Corp New York ... N Y
Cunningham Corp Sub Gleason Wks Honeoye Falls ... N Y
Dalmo Victor, A Textron Div Belmont ... Cal
Dalto Electronics Corp Norwood ... N J
Data Memory Inc Mountain View ... Cal
Dbm Research Corp Cocoa Beach ... Fla
Denson Electronics Corp Rockville ... Conn

Diamond Electronics Unit, Babcock & Wilcox Lancaster ... Ohio
Diamond Power Sub Babcock & Wilcox Lancaster ... Ohio
Dynair Electronics Inc San Diego ... Cal
Edo Western Corp Salt Lake City ... Utah
EMI Electronics Ltd Hayes ... Middlesex Eng
Entron Inc Silver Spring ... Md
Executive Electronics Inc. Denver ... Colo
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp
  Paramus ... N J
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
General Electric Co, ECSO Schenectady ... N Y
General Electrodynamics Corp Garland ... Tex
General Television Network Ferndale ... Mich
GPL Television The Singer Co Pleasantville ... N Y
Hamamatsu TV Co Ltd Shizuoka Pre ... Japan
Hayakawa Electric Co Ltd Osaka ... Japan
Hydro Products Div Dillingham Corp San Diego ... Cal
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
Inelco S p A Tavernerio ... Italy
Jerrold Electronics Corp Philadelphia ... Pa
Kalart Co Inc Plainville ... Conn
K L A Labs Inc Detroit ... Mich
Lake Systems Corp Newton ... Mass
Lear Siegler Inc, Electronic Instrumentation Div Anaheim ... Cal
Link Div Singer Co Binghamton ... N Y
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Maryland Telecommunications Div KMS Indus Inc
  Cockeysville ... Md
Matsushita Communication Industrial Co Ltd
  Yokohama ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Mitsubishi Electric Corp Tokyo ... Japan
Molecular Research Inc Palm Beach Gardens ... Fla
Monitor Systems Inc an Aydin Co Fort Washington ... Pa
Montedoro Corp San Luis Obispo ... Cal
Mosler Electronic Systems Div Mosler Safe Co Danbury ... Conn
Motorola Communications & Electronics Div Schaumburg ... Ill
Motorola Communications & Electronics Inc Chicago ... Ill
Multi Media Engineering Inc Rockville ... Md
Nelson-Hershfield Electronics Co Phoenix ... Ariz
Nippon Electric Co Ltd Tokyo ... Japan
Olympus Corp of America New Hyde Park ... N Y
Ovitron Corp Industrial Syst Div Cheshire ... Conn
Packard Bell Electronics, Closed Circuit TV Prods
  Newbury Park ... Cal
Program Electronics Co New Hyde Park ... N Y
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
RCA, Defense Electronic Products Moorestown ... N J
Riker Video Inc Hauppauge ... N Y
Rust Corp Everett ... Mass
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Schneider Radio-Television Div Ivry ... France
Shiba Electric Co Ltd Woodside ... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Spencer-Kennedy Labs Inc Boston ... Mass
States Electronics Corp, Bludworth Marine Div Linden ... N J
Superior Continental Corp Hickory ... N C
Surface Conduction Inc New York ... N Y
Sylvania Electric Prods Inc, Coml Elctns Div Waltham ... Mass
Syscom Corp El Paso ... Tex
Technical Materiel Corp Mamaroneck ... N Y
Tele Measurements Inc Clifton ... N J
Telemet Co, Video Prods & Airborne Telemetry Amityville ... N Y
Thomson-CSF 78 Versailles ... France
Thomson Electric Co, Sub Cie Fran Thomson Houston
  New York ... N Y
T M C Systems & Power Corp Springfield ... Va
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh ... Pa

TV SYSTEMS, CLOSED CIRCUIT—MEDICAL

HAMAMATSU TV CO LTD SHIZUOKA PRE ... JAPAN
NELSON-HERSHFIELD ELECTRONICS CO PHOENIX ... ARIZ
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Admiral Systems Corp Chicago ... Ill
Ampex Corp Redwood City ... Cal
Amphicon Systems Inc Moonachie ... N J
Bionic Instruments Inc Bala Cynwyd ... Pa
Blonder-Tongue Labs Inc Newark ... N J
Brown Engineering-A Teledyne Co Huntsville ... Ala
Canadian Motorola Electronics Ltd Willowdale 425 ... Ont
Canoga Industries Los Angeles ... Cal
Centurion Products Div St Louis ... Mo
Cohu Electronics Inc San Diego ... Cal
Colorado Video Inc Boulder ... Colo
Concord Electronics Corp Los Angeles ... Cal
Conrac Corp New York ... N Y
Dalto Electronics Corp Norwood ... N J
Data Memory Inc Mountain View ... Cal
Denson Electronics Corp Rockville ... Conn
Diamond Electronics Unit, Babcock & Wilcox Lancaster ... Ohio
Diamond Power Sub Babcock & Wilcox Lancaster ... Ohio
Dynair Electronics Inc San Diego ... Cal
Electronics Missiles & Communications Inc White Haven ... Pa
EMI Electronics Ltd Hayes ... Middlesex Eng
Executive Electronics Inc. Denver ... Colo
Fairchild Space & Defense Sys Div Fairchild Cam & Instr Corp
  Paramus ... N J
F & M Systems Co, Div Fischbach & Moore, Inc Dallas ... Tex
General Electrodynamics Corp Garland ... Tex
General Television Network Ferndale ... Mich
GPL Television The Singer Co Pleasantville ... N Y
Hamamatsu TV Co Ltd Shizuoka Pre ... Japan
Hayakawa Electric Co Ltd Osaka ... Japan
Ikegami Tsushinki Co Ltd Kawasaki, Kanagawa ... Japan
Inelco S p A Tavernerio ... Italy
Jerrold Electronics Corp Philadelphia ... Pa
Kalart Co Inc Plainville ... Conn
Keleket-CGR Corp Waltham ... Mass
K L A Labs Inc Detroit ... Mich
Kollsman Instrument Corp Syosset ... N Y
Lake Systems Corp Newton ... Mass
Lear Siegler Inc, Electronic Instrumentation Div Anaheim ... Cal
Marconi Co Ltd Chelmsford ... England
Marconi Div, English Electric Corp New York ... N Y
Maryland Telecommunications Div KMS Indus Inc
  Cockeysville ... Md
Massey Dickinson Co Inc Saxonville ... Mass
Matsushita Communication Industrial Co Ltd
  Yokohama ... Japan
Matsushita Electric Industrial Co Ltd Osaka ... Japan
Mitsubishi Electric Corp Tokyo ... Japan
Motorola Communications & Electronics Div Schaumburg ... Ill
Motorola Communications & Electronics Inc Chicago ... Ill
Nelson-Hershfield Electronics Co Phoenix ... Ariz
Nippon Electric Co Ltd Tokyo ... Japan
Olympus Corp of America New Hyde Park ... N Y
Program Electronics Co New Hyde Park ... N Y
Radio Corp of America, Comml Elctn Prods Div Camden ... N J
RCA, Defense Electronic Products Moorestown ... N J
Riker Video Inc Hauppauge ... N Y
Rust Corp Everett ... Mass
Sarkes Tarzian Inc, Broadcast Equip Div Bloomington ... Ind
Schneider Radio-Television Div Ivry ... France
Sharp Electronics Corp Carlstadt ... N J
Shiba Electric Co Ltd Woodside ... N Y
Shiba Electric Co Ltd Chiyoda-Ku Tokyo ... Japan
Spencer-Kennedy Labs Inc Boston ... Mass
Surface Conduction Inc New York ... N Y
Sylvania Electric Prods Inc, Coml Elctns Div Waltham ... Mass
Syscom Corp El Paso ... Tex
Technical Materiel Corp Mamaroneck ... N Y
Tele Measurements Inc Clifton ... N J
Thomson Electric Co, Sub Cie Fran Thomson Houston
  New York ... N Y
Westinghouse Elec Corp Specialty Elctns Div Pittsburgh ... Pa
Zenith Radio Co Govt & Special Prod Div Chicago ... Ill

TV TRANSMITTERS

***See* Transmitters—Broadcast**

TV TUNERS

***See* Tuners**

TV TWIN-LINES

***See* Cables—Unshielded**

TWEETERS

***See* Speakers**

TWISTS—WAVEGUIDE

***See* Waveguide Fittings**

UHF ANTENNAS

***See* Antennas—Communication; Antennas—TV**

UHF CABLES—SHIELDED

***See* Cables—Shielded**

UHF CABLES—UNSHIELDED

***See* Cables—Unshielded**

UHF GENERATORS

***See* Generators—Signal**

UHF RECEIVERS

***See* Receivers—Radio Communication**

UHF SYSTEMS

***See* Communication Systems**

UHF TRANSMITTERS

***See* Transmitters—Radio Communication**

UHF TUNERS

***See* Tuners**

UHF TV CONVERTERS

***See* Converters—Signal**

ULF OSCILLATORS

***See* Oscillators—A-F**

ULTRASONIC EQUIPMENT—AMPLIFIERS

C M L INC PLAINFIELD ... N J
ITHACO INC ITHACA ... N Y
NIPPON ELECTRIC CO LTD TOKYO ... JAPAN
Acoustica Associates Inc Los Angeles ... Cal
Arenberg Ultrasonic Lab, Inc Jamaica Plain ... Mass
Audn Corp Hamburg ... N Y
C M L Inc Plainfield ... N
Dawe Instruments Ltd London W3 ... Englan
Dinsmore Instrument Co Flint ... Mic
DuKane Corp St Charles ... I
G T Research Inc Imlaystown ... N
Hayakawa Electric Co Ltd Osaka ... Japa
Ithaco Inc Ithaca ... N
Krohn-Hite Corp Cambridge ... Mas
Matec Inc Warwick ... R
MTI- Mechanical Technology Inc Latham ... N
Nippon Electric Co Ltd Tokyo ... Japa
Perfectone Sound Labs Allendale ... N
Spencer-Kennedy Labs Inc Boston ... Mas
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo ... Japa
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City ... Japa
Tyco Labs, Digital Devices Div. Syosset ... N

ULTRASONIC EQUIPMENT—ANALYZERS

HEWLETT-PACKARD PALO ALTO ... CA
NIPPON ELECTRIC CO LTD TOKYO ... JAPA
TRACOR INC AUSTIN ... TE
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ ... U
Automation Products, Inc Houston ... Te
Burnett Electronics Lab Inc San Diego ... C
Chesapeake Instrument Corp Shadyside ... M
Dawe Instruments Ltd London W3 ... Englan
Federal Scientific Corp New York ... N
General Radio Co West Concord ... Mas
Hewlett-Packard Palo Alto ... C
Lab Electro-Acoustique 92 Rueil-Malmaison ... Franc
Magnaflux Corp Chicago ... I
Matec Inc Warwick ... R
Nippon Electric Co Ltd Tokyo ... Japa
Nus Corp Paramus ... N
Quan-Tech Labs Inc Whippany ... N
Singer Co Instrumentation Div Bridgeport ... Con
Spectran Electronics Div Novatronics Inc Pompano Beach ... F
Spencer-Kennedy Labs Inc Boston ... Mas
Taylor Instrument Process Con Div Sybron Corp
  Rochester ... N
Tracor Inc Austin ... Te

ULTRASONIC EQUIPMENT—CLEANERS

CLEVITE CORP PIEZOELECTRIC DIV BEDFORD ... OH
KRESSILK PRODUCTS INC ELMSFORD ... N
MACROSONICS INTERNATIONAL INC RAHWAY ... N
Acoustica Associates Inc Los Angeles ... C
Advanced Purification System Co Inc Great Neck ... N
Aerometrics Div Aerojet-General Corp San Ramon ... C
Alcatel Paris 8eme ... Franc
Amsco Industrial Co Div Amer Sterilizer Co Erie ... F
Aviation Electric Ltd St Laurent, Montreal ... Qu
Bausch & Lomb Inc Rochester ... N
Beckman Instruments Inc Fullerton, ... C
Blackstone Ultrasonics Inc Sheffield ... F
Branson Equipment Div Clark ... N
Branson Instruments Co Stamford ... Co
Bulova Watch Co Inc, Watchmaster Products Div
  Jackson Heights ... N
Chemclean Corp College Point ... N
Clarkson Labs Inc Camden ... N
Clean Room Products Inc Farmingdale ... N
Clevite Corp Piezoelectric Div Bedford ... Oh
Cole-Parmer Instrument Co Chicago ...
Commander Labs Inc Escondido ... C
Crest Ultrasonics Corp Trenton ... N
Dawe Instruments Ltd London W3 ... Engla
Delta Sonics Inc Hawthorne ... C
DoAll Co Des Plaines ...
Dynasonics Corp Pipestone ... Mi
Eastern Specialty Co Philadelphia ... F
Edmund Scientific Co Barrington ... N
Electrovert Inc Mt Vernon ... N
General Kinetics Inc Reston ... V
Geoscience Instruments Corp Mt Vernon ... N
Gulton Industries Inc Metuchen ... N
Industrial Instruments Ltd Bromley Kent ... Engla
Injectorall Electronics Corp Great Neck ... N
Interlab Inc Pleasantville ... N
International Electronics Corp Melville ... N
International Scanatron Systems Corp Wyandanch ... N
Janel Inc Stirling ... N
Kressilk Products Inc Elmsford ... N
Lewis Corp Woodbury ... Co
L & R Mfg Co Kearny ... N
Macrosonics International Inc Rahway ... N
Mann Co, Henry Cornwell Heights ... F
Marcal Electro-Sonics Burbank ... C
Mettler Electronics Corp Pasadena ... C
MTI- Mechanical Technology Inc Latham ... N
Multisonic Cleaning Systems Cleveland ... Oh
Nuclear Equipment Chemical Corp Farmingdale ... N
Oakite Products Inc Berkeley Heights ... N
Phillips Mfg Co Chicago ...
Phoenix Materials Corp Forbes Road ... F
Ramyr Mfg Co Buena Park ... C
Sara Scientific Co San Francisco ... C
Sel-Rex Corp & Sub The Meaker Co Nutley ... N
Sharp Electronics Corp Carlstadt ... N
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo ... Jap
Techni-Tool Inc Philadelphia ... F
Tronic Corp Belmont ... C
Ultrasonic Appliances of America Inc Lindenhurst ... N
Ultra Sonic Cleaner Mfg Co N Amityville ... N
Varian Aerograph Walnut Creek ... C
Vigor Tool Co Div B Jadow & Sons Inc New York ... N
Westinghouse Electric Corp Indus Equip Div Baltimore ... N
Wheelabrator Corp Wheelabrator Div Mishawaka ... I
Wye Industries Inc Boston ... Ma

ULTRASONIC EQUIPMENT—CONTROLS

Abtronics, Inc Livermore	Cal
Acoustica Associates Inc Los Angeles	Cal
Alcatel Paris 8eme	France
Audn Corp Hamburg	N Y
Automation Products, Inc Houston	Tex
Bin-Dicator Ultrasonics Div. Detroit	Mich
Cutler-Hammer Inc Milwaukee	Wisc
Dawe Instruments Ltd London W3	England
Delavan Mfg Co West Des Moines	Iowa
Dynasonics Corp Pipestone	Minn
General Railway Signal Co Rochester	N Y
Matec Inc Warwick	R I
MTI- Mechanical Technology Inc Latham	NY
National Sonics Corp Farmingdale	N Y
Sorensen Operation, Raytheon Co. Norwalk	Conn

ULTRASONIC EQUIPMENT—FLAW DETECTORS

Alden Electronic & Impulse Recording Equip Co Inc Westboro	Mass
Arenberg Ultrasonic Lab, Inc Jamaica Plain	Mass
Automation Industries Inc Matls Evaluation Grp Danbury	Conn
Branson Instruments Co Stamford	Conn
Burnett Electronics Lab Inc San Diego	Cal
Dawe Instruments Ltd London W3	England
Delta Sonics Inc Hawthorne	Cal
Gilardoni S p A Mandello Lario Como	Italy
Krautkramer Ultrasonics Inc Stratford	Conn
Magnaflux Corp Chicago	Ill
Nortec Div SAI Richland	Wash
Northwest Technical Industries Richland	Wash
Nuclear Enterprises Ltd Edinburgh	Scotland
Sunshine Scientific Instruments Inc Philadelphia	Pa
Tac Technical Instrument Corp Trenton	N J
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japan

ULTRASONIC EQUIPMENT—GENERATORS (OSCILLATORS)

C M L INC PLAINFIELD	**N J**
MACROSONICS INTERNATIONAL INC RAHWAY	**NJ**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Acoustica Associates Inc Los Angeles	Cal
Aerometrics Div Aerojet-General Corp San Ramon	Cal
Alcatel Paris 8eme	France
Arenberg Ultrasonic Lab, Inc Jamaica Plain	Mass
Audn Corp Hamburg	N Y
Branson Instruments Co Stamford	Conn
Bronson Corp, Sub Kurz & Root Co Appleton	Wisc
Cavitron Ultrasonics Div Cavitron Corp Long Island City	N Y
C M L Inc Plainfield	N J
Dawe Instruments Ltd London W3	England
Delta Sonics Inc Hawthorne	Cal
Elgenco Inc Santa Monica	Cal
General Radio Co West Concord	Mass
Gulton Industries Inc Metuchen	N J
nterlab Inc Pleasantville	N Y
nternational Electronics Corp Melville	NY
ames Electronics Inc Chicago	Ill
anel Inc Stirling	N J
ewis Corp Woodbury	Conn
Macrosonics International Inc Rahway	NJ
Marcal Electro-Sonics Burbank	Cal
Matec Inc Warwick	R I
MTI- Mechanical Technology Inc Latham	NY
Muirhead Instruments Inc Mountainside	N J
Multisonic Cleaning Systems Cleveland	Ohio
Nippon Electric Co Ltd Tokyo	Japan
Sorensen Operation, Raytheon Co. Norwalk	Conn
Tac Technical Instrument Corp Trenton	N J
Tamura Seisakusho Co, Ltd Nerima-Ku, Tokyo	Japan
Tocco Div Park-Ohio Ind Inc Cleveland	Ohio
Ultrasonic Appliances of America Inc Lindenhurst	N Y
Waveforms North Hollywood	Cal
Westinghouse Electric Corp Indus Equip Div Baltimore	Md

ULTRASONIC EQUIPMENT—INSTRUMENTS

DRANETZ ENGINEERING LABS INC PLAINFIELD	**N J**
HEWLETT-PACKARD PALO ALTO	**CAL**
MACROSONICS INTERNATIONAL INC RAHWAY NJ	**ADV PG 695**
Acoustica Associates Inc Los Angeles	Cal
Alcatel Paris 8eme	France
Alden Electronic & Impulse Recording Equip Co Inc Westboro	Mass
Arenberg Ultrasonic Lab, Inc Jamaica Plain	Mass
Audn Corp Hamburg	N Y
Automation Industries Inc Matls Evaluation Grp Danbury	Conn
Birtcher Corp Medical Div Los Angeles	Cal
Blackstone Ultrasonics Inc Sheffield	Pa
Branson Instruments Co Stamford	Conn
Burnett Electronics Lab Inc San Diego	Cal
Dawe Instruments Ltd London W3	England
Delavan Mfg Co West Des Moines	Iowa
Delta Sonics Inc Hawthorne	Cal
Dranetz Engineering Labs Inc Plainfield	N J
Dynasonics Corp Pipestone	Minn
Elgenco Inc Santa Monica	Cal
Hewlett-Packard Palo Alto	Cal
nternational Scanatron Systems Corp Wyandanch	N Y
ames Electronics Inc Chicago	Ill
anel Inc Stirling	N J
Krautkramer Ultrasonics Inc Stratford	Conn
Macrosonics International Inc Rahway	NJ
Magnaflux Corp Chicago	Ill
Matec Inc Warwick	R I
MTI- Mechanical Technology Inc Latham	NY
National Sonics Corp Farmingdale	N Y
Nortec Div SAI Richland	Wash
Northwest Technical Industries Richland	Wash
Nuclear Enterprises Ltd Edinburgh	Scotland
Nus Corp Paramus	N J
Ramsay Engineering Co Anaheim	Cal
Raytheon Co, Marine Products Operation S San Francisco	Cal
Raytheon Co Production Equip Dept Norwalk	Conn
Sanders Assoc 2nc, Mithras Div Cambridge	Mass
Sorensen Operation, Raytheon Co. Norwalk	Conn
Spectran Electronics Div Novatronics Inc Pompano Beach	Fla
Techsonics El Prado	N M
Ultrasonic Appliances of America Inc Lindenhurst	N Y

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ULTRASONIC EQUIPMENT—SOLDERING TOOLS

Alcatel Paris 8eme	France
Dawe Instruments Ltd London W3	England
Delta Sonics Inc Hawthorne	Cal
Electrovert Inc Mt Vernon	N Y
Gulton Industries Inc Metuchen	N J
Interlab Inc Pleasantville	N Y
International Electronics Corp Melville	NY
Kulicke & Soffa Industries Inc Fort Washington	Pa
MTI- Mechanical Technology Inc Latham	NY
Sonobond Corp West Chester	Pa
Sorensen Operation, Raytheon Co. Norwalk	Conn

ULTRASONIC EQUIPMENT—STERILIZERS, MEDICAL

Acoustica Associates Inc Los Angeles	Cal
Aerometrics Div Aerojet-General Corp San Ramon	Cal
Alcatel Paris 8eme	France
Dawe Instruments Ltd London W3	England
De Vilbiss Co Toledo	Ohio
International Rectifier Semiconductor Div El Segundo	Cal
Janel Inc Stirling	N J
Nuclear Enterprises Ltd Edinburgh	Scotland
Ultra Sonic Cleaner Mfg Co N Amityville	N Y

ULTRASONIC EQUIPMENT—THICKNESS GAGES

Alcatel Paris 8eme	France
Automation Industries Inc Matls Evaluation Grp Danbury	Conn
Branson Instruments Co Stamford	Conn
Dawe Instruments Ltd London W3	England
Delta Sonics Inc Hawthorne	Cal
Gilardoni S p A Mandello Lario Como	Italy
Krautkramer Ultrasonics Inc Stratford	Conn
Magnaflux Corp Chicago	Ill
Nortec Div SAI Richland	Wash
Northwest Technical Industries Richland	Wash
Teikoku Tsushin Kogyo Co, Ltd Kawasaki City	Japan
Ultra Sonic Cleaner Mfg Co N Amityville	N Y

ULTRASONIC EQUIPMENT—TRANSDUCERS, CRYSTAL

CLEVITE CORP PIEZOELECTRIC DIV BEDFORD	**OHIO**
MACROSONICS INTERNATIONAL INC RAHWAY	**NJ**
Acoustica Associates Inc Los Angeles	Cal
Alcatel Paris 8eme	France
Branson Instruments Co Stamford	Conn
Channel Industries Inc Santa Barbara	Cal
Clevite Corp Piezoelectric Div Bedford	Ohio
Commander Labs Inc Escondido	Cal
Crest Ultrasonics Corp Trenton	N J
Dawe Instruments Ltd London W3	England
Delta Sonics Inc Hawthorne	Cal
Dynasonics Corp Pipestone	Minn
Edo Western Corp Salt Lake City	Utah
Electra Scientific Div Gulton Indus Inc Fullerton	Cal
Gulton Industries Inc Metuchen	N J
International Transducer Corp Goleta	Cal
Janel Inc Stirling	N J
Kistler Instrument Corp Clarence	N Y
Krautkramer Ultrasonics Inc Stratford	Conn
Linden Labs Inc State College	Pa
Macrosonics International Inc Rahway	NJ
Magnaflux Corp Chicago	Ill
Massa Div Dynamics Corp of America Hingham	Mass
MTI- Mechanical Technology Inc Latham	NY
Multisonic Cleaning Systems Cleveland	Ohio
Nortec Div SAI Richland	Wash
Northwest Technical Industries Richland	Wash
Nus Corp Paramus	N J
Quartz & Silice Paris 8 eme	France
States Electronics Corp, Bludworth Marine Div Linden	N J
Ultrasonic Appliances of America Inc Lindenhurst	N Y

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Aerometrics Div Aerojet-General Corp San Ramon	Cal
Alcatel Paris 8eme	France
Automation Industries Inc Matls Evaluation Grp Danbury	Conn
Cavitron Ultrasonics Div Cavitron Corp Long Island City	N Y
Commander Labs Inc Escondido	Cal
Control Electronics Co Inc Farmingdale	N Y
Dawe Instruments Ltd London W3	England
Delavan Mfg Co West Des Moines	Iowa
G T Research Inc Imlaystown	N J
Janel Inc Stirling	N J
Krautkramer Ultrasonics Inc Stratford	Conn
La Radiotechnique Compelec Paris 11e	France
Lewis Corp Woodbury	Conn
Massa Div Dynamics Corp of America Hingham	Mass
Murata Mfg Co, Ltd Kyoto	Japan
Sorensen Operation, Raytheon Co. Norwalk	Conn
States Electronics Corp, Bludworth Marine Div Linden	N J
TDK Electronics Co Ltd Chiyoda-ku, Tokyo	Japan
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan
Tyco Labs, Digital Devices Div. Syosset	N Y
Westinghouse Electric Corp Indus Equip Div Baltimore	Md

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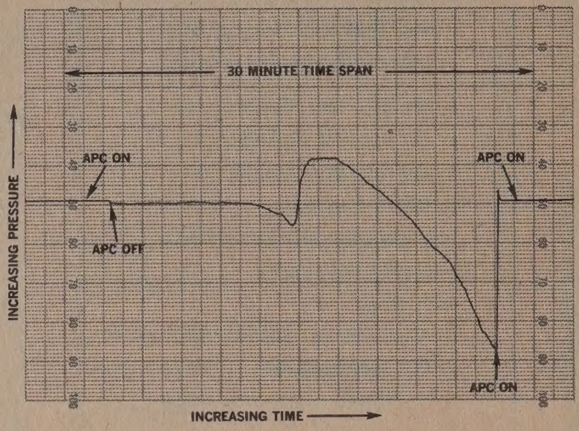
Alcatel Paris 8eme	France
Cavitron Ultrasonics Div Cavitron Corp Long Island City	N Y
Dawe Instruments Ltd London W3	England
Delta Sonics Inc Hawthorne	Cal
Gulton Industries Inc Metuchen	N J
International Electronics Corp Melville	NY
Metal Removal Co Chicago	Ill
Raytheon Co Production Equip Dept Norwalk	Conn
Sorensen Operation, Raytheon Co. Norwalk	Conn
Tohoku Metal Industries, Ltd Chuo-Ku Tokyo	Japan

ULTRASONIC EQUIPMENT—WELDERS

Alcatel Paris 8eme	France
Branson Sonic Power Co Danbury	Conn
Cavitron Ultrasonics Div Cavitron Corp Long Island City	N Y
Dawe Instruments Ltd London W3	England
Delonics Corp New York	N Y
Delta Sonics Inc Hawthorne	Cal
Dynasonics Corp Pipestone	Minn
Hugle Industries Sunnyvale	Cal
Hydro Molding Co Inc Plattsburgh	N Y
International Electronics Corp Melville	NY
Kokusai Electric Co Ltd Tokyo-105	Japan
Kulicke & Soffa Industries Inc Fort Washington	Pa
Marcal Electro-Sonics Burbank	Cal
MTI- Mechanical Technology Inc Latham	NY
Sonobond Corp West Chester	Pa
Sorensen Operation, Raytheon Co. Norwalk	Conn

Can pressure fluctuations spoil your vacuum process or experiment?



Pressure versus time record for a typical 2-inch oil diffusion pumped system.

Granville-Phillips' Automatic Pressure Controller can reduce these fluctuations and control pressure accurately and continuously...the same way you now control other variables such as temperature, voltage, and time interval.

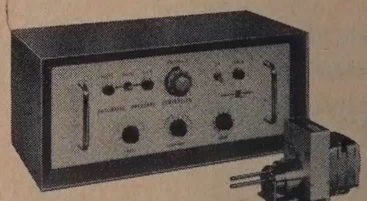
Manual regulation of pressure to the tolerances required by applications such as sputtering, gas mixing, filling of flash tubes and lasers, pumping speed measurements, isobaric sorption, and other controlled processes can be tedious and time consuming. Granville-Phillips' Automatic Pressure Controller (APC) can eliminate this tedium by accurately and continuously controlling the pressure required by the application.

For example, sputtering rates can be automatically controlled by using an APC whose input signal is derived directly from the sputtering current . . . gas mixing can be controlled as easily as total system pressure by using one or more partial pressure measuring devices to feed a signal to one or more APC's . . . and the APC has a sufficiently tight control loop so that it can be used to rapidly raise the pressure in a closed system, such as a flash tube or laser, to a specified value.

The APC is simple to use and will operate from the electrical output of most pressure or pressure related transducers. It continuously monitors the transducer signal and automatically adjusts the flow of gas into the vacuum system to maintain the signal, and therefore the system pressure, at a preset level. This ability of the APC to make the rapid, continuous adjustments necessary to maintain a constant system pressure exceeds both the patience and competence of most human operators.

The APC servo-valve is all-metal and bakeable in the open position to 450°C with the servo-driver removed. These clean features eliminate the possibility of process or experiment contamination by high vapor pressure materials such as might be found in a valve using elastomer seals.

If your vacuum process or experiment is affected by pressure fluctuations and is so valuable that you control other variables such as temperature, voltage, and time interval; contact us. Our APC can take over the tedious job of pressure control . . . and free you for more important activities.



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Advancing Vacuum Technology

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Weldmatic Div Unitek Corp Monrovia	Cal

ULTRASONIC SOLVENTS

***See* Solvents—Ultrasonic**

ULTRAVIOLET EQUIPMENT

Aerospace Controls Corp Los Angeles	Cal
American Ultraviolet Co Chatham	NJ
Atlantic Ultraviolet Corp Long Island City	N Y
Barnes Engineering Co Def & Space Div Stamford	Conn
Beckman Instruments Inc Fullerton,	Cal
Bendix Corp Electro Optics Div Ann Arbor	Mich
Birtcher Corp Medical Div Los Angeles	Cal
Black Light Corp of America San Gabriel	Cal
Black Light Eastern Div Spectronics Corp Westbury	N Y
Black Light Products Chicago	Ill
Canadian Research Institute Don Mills	Ont
Clean Room Products Inc Farmingdale	N Y
Cole-Parmer Instrument Co Chicago	Ill
Edison, Thomas A Industries, Instr Div West Orange	N J
Edmund Scientific Co Barrington	N J
Engelhard Hanovia Inc Newark	N J
GCA Technology Div GCA Corp Bedford	Mass
Giannini-Voltex-Radex-Irvine Whittier	Cal
Ikor, Inc Burlington	Mass
International Light Inc Newburyport	Mass
Kollsman Instrument Corp Syosset	N Y
McKee-Pedersen Instruments Danville	Cal
Metavac Inc Flushing	N Y
Optomechanisms Inc Plainview	N Y
Polysciences Inc Warrington	Pa
Schoeffel Instrument Corp Westwood	NJ
Sensor Precision Industries Inc Medfield	Mass
Shannon Luminous Materials Co Hollywood	Cal
Space Rays Inc Burlington	Mass
Spectrum Systems, Inc Waltham	Mass
Stroblite Co Inc New York	N Y
Syncor Products Co, Inc Malden	Mass
Thermal American Fused Quartz Co Montville	N J
Thermal Research Inc Union Beach	N J
Ultra-Violet Products Inc San Gabriel	Cal
Vitro Labs Div Vitro Corp of America W Orange	N J
Western Coil & Electrical Co Racine	Wisc
Westinghouse Electric Corp, Aerospace Div Baltimore	Md

ULTRAVIOLET LAMPS

***See* Lamps**

UNSHIELDED CABLES

***See* Cables—Unshielded**

VACUUM CONTROLS

***See* Controls—Vacuum**

VACCUM-FORMED PLASTICS

***See* Plastics-Finished Parts**

VACUUM FURNACES

***See* Furnaces—Vacuum**

VACUUM GAGES

***See* Gages—Vacuum**

VACUUM-IMPREGNATING MACHINES

***See* Machines—Impregnating**

VACUUM-METALIZED COATINGS

***See* Coatings**

VACUUM-METALIZING MACHINES

***See* Machines-Metalizing**

VACUUM-METALIZING SERVICES

***See* Metalizing—Services**

VACUUM OVENS

***See* Ovens**

VACUUM PUMPS

***See* Pumps—Vacuum**

VACUUM SYSTEMS

RANVILLE-PHILIPS CO BOULDER COLO	**ADV PG 696**
bar Corp Feasterville	Pa
ero Vac Corp Troy	N Y
lcatel Paris 8eme	France
llen-Jones Electronics Div WEMS Inc Gardena	Cal
Andonian Associates, Inc Waltham	Mass
Ardel Corp Glendale	Cal
Associated Testing Labs, Inc Wayne	N J
Atlas Engineering Corp West Hartford	Conn
Beach-Russ Co New York	N Y
Bendix Scientific Instr & Equip Div Rochester	N Y
Cathey Enterprises Mountain View	Cal
Centorr Associates Inc Suncook	N H
Central Scientific Co Chicago	Ill
CHA Industries, Div Carl Herrmann Assoc Menlo Park	Cal
Cooke Vacuum Products Inc South Norwalk	Conn
Cryolab Div, Statics-Dynamics Inc Los Osos	Cal
Datametrics Inc Waltham	Mass
Denton Vacuum Inc Cherry Hill	N J
Edwards High Vacuum Inc Grand Island	N Y
Edwards High Vacuum (Canada) Ltd Oakville	Ont
Electronic Space Products Inc Los Angeles	Cal
Energy Beams Inc Haskell	N J
Forney Industries Inc Fort Collins	Colo
Fredericks Co Huntingdon Valley	Pa
GCA Technology Div GCA Corp Bedford	Mass
Granville-Philips Co Boulder	Colo
High Vacuum Equipment Corp Hingham	Mass
High Voltage Engineering Corp Burlington	Mass
Hoffman Air & Filtration Div Clarkson Ind Inc New York	N Y
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside	Cal
Hull Corp Hatboro	Pa
Janel Inc Stirling	N J
Jersey Technical Consultants Morristown	NJ
Kahle Engineering Co Union City	N J
Kinney Vacuum Co Boston	Mass
Lamb Electric Div Ametek Inc Kent	Ohio
LaPine Scientific Co Chicago	Ill
Leybold-Heraeus, Inc. Monroeville	Pa
Malaker Corp High Bridge	N J
Mann Co, Henry Cornwell Heights	Pa
Materials Research Corp Orangeburg	N Y
Nelson Vacuum Pump Co Berkeley	Cal
Norton Co Vacuum Equip Div Newton	Mass
Nuclide Corp, AGV Div Acton	Mass
Process & Instruments Corp Brooklyn	N Y
Red Point Corp Burbank	Cal
Sloan Instruments Corp Santa Barbara	Cal
Systems Research Labs Inc Dayton	Ohio
Techni-Tool Inc Philadelphia	Pa
Tenney Engineering Inc Union	N J
Tenvac, Inc Pembroke	Mass
T-M Vacuum Products Riverton	N J
20th Century Electronics Ltd New Addington Croydon Cr 90 BG	England
Ultek Div Perkin-Elmer Palo Alto	Cal
Ultra-Violet Products Inc San Gabriel	Cal
Ulvac Corp Tokyo	Japan
Vactronic Lab Equipment Inc East Northport	N Y
Vacuum Accessories Corp of America Huntington Station	N Y
Vacuum/Atmospheres Corp N Hollywood	Cal
Vacuum Barrier Corp Woburn	Mass
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Vacuum Instrument Corp Huntington Station	N Y
Vacuum Metallizing Van Nuys	Cal
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y

VACUUM-TUBE VOLTMETERS

***See* Voltmeters—Electronic**

VALVES—CRYOGENIC

Adel Div De Laval Turbine Calif Inc Burbank	Cal
Andonian Associates, Inc Waltham	Mass
Automatic Switch Co Florham Park	N J
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Cosmodyne Corp Torrance	Cal
Cryogenic Engineering Co Denver	Colo
Cryolab Div, Statics-Dynamics Inc Los Osos	Cal
CVI Corp Columbus	Ohio
Fox Valve Development Co Inc Hanover	N J
Futurecraft Corp City of Industry	Cal
Goddard Valve Corp. Worcester	Mass
Hafstrom Technical Products Inc San Diego	Cal
H & H Screw Products Mfg Co Ashton	R I
High Vacuum Equipment Corp Hingham	Mass
Hi-Shear Corp Torrance	Cal
Hoke Incorporated Cresskill	N J
International Controls Corp Fairfield,	N J
International Controls Corp Cryogenics Div Fairfield	N J
Lear Siegler Inc Santa Monica	Cal
Micro Parts Inc Los Angeles	Cal
Raybestos-Manhattan Inc Bridgeport	Conn
Robintech Inc Burbank	Cal
Sealol Inc Providence	R I
SieBelAir Co Los Angeles	Cal
Skinner Electric Valve Div New Britain	Conn
Snap-Tite Inc, Rosemead Div Rosemead	Cal
Tescom Corp Minneapolis	Minn
Vacuum Barrier Corp Woburn	Mass
Vapor Corp Chicago	Ill
Varian Palo Alto	Cal
Weston Hydraulics Van Nuys	Cal
Wright Components Inc Clifton Springs	N Y

VALVES—SERVO

Adel Div De Laval Turbine Calif Inc Burbank	Cal
Allied Control Co Inc New York	N Y
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bendix Corp Electrodynamics Div North Hollywood	Cal
Bendix Corp Fluid Power Div Utica	N Y
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
EMR Div Weston Instruments Inc Princeton	N J
Fluid Power Systems Div Ambac Ind Inc Wheeling	Ill
Fox Valve Development Co Inc Hanover	N J
Hi-Shear Corp Torrance	Cal
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Landis & Gyr AG Zug	Switzerland
Lear Siegler Inc Santa Monica	Cal
LTV Electrosystems Inc, Garland Div Dallas	Tex
Lunkenheimer Co Div Conval Corp Cincinnati	Ohio
MB Electronics A Textron Co New Haven	Conn
Micro Parts Inc Los Angeles	Cal
Moog Inc, Industrial Div East Aurora	N Y
National Water Lift Co Kalamazoo	Mich
Pegasus Labs Inc Berkley	Mich
Ramcon Corp Elgin	Ill
Robintech Inc Burbank	Cal
Sanders Assoc Inc, Instrument Div Manchester	N H
Sealol Inc Providence	R I
Servo Labs Inc Van Nuys	Cal
Singer-GPE Controls Inc Morton Grove	Ill
Sulzer Bros Ltd Industrial Elctns Ltd Winterthur	Switzerland
Taylor Instrument Process Con Div Sybron Corp Rochester	N Y
Vapor Corp Chicago	Ill
Weston Hydraulics Van Nuys	Cal

VALVES—SOLENOID

Adel Div De Laval Turbine Calif Inc Burbank	Cal
Aerodyne Controls Corp Farmingdale	N Y
Alco Controls Corp St Louis	Mo
Allied Control Co Inc New York	N Y
Andonian Associates, Inc Waltham	Mass
Assembly-Overland Div Rucker Co Los Angeles	Cal
Automatic Switch Co Florham Park	N J
Bell & Howell Co, Elctn Instr Grp Pasadena	Cal
Bendix Corp Electrodynamics Div North Hollywood	Cal
Bendix Corp Fluid Power Div Utica	N Y
Caltron Products Co Los Angeles	Cal
Carleton Controls Corp East Aurora	N Y
Connecticut Coil Corp Bridgeport	Conn
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Dynamic Controls Corp South Windsor	Conn
Fluid Power Systems Div Ambac Ind Inc Wheeling	Ill
Fox Valve Development Co Inc Hanover	N J
Futurecraft Corp City of Industry	Cal
General Equipment & Mfg Co Louisville	Ky
Hafstrom Technical Products Inc San Diego	Cal
Hi-Shear Corp Torrance	Cal
Hoke Incorporated Cresskill	N J
Honeywell Resdntl & Coml Sls Divs Minneapolis	Minn
IMC Magnetics Corp Ariz Div Tempe	Ariz
International Controls Corp Fairfield,	N J
International Controls Corp Cryogenics Div Fairfield	N J
I-T-E Imperial Corp Philadelphia	Pa
Jamesbury Corp Worcester	Mass
Janitrol Aero Div Midland-Ross Corp Columbus	Ohio
Lake Town Mfg Corp Waconia	Minn
Micro Parts Inc Los Angeles	Cal
National Water Lift Co Kalamazoo	Mich
Robintech Inc Burbank	Cal
Rocker Industries Harbor City	Cal
Rockwell Mfg Co, Msmt & Control Div Pittsburgh	Pa
Sealol Inc Providence	R I
SieBelAir Co Los Angeles	Cal
Skinner Electric Valve Div New Britain	Conn
Snap-Tite Inc, Rosemead Div Rosemead	Cal
Square D Co Park Ridge	Ill
Task Corp Anaheim	Cal
Tavco, Inc Santa Monica	Cal
Taylor-Winfield Corp Warren	Ohio
Ultek Div Perkin-Elmer Palo Alto	Cal
Vacuum Accessories Corp of America Huntington Station	N Y
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Vapor Corp Chicago	Ill
Veeco Instruments Inc Plainview	N Y
Weston Hydraulics Van Nuys	Cal
Wright Components Inc Clifton Springs	N Y

VALVES—VACUUM

GRANVILLE-PHILIPS CO BOULDER COLO	**ADV PG 696**
Adel Div De Laval Turbine Calif Inc Burbank	Cal
Aircraft Components Inc Benton Harbor	Mich
Alcatel Paris 8eme	France
Allen-Jones Electronics Div WEMS Inc Gardena	Cal
AMP Incorporated Harrisburg	Pa
A & N Corp Clearwater	Fla
Andonian Associates, Inc Waltham	Mass
Automatic Switch Co Florham Park	N J
Beach-Russ Co New York	N Y
Bendix Scientific Instr & Equip Div Rochester	N Y
Cathey Enterprises Mountain View	Cal
Central Scientific Co Chicago	Ill
CHA Industries, Div Carl Herrmann Assoc Menlo Park	Cal
Comet Co Liebefeld, Berne	Switz
Consolidated Controls Corp El Segundo	Cal
Consolidated Controls Corp Bethel	Conn
Cooke Vacuum Products Inc South Norwalk	Conn
Cryolab Div, Statics-Dynamics Inc Los Osos	Cal
CVI Corp Columbus	Ohio
Denton Vacuum Inc Cherry Hill	N J
Dowa Trading Co Ltd Kobe	Japan
Edwards High Vacuum Inc Grand Island	N Y
Edwards High Vacuum (Canada) Ltd Oakville	Ont
Electronic Space Products Inc Los Angeles	Cal
Energy Beams Inc Haskell	N J
Ferranti, Ltd Lancashire	England
Fox Valve Development Co Inc Hanover	N J
Fulton Sylphon Div Robertshaw Controls Co Knoxville	Tenn
Gilmont Instruments Inc Roger Great Neck	N Y
Goddard Valve Corp. Worcester	Mass
Granville-Philips Co Boulder	Colo
H & H Screw Products Mfg Co Ashton	R I
High Vacuum Equipment Corp Hingham	Mass

High Voltage Engineering Corp Burlington	Mass
Hoke Incorporated Cresskill	N J
Hughes Aircraft Co Vac Tube Prods Div Vac Equip Dept Oceanside	Cal
Jamesbury Corp Worcester	Mass
Kahle Engineering Co Union City	N J
Kinney Vacuum Co Boston	Mass
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Romec Div Elyria	Ohio
Leybold-Heraeus, Inc. Monroeville	Pa
Micro Parts Inc Los Angeles	Cal
Mitsubishi Electric Corp Tokyo	Japan
Mullard Ltd London, WC 1	Eng
Nelson Vacuum Pump Co Berkeley	Cal
Norton Co Vacuum Equip Div Newton	Mass
Nuclide Corp, AGV Div Acton	Mass
Robintech Inc Burbank	Cal
Sealol Inc Providence	R I
SieBelAir Co Los Angeles	Cal
Skinner Electric Valve Div New Britain	Conn
Tescom Corp Minneapolis	Minn
Thermionics Lab Inc Hayward	Cal
T-M Vacuum Products Riverton	N J
Ultek Div Perkin-Elmer Palo Alto	Cal
Ulvac Corp Tokyo	Japan
Vactronic Lab Equipment Inc East Northport	N Y
Vacuum Accessories Corp of America Huntington Station	N Y
Vacuum Industries Inc Sub GCA Corp Somerville	Mass
Vacuum Instrument Corp Huntington Station	N Y
Vapor Corp Chicago	Ill
Varian Palo Alto	Cal
Veeco Andar Sub Veeco Palo Alto	Cal
Veeco Instruments Inc Plainview	N Y
Wright Components Inc Clifton Springs	N Y

VARIABLE CAPACITORS

See **Capacitors—Variable**

VARIABLE COILS

See **Inductances—Power**

VARIABLE TRANSFORMERS

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VICTORY ENGINEERING CORP SPRINGFIELD N J	**ADV PG Facing Pg 1,698**
Advance Carbon Products, Inc San Francisco	Cal
Amiproducts Corp New York	N Y
Carbone Corp Boonton	N J
Carborundum Co Electrical & Elctns Br Niagara Falls	NY
Edal Industries Inc East Haven	Conn
General Electric Co, ECSO Schenectady	N Y
General Electric Co Magnetic Matls Bus Sect Edmore	Mich
Green Rectifier Corp Fair Lawn	N J
Hitachi Ltd Chiyoda-Ku, Tokyo	Japan
Intersil Inc Cupertino	Cal
ITT Europe Inc Components Gp Brussels 1	Belgium
La Radiotechnique Compelec Paris 11e	France
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Rectifier Engineering & Supply Co Inc St Louis	Mo
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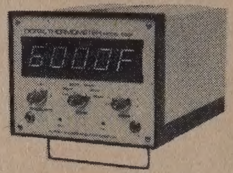


SERIES 500 DIGITAL THERMOMETERS

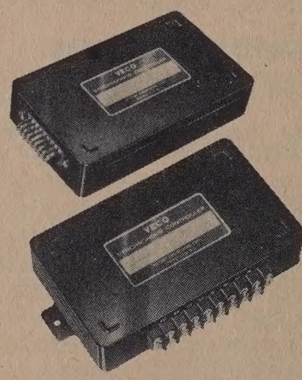
VECO's Series 500 Digital Thermometers are designed for temperature readings from 0-600°F (Model 500F) and 0-300°C (Model 500C) in 6 overlapping ranges, with a resolution of 0.1°. Accuracy is ±0.5°F for Model 500F and ±0.3°C for Model 500C, ±1 digit.

Both models feature four full 1" high, ultra-clear, seven segment display numerals. Display rate is readily controlled by a front panel knob.

A choice of six interchangeable probes can be plugged into any of two front or four rear panel jacks.

Series 500 Digital Thermometers operate on 105-125 VAC, 50/60 Hz, 45 va power supply and within an ambient range of 60-100°F.

For complete specifications and price information, request Bulletin MVM 1872.



SYNCHRONOUS CONTROLLERS

VECO's line of Synchronous Controllers have been designed for a wide range of applications including refrigeration, heating and alarm systems, cooking equipment, constant or variable temperature baths, humidity controls, strain gage controls.

Solid state throughout, the VECO Synchronous Controller has a standard sensitivity of 0.01°F. Proportional band is adjustable by external resistance and is controllable from 0 to approximately 2°F.

Input is 115V, 50/60Hz standard. Output is to 1000 watts resistive and up to 7.5 kw with external components and sinks. Room temperature ambients are encompassed.

The VECO Synchronous Controller is available with plug connector or barrier strip connections.

For further specifications, request Bulletin V1857.

VARNISHES

Acme Chemicals & Insulation New Haven	Con
Barrett Varnish Co Cicero	Il
Dolph Co, John C Monmouth Junction	N
Dow Corning Corp Midland	Mic
Du Pont De Nemours & Co Inc E I Wilmington	De
Dynaloy, Inc Hanover	N
Electro Science Labs Inc Philadelphia	P
General Electric Co Silicone Prods Dept Waterford	N
Insl-X Products Corp Yonkers	N
Isochem Resins Co Lincoln	R
Melpar Inc, Special Prods Dept Falls Church	V
3M Company St Paul	Min
Pennsylvania Industrial Chemical Corp Clairton	P
Pierce & Stevens Chemical Corp Buffalo	N
Product Techniques, Inc Downey	Ca
Roberts & Associates Inc, E V Culver City	Ca
Schenectady Chemicals Inc Schenectady	N
Sprayon Products Inc Bedford Heights	Ohi
Sterling Div. Reichhold Chemicals Inc. Sewickley	P
Triad Distributor Div Litton Industries Huntington	In
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	P

VEHICULAR RADIO SYSTEMS

See **Communication Systems—Land Mobile**

VERTICAL ANTENNAS

See **Antennas—Communication**

VERTICAL DEFLECTION TRANSFORMERS

See **Transformers—Special**

VHF ANTENNAS

See **Antennas—Avionic Communication**

VHF GENERATORS

See **Generators—Signal**

VHF RECEIVERS

See **Receivers—Radio Communication**

VHF SYSTEMS

See **Communication Systems**

VHF TRANSMITTERS

See **Transmitters—Radio Communication**

VIBRATION ANALYSIS EQUIPMENT (USED WITH SHAKE TABLES & VIBRATORS)

See Also **Analyzers—Vibration**

GEOTECH A TELEDYNE CO GARLAND	**TE**
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO	**ADV PG**
TEKTRONIX INC BEAVERTON	**OR**
TRACOR INC AUSTIN	**TE**
Agac-Derritron Inc Alexandria	V
Aim Associates Cambridge Ltd Cambridge Cb3 8EZ	U
Astrodata Inc Anaheim	C
Balance Technology Inc Ann Arbor	Michiga
Bell & Howell Co, Elctn Instr Grp Pasadena	C
Bently Nevada Corp Minden	Ne
Cambridge Metallurgical Corp of Ohio Precision Sys Div Columbus	Oh
Chadwick Helmuth Co Inc Monrovia	C
Data-Control Systems Inc Danbury	Co
Dawe Instruments Ltd London W3	Englan
Dynamco Ltd Chertsey Surrey	E
Dytronics Co Inc Columbus	Oh
Elastronics Labs Tarzana	C
Elgenco Inc Santa Monica	C
EMR-Hatboro Div Weston Insts Inc Hatboro	P
Endevco Corp Pasadena	C
Epic Inc New York	N
Exact Electronics Inc Hillsboro	O
General Radio Co West Concord	Ma
Geoscience Instruments Corp Mt Vernon	N
Geotech A Teledyne Co Garland	T
Gulton Industries Inc Metuchen	N
Honeywell Test Instruments Div Denver	Co
Industrial Electronetics Corp Satellite Beach	F
Industrial Msmts. & Controls Div. Intl. Rectifier Pomona	C
Korfund Dynamics Corp Westbury	N
Ling Electronics Div LTV Altec Inc Anaheim	C
MB Electronics A Textron Co New Haven	Co
McMahon Electronic Engineering Res & Dev Lab San Pedro	C
MTI- Mechanical Technology Inc Latham	N
Novatronics Inc Pompano Beach	F
Quan-Tech Labs Inc Whippany	N
Robertshaw Controls Co, Aero & Instrument Div Anaheim	C
Rockland Labs Inc Blauvelt	N
Singer Co Instrumentation Div Bridgeport	Co
Spectral Dynamics Corp of San Diego San Diego	C
Spectran Electronics Div Novatronics Inc Pompano Beach	F

Spectrum Instruments Inc Tuckahoe	N Y
Spencer-Kennedy Labs Inc Boston	Mass
Sylvania Electronic Systems Waltham	Mass
Techno Products Co Los Angeles	Cal
Tek-Sel Labs Inc Saddle Brook	N J
Tektronix Inc Beaverton	Ore
Tracor Inc Austin	Tex
Unholtz-Dickie Corp Hamden	Conn
Universal Ad-Yu Electronics Inc Passaic	N J
Vibration Instruments Co Anaheim	Cal
Wayne Kerr Co c/o Southfield Electronics Southfield	Mich
Wyle Laboratories El Segundo	Cal
Zonic Technical Labs Cincinnati	Ohio

VIBRATION EXCITERS

See **Exciters—Vibration**

VIBRATION MOUNTS

See **Mounts—Vibration & Shock**

VIBRATION-TESTING MACHINES

See **Machines—Vibration-Testing**

VIBRATORS—POWER SUPPLY

See Also **Choppers; Demodulators**

HEATH CO BENTON HARBOR	**MICH**
OAK MFG CO, DIV OAK ELECTRO/NETICS CORP CRYSTAL LAKE	**ILL**
ATR Electronics, Inc St Paul	Minn
Cornell-Dubilier Electronics Div Federal Pacific Electric Co Newark	N J
Heath Co Benton Harbor	Mich
Oak Mfg Co, Div Oak Electro/Netics Corp Crystal Lake	Ill
Vokar Products Inc Ann Arbor	Mich
Zonic Technical Labs Cincinnati	Ohio

VIBRATORS (SHAKE TABLES)

Agac-Derritron Inc Alexandria	Va
All American Tool & Mfg Co Inc Skokie	Ill
Carco Electronics Menlo Park	Cal
Cleveland Vibrator Co Cleveland	Ohio
EMR-Hatboro Div Weston Insts Inc Hatboro	Pa
General Oceonology Inc Cambridge	Mass
Geoscience Instruments Corp Mt Vernon	N Y
Korfund Dynamics Corp Westbury	N Y
L A B Corp Div Redford Corp Skaneateles	N Y
Ling Electronics Div LTV Altec Inc Anaheim	Cal
Matsushita Electric Industrial Co Ltd Osaka	Japan
MB Electronics A Textron Co New Haven	Conn
McMahon Electronic Engineering Res & Dev Lab San Pedro	Cal
MTI- Mechanical Technology Inc Latham	NY
Ogden Technical Labs Inc Monterey Park	Cal
Space & Systems Div General Time Corp Stamford	Conn
Syntron Div FMC Corp Homer City	Pa
Unholtz-Dickie Corp Hamden	Conn

VIBRATORS—ULTRASONIC

See **Ultrasonic Equipment**

VIBRATOR TESTERS

See **Testers—Vibrator**

VIBRATOR TYPE CONVERTERS—A-C TO A-C

See **Converters—A-C Output**

VIBRATOR-TYPE INVERTERS

See **Inverters**

VIDEO AMPLIFIERS

See **Amplifiers—R-F**

VIDEO ANALYZERS

See **Analyzers—Video**

VIDEO MIXER AMPLIFIERS

See **Amplifiers—R-F**

VIDEO MIXERS

See **Amplifiers—R-F**

VIDEO TAPE RECORDERS

See **Recorders—Magnetic Tape Video**

VINYLS

See **Plastics**

VISCOSIMETERS

See **Ultrasonic Equipment**

VISCOSITY CONTROLS

See **Controls—Viscosity**

VLF RECEIVERS

See **Receivers—Radio Communication**

VLF TRANSMITTERS

See **Transmitters—Radio Communication**

VOLTAGE COMPARATORS

See **Comparators**

VOLTAGE DIVIDERS

See **Dividers—Voltage**

VOLTAGE-REFERENCE TUBES

See **Tubes—Voltage-Reference**

VOLTAGE-REGULATING TRANSFORMERS

See **Transformers—Power**

VOLTAGE REGULATORS

See **Regulators—Voltage**

VOLTAGE SOURCES—DECADE

FLUKE MFG CO INC, JOHN SEATTLE	**WASH**
HEWLETT-PACKARD PALO ALTO	**CAL**
KEPCO INC FLUSHING N Y	**ADV PG 4th Cover**
NORTH HILLS ELECTRONICS INC GLEN COVE	**N Y**
Analogic Corp Wakefield	Mass
Argonaut Associates, Inc Beaverton	Ore
Bradley Ltd G & E London NW 10	England
Cohu Electronics Inc San Diego	Cal
Continental Device Corp Hawthorne	Cal
Drusch & Co 92 Rueil Malmaison	France
Dynamco Ltd Chertsey Surrey	Eng
Electronic Design Labs Inc Philadelphia	Pa
Electronic Development Corp Boston	Mass
Epsco Inc Westwood	Mass
Fenlow Electronics Ltd Weybridge	England
Fluke Mfg Co Inc, John Seattle	Wash
General Resistance Inc Div Chronetics Inc Mount Vernon	N Y
Hallmark Standards Inc Mount Vernon	N Y
Hewlett-Packard Palo Alto	Cal
Holt Instrument Labs Oconto	Wis
Honeywell Inc Apparatus Controls Div Minneapolis	Minn
Idalee Electronics Corp Valley Stream	NY
Instrulab Inc Dayton	Ohio
Jet Electronics Corp Albuquerque	N M
Julie Research Labs, Inc New York	N Y
Keithley Instruments Inc Cleveland	Ohio
Kepco Inc Flushing	N Y
Kikusui Electronics Corp Kanagawa City	Kanagawa Pref Japan
Matsunaga Mfg Co Ltd Tokyo	Japan
Medistor Instrument Co Seattle	Wash
NH Research Inc Santa Ana	Cal
North Hills Electronics Inc Glen Cove	N Y
Optimation, Inc Sun Valley	Cal
Precision Standards Corp Santa Ana	Cal
Program Electronics Co New Hyde Park	N Y
RFL Industries Inc, Instrumentation Div Boonton	N J
SRC Div Crescent Technology Corp Newport Beach,	Cal
Vishay Resistor Prods Div Vishay Intertechnology Inc Malvern	Pa

VOLTAGE-STABILIZING TRANSFORMERS

See **Transformers**

VOLTAGE STANDING-WAVE RATIOMETERS

See **Detectors—Standing-Wave**

VOLTAGE-VARIABLE CAPACITORS

See **Capacitors—Variable**

EBG

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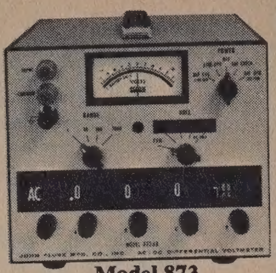
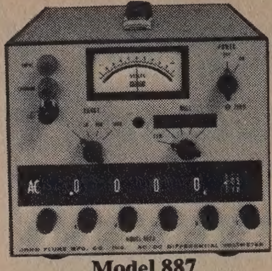
Electronics Buyers' Guide

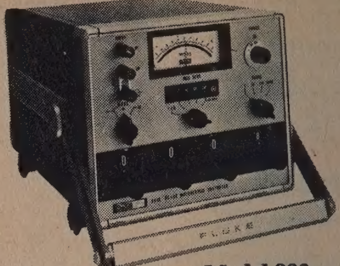
Fluke AC/DC Differential Voltmeters



Model 873



Model 887



Model 893

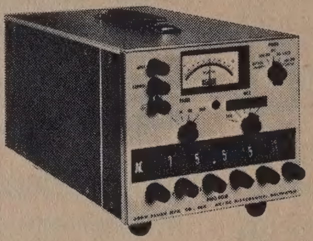
Fluke solid state AC/DC Differential Voltmeters offer the widest range of performance and accuracy in the market. Most units operate from either internal rechargeable batteries or 115/230 V, 50-440 Hz line power. Battery power is essential for measurement where maximum accuracy demands complete line isolation. Input ranges are 1, 10, 100 and 1000 volts, each with 10% overranging. Decimal point placement is automatic with range selection on all models.

Fluke voltmeters are electrically and mechanically designed to perform under the extremes of temperature, shock, vibration and humidity. Each zener diode reference is processed, computer matched and selected to establish excellent stability and temperature coefficient tracking. Fluke manufactures all of the precision wire wound resistors used. All solid state voltmeters are lightweight for portability and are provided with a tilt-back bail or functional detented handle for operator convenience. Recorder output is available on all Fluke differential voltmeters.

Solid State AC/DC

Model	Input Range	% of Input Accuracy DC	AC	Frequency* Range	Max. Full Scale Sensitivity	Max. Meter Resolution	Reference	Price
873A	0-1100 v	±0.02	±0.2	20 Hz-10 KHz	1 mv	10 μv	Zener Diode	$ 995
883A	0-1100 v	±0.005	±0.1	20 Hz-5 KHz	100 μv	1 μv	Zener Diode	1,295
887A	0-1100 v	±0.0025	±0.05	30 Hz-5 KHz	100 μv	1 μv	Zener Diode	1,495
893A	0-1100 v	±0.01	±0.05	50 Hz-10 KHz	1 mv	10 μv	Zener Diode	995

*Reduced accuracy over wider frequency range. Model 893 AR available in rack configuration at no extra cost.

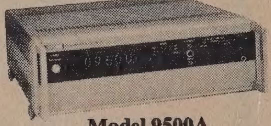


Model 883

Fluke True RMS Differential Voltmeters

Fluke offers the only line of analog and digital true rms ac voltmeters. These voltmeters combine the advantages of measuring any waveform without error and the null balance precision of a differential voltmeter.

New Fluke Model 9500A True RMS Automatic Digital Voltmeter



Model 9500A

SPECIFICATIONS

VOLTAGE RANGES: 0.001 to 1100 volts rms in five ranges of 0.1, 1, 10, 100, and 1000 volts with 60% overranging. Automatic or manual selection.

FREQUENCY RANGE: 20 Hz to 700 KHz.

ACCURACY: ±0.05% from 50 Hz to 10 KHz. Slightly reduced over other frequency ranges.

RESOLUTION: 0.01% of range.

CREST FACTOR: 10 (1500 v peak.)

INPUT IMPEDANCE: Model 9500A (without probe), 1 megohm shunted by less than 17 pf. Model 9500A-01 (with probe), 1 megohm shunted by less than 7 pf.

COMMON MODE REJECTION: Greater than 80 db at 60 Hz and below, decreasing 6 db per octave to 20 db at 60 KHz. Greater than 20 db above 60 KHz.

OPTIONS: Probe input, $75. Rear panel BNC input, $50. 1-2-4-8 BCD digital output, $195. 1-2-2-4 BCD digital output, $195.

PRICE: $2485 including rack adapter kit.

Fluke Model 931 B True RMS Digital Voltmeter

Model 931 B

BRIEF SPECIFICATIONS

VOLTAGE RANGES

Differential Mode: 100 mv, 1 v, 10 v, 100 v, 1000 v with 10% overranging on each range.

TVM Mode: 10 mv end scale to 1000 v end scale in 1, 3, 10 progression.

ACCURACY

Differential Mode: ±0.05% of reading + 0.005% of range from 30 Hz-50 KHz. Reduced accuracy specifications from 2 Hz-1 MHz.

TVM Mode: ±3% of end scale.

INPUT IMPEDANCE

BNC: 1 Megohm shunted by less than 8 pf.

Probe: 1 Megohm shunted by less than 7 pf.

CREST FACTOR

Differential Mode: 10 (1500 v peak.)

Direct Mode: 10 at end scale increasing proportionately to 30 at ⅓ end scale, or 1500 v peak.

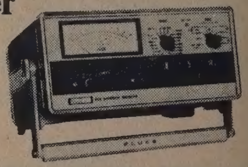
POWER INPUT: 115/230 vac, 50-440 Hz. (plus rechargeable batteries if desired.)

SIZE: 7″ high x 8½″ wide x 11¾″ deep.

PRICE: $945. **Probe Model:** $995.

Battery Option: $100 extra.

New Fluke High Accuracy, Wide Range Multimeter



Model 853A

The Fluke Model 853A Multimeter is the first instrument of its type to combine accuracy, outstanding measurement capability, and low price. All specifications are guaranteed to hold for one year without recalibration. Complete overload protection is featured. Units are available in the basic line and replaceable battery version or at extra cost, line and rechargeable batteries.

BRIEF SPECIFICATIONS

VOLTAGE

Range: 0 to 1.1 Kv.

Accuracy: DC, 0.2%. AC, 0.5%.

CURRENT

Range: 0 to 11 amperes.

Accuracy: DC, 0.2%. AC, 0.5%.

RESISTANCE

Range: 0 to 110 megohms.

Accuracy: 0.2%

PRICE: AC and replaceable batteries only: $445. AC and rechargeable batteries: $495.

FLUKE®

Fluke, Box 7428, Seattle, Washington 98133. Phone: (206) 774-2211. TWX: (910) 449-2850.
In Europe, address Fluke Nederland (N.V.), P.O. Box 5053, Tilburg, Holland.
Phone: (04250) 70130. Telex: 884-50237. In the U.K., address Fluke International Corp.,
Garnett Close, Watford, WD2 4TT. Phone: Watford 27769. Telex: 934583.

VOLTMETERS—A-C

API INSTRUMENTS CO CHESTERLAND	**OHIO**
DRANETZ ENGINEERING LABS INC PLAINFIELD	**N J**
ELECTRO-MECHANICAL INSTRUMENT CO, INC PERKASIE PA	**ADV PG 709**
FLUKE MFG CO INC, JOHN SEATTLE WASH	**ADV PG 700**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HEATH CO BENTON HARBOR	**MICH**
HEWLETT-PACKARD PALO ALTO	**CAL**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
IDEAL PRECISION METER CO INC BROOKLYN	**N Y**
MODUTEC INC NORWALK	**CONN**
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW	**N Y**
PARKER INSTRUMENT CORP STAMFORD	**CONN**
THETA INSTRUMENT CORP FAIRFIELD	**N J**
WHITTAKER CORP GEN COM DIV PLAINVIEW	**N Y**
Advance Electronics Ltd Ilford Essex	England
Allen Aircraft Radio Inc Elk Grove Village	Ill
American Machine & Foundry Co Alexandria Div Alexandria	Va
A & M Instruments Inc Great Neck	N Y
Ammon Instruments Inc Manchester	N H
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook	N Y
API Instruments Co Chesterland	Ohio
Aul Instruments Inc Flushing	NY
Avo Ltd Dover Kent	England
Bartlett-Emery Instrument Co Fort Madison	Iowa
Beede Electrical Instrument Co, Inc Penacook	N H
Bio-Medical Electronics Inc Rockville	Md
Bitronics Inc Bethlehem	Pa
Boonton Electronics Corp Parsippany	N J
Bristol Div, American Chain & Cable Co Waterbury	Conn
California Instruments Corp San Diego	Cal
Canadian Research Institute Don Mills	Ont
Central Scientific Co Chicago	Ill
Colorado Hickok Corp Grand Junction	Colo
Columbia Electric Mfg Co Cleveland	Ohio
Compagnie Generale de Metrologie Haute Savoie	France
Components Specialties Inc Freeport	N Y
Dana Laboratories Inc Irvine	Cal
Data Measurements Corp Palo Alto	Cal
Data Technology Corp Palo Alto	Cal
Digilin Inc Glendale	Cal
Digital Instruments Co Inc Shawnee-Mission	Kans
Dixson Inc Meter Div Grand Junction	Colo
Dowa Trading Co Ltd Kobe	Japan
Dranetz Engineering Labs Inc Plainfield	N J
Dynamco Ltd Chertsey Surrey	Eng
Dynamics Instrumentation A Multitech Co Monterey Park	Cal
Edison, Thomas A Industries, Instr Div West Orange	N J
EICO Electronic Instrument Co Inc Brooklyn	NY
E I L Instrument Div Unitec Industries Timonium	Md
Electro-Mechanical Instrument Co, Inc Perkasie	Pa
Electronic Space Products Inc Los Angeles	Cal
Epic Inc New York	N Y
Esterline Angus Div Esterline Corp Indianapolis	Ind
Fairlane Electronics, Inc Long Valley	N J
Fen-Tone Corp New York	N Y
Ferranti Electric Inc Plainview	N Y
Ferranti, Ltd Lancashire	England
Fluke Mfg Co Inc, John Seattle	Wash
Fuji Electric Co Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
General Radio Co West Concord	Mass
Gordon Co Claud S Richmond	Ill
Hallmark Standards Inc Mount Vernon	N Y
Harris-Intertype Corp Cleveland	Ohio
Heath Co Benton Harbor	Mich
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Hickok Teaching Systems Inc Woburn	Mass
Holt Instrument Labs Oconto	Wis
Honeywell Precision Meter Div Manchester	N H
Hoyt Electrical Instrument Works Inc Burton-Rogers Co Sls Div Cambridge	Mass
deal Precision Meter Co Inc Brooklyn	N Y
ndustrial Test Equipment Co Port Washington	N Y
J A C Electronics Ltd Camberley	England
Kuwano Electrical Instruments Co Ltd Kawasaki	Kanagawa Pref
Kyoritsu Electrical Instruments Works Ltd Tokyo	Japan
Lafayette Radio Electronics Syosset	NY
Lake Engineering Co Ltd Scarborough	Ont
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Cimron Div San Diego	Cal
Lewis Engineering Co Naugatuck	Conn
Mastercraft Instrument Co Dubuque	Iowa
Medistor Instrument Co Seattle	Wash
Metermaster, Inc Los Angeles	Cal
Millivac Instruments Inc Schenectady	N Y
Modutec Inc Norwalk	Conn
Motorola Communications & Electronics Inc Chicago	Ill
Mura Corp Great Neck	N Y
Nelson Electronic Labs Inc Plano	Tex
Nichols Co Ltd, R H Downsview	Ont
North Atlantic Industries Inc Plainview	N Y
Northeast Electronics Corp Concord	N H
Pacific Measurements Inc Palo Alto	Cal
Parker Instrument Corp Stamford	Conn
Phaostron Instrument & Electronic Co South Pasadena	Cal
Philips Electronic Instruments, Test & Measuring Inst Mount Vernon	NY
PMF Electronics Inc Dayton	Ohio
Precision Standards Corp Santa Ana	Cal
Princeton Applied Research Corp Princeton	N J
Q V S Inc East Orange	N J
Racal Electronics Ltd Bracknell Berks	England
Rawson-Lush Instrument Co Inc Acton	Mass
Robertson Instrument Co Azusa	Cal
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Ross Engineering Corp Saratoga	Cal
Schober Organ Corp New York	N Y
Scientific Columbus Inc Columbus	Ohio
Semiconductor Circuits, Inc Woburn	Mass
Shurite Meters New Haven	Conn
Sigma Instruments Canada Ltd Toronto 18 Ont	Canada
Simpson Electric Co Chicago	Ill
Singer Co Instrumentation Div Bridgeport	Conn
Singer Co Instr Div Ballantine Oper Boonton	N J
Solitron/Microwave Long Island City	N Y
Spectral Dynamics Corp of San Diego San Diego	Cal
Sperry Instruments Inc A W New York	N Y
Sterling Mfg Co Cleveland	Ohio
Sun Electric Corp Chicago	Ill
Sunshine Scientific Instruments Inc Philadelphia	Pa
Theta Instrument Corp Fairfield	N J
Thomson-CSF 78 Versailles	France
Trio Laboratories Inc Plainview	N Y
Triplett Electrical Instrument Co Bluffton	Ohio
United Recording Electronics Industries North Hollywood	Cal
United Systems Corp Dayton	Ohio
Universal Ad-Yu Electronics Inc Passaic	N J
Voltron Products Inc Pasadena	Cal
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Waveforms North Hollywood	Cal
Wavetek San Diego	Cal
Western Reserve Electronics, Inc Cleveland	Ohio
Westinghouse Electric Corp, Relay & Instr Div Newark	N J
Weston Instruments Div Weston Instr Inc Newark	N J
Whittaker Corp Gen Com Div Plainview	N Y

Forget the manufacturer's phone number?

Check the green pages.

VOLTMETERS—BALLISTIC

Data Measurements Corp Palo Alto	Cal
Dowa Trading Co Ltd Kobe	Japan
Hallmark Standards Inc Mount Vernon	N Y
Rockwell Engineering Co Indianapolis	Ind
Singer Co Instrumentation Div Bridgeport	Conn

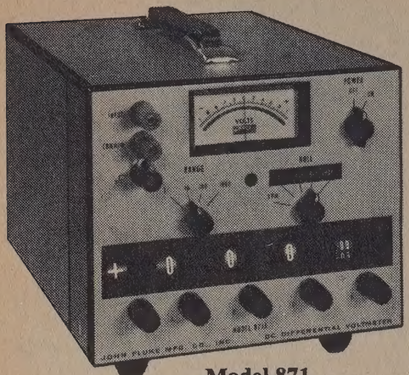
VOLTMETERS—CONTACT MAKING

API INSTRUMENTS CO CHESTERLAND	**OHIO**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
A & M Instruments Inc Great Neck	N Y
API Instruments Co Chesterland	Ohio
Beede Electrical Instrument Co, Inc Penacook	N H
Bitronics Inc Bethlehem	Pa
Canadian Research Institute Don Mills	Ont
Colorado Hickok Corp Grand Junction	Colo
Compagnie Generale de Metrologie Haute Savoie	France
Dowa Trading Co Ltd Kobe	Japan
Esterline Angus Div Esterline Corp Indianapolis	Ind
Hickok Electrical Instrument Co Cleveland	Ohio
Keithley Instruments Inc Cleveland	Ohio
Millivac Instruments Inc Schenectady	N Y
Nelson Electronic Labs Inc Plano	Tex
PMF Electronics Inc Dayton	Ohio
Sigma Instruments Canada Ltd Toronto 18 Ont	Canada
Simpson Electric Co Chicago	Ill
Voltron Products Inc Pasadena	Cal
Wac Line Div Simmonds Precision Prods Dayton	Ohio

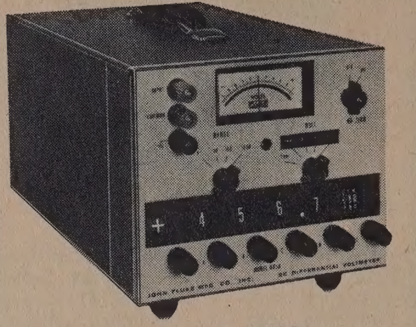
VOLTMETERS—D-C

API INSTRUMENTS CO CHESTERLAND	**OHIO**
DATASCAN INC CLIFTON	**N J**
ELECTRO-MECHANICAL INSTRUMENT CO, INC PERKASIE PA	**ADV PG 709**
FLUKE MFG CO INC, JOHN SEATTLE WASH	**ADV PG 702**
GENERAL ELECTRIC CO, ECSO SCHENECTADY N Y	**ADV PG 7**
HEATH CO BENTON HARBOR	**MICH**
HEWLETT-PACKARD PALO ALTO	**CAL**
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND	**OHIO**
IDEAL PRECISION METER CO INC BROOKLYN	**N Y**
LAMBDA ELECTRONICS CORP MELVILLE	**N Y**
MODUTEC INC NORWALK	**CONN**
PARKER INSTRUMENT CORP STAMFORD	**CONN**
WHITTAKER CORP GEN COM DIV PLAINVIEW	**N Y**
Advance Electronics Ltd Ilford Essex	England
Aircraft Components Inc Benton Harbor	Mich
American Machine & Foundry Co Alexandria Div Alexandria	Va
A & M Instruments Inc Great Neck	N Y
Ammon Instruments Inc Manchester	N H
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook	N Y
API Instruments Co Chesterland	Ohio
Aul Instruments Inc Flushing	NY
Avo Ltd Dover Kent	England
Bartlett-Emery Instrument Co Fort Madison	Iowa
Beede Electrical Instrument Co, Inc Penacook	N H
Bitronics Inc Bethlehem	Pa
California Instruments Corp San Diego	Cal
Canadian Research Institute Don Mills	Ont
Central Scientific Co Chicago	Ill
Cohu Electronics Inc San Diego	Cal
Cole-Hersee Co S Boston	Mass
Colorado Hickok Corp Grand Junction	Colo
Columbia Electric Mfg Co Cleveland	Ohio
Compagnie Generale de Metrologie Haute Savoie	France
Components Specialties Inc Freeport	N Y
Datascan Inc Clifton	N J
Data Technology Corp Palo Alto	Cal
Digilin Inc Glendale	Cal
Digital Instruments Co Inc Shawnee-Mission	Kans
Dixson Inc Meter Div Grand Junction	Colo
Dowa Trading Co Ltd Kobe	Japan
Dynamco Ltd Chertsey Surrey	Eng
Dynamics Instrumentation A Multitech Co Monterey Park	Cal
Edison, Thomas A Industries, Instr Div West Orange	N J
EICO Electronic Instrument Co Inc Brooklyn	NY
E I L Instrument Div Unitec Industries Timonium	Md
Electro-Mechanical Instrument Co, Inc Perkasie	Pa
Electronic Space Products Inc Los Angeles	Cal
Epic Inc New York	N Y
Esterline Angus Div Esterline Corp Indianapolis	Ind
Fairchild Instrumentation Sunnyvale	Cal
Fen-Tone Corp New York	N Y
Ferranti, Ltd Lancashire	England
Fuji Electric Co Ltd Tokyo	Japan
General Electric Co, ECSO Schenectady	N Y
General Radio Co West Concord	Mass
Gordon Co Claud S Richmond	Ill
Hallmark Standards Inc Mount Vernon	N Y
Heath Co Benton Harbor	Mich
Hewlett-Packard Palo Alto	Cal
Hickok Electrical Instrument Co Cleveland	Ohio
Hickok Teaching Systems Inc Woburn	Mass
Honeywell Precision Meter Div Manchester	N H
Howell Instruments Co Fort Worth	Tex
Hoyt Electrical Instrument Works Inc Burton-Rogers Co Sls Div Cambridge	Mass
Ideal Precision Meter Co Inc Brooklyn	N Y
Impectron Inc New York	N Y
J A C Electronics Ltd Camberley	England
J-Omega Co Mountain View	Cal
Julie Research Labs, Inc New York	N Y
Keithley Instruments Inc Cleveland	Ohio
Kikusui Electronics Corp Kanagawa City	Kanagawa Pref Japan
Kuwano Electrical Instruments Co Ltd Kawasaki	Kanagawa Pref
Kyoritsu Electrical Instruments Works Ltd Tokyo	Japan
Lafayette Radio Electronics Syosset	NY
Lake Engineering Co Ltd Scarborough	Ont
Lambda Electronics Corp Melville	N Y
Lear Siegler Inc Santa Monica	Cal
Lear Siegler Inc, Cimron Div San Diego	Cal
Lewis Engineering Co Naugatuck	Conn
Mastercraft Instrument Co Dubuque	Iowa
Matsushita Electric Industrial Co Ltd Osaka	Japan
Medistor Instrument Co Seattle	Wash
Metermaster, Inc Los Angeles	Cal
Millivac Instruments Inc Schenectady	N Y
Modutec Inc Norwalk	Conn
Motorola Communications & Electronics Inc Chicago	Ill
Mura Corp Great Neck	N Y
Nelson Electronic Labs Inc Plano	Tex
Nichols Co Ltd, R H Downsview	Ont
Northeast Electronics Corp Concord	N H
Parker Instrument Corp Stamford	Conn
Phaostron Instrument & Electronic Co South Pasadena	Cal
Philbrick/Nexus Research A Teledyne Co Dedham	Mass
Philips Electronic Instruments, Test & Measuring Inst Mount Vernon	NY
PMF Electronics Inc Dayton	Ohio
Precision Standards Corp Santa Ana	Cal
Q V S Inc East Orange	N J
Racal Electronics Ltd Bracknell Berks	England
Ramyr Mfg Co Buena Park	Cal
Rawson-Lush Instrument Co Inc Acton	Mass
Robertson Instrument Co Azusa	Cal
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Semiconductor Circuits, Inc Woburn	Mass
Servo-Tek Products Co, Marine Div Hawthorne	N J
Servo-Tek Products Co Hawthorne	N J
Shurite Meters New Haven	Conn
Sigma Instruments Canada Ltd Toronto 18 Ont	Canada
Simpson Electric Co Chicago	Ill
Singer Co Instrumentation Div Bridgeport	Conn
Singer Co Instr Div Ballantine Oper Boonton	N J
Solitron/Microwave Long Island City	N Y
Spectral Dynamics Corp of San Diego San Diego	Cal
Sterling Mfg Co Cleveland	Ohio
Sun Electric Corp Chicago	Ill
Sunshine Scientific Instruments Inc Philadelphia	Pa
Taffet Electronics Inc Woodside	N Y
Takeda Riken Industry Co Ltd Tokyo	Japan
Techmetric Co Redwood City	Cal
Thomson-CSF 78 Versailles	France
Trio Laboratories Inc Plainview	N Y
Triplett Electrical Instrument Co Bluffton	Ohio
United Systems Corp Dayton	Ohio
Universal Ad-Yu Electronics Inc Passaic	N J
Voltron Products Inc Pasadena	Cal
Wac Line Div Simmonds Precision Prods Dayton	Ohio
Western Reserve Electronics, Inc Cleveland	Ohio
Westinghouse Electric Corp, Relay & Instr Div Newark	N J
Weston Instruments Div Weston Instr Inc Newark	N J
Westronics Inc Fort Worth	Tex
Whittaker Corp Gen Com Div Plainview	N Y

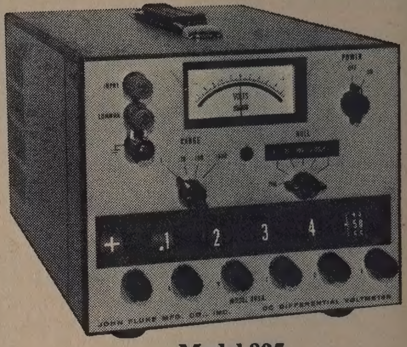
Voltmeters DC



Model 871



Model 881

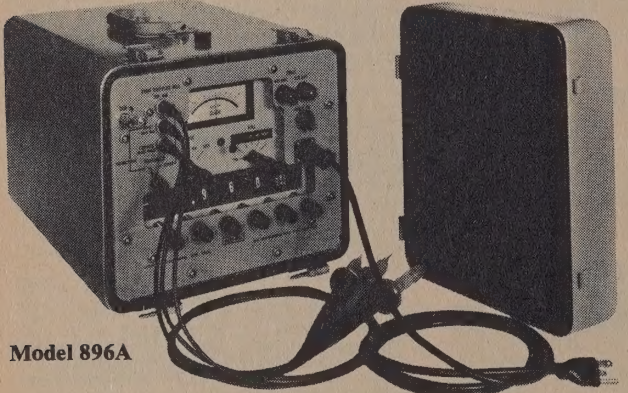


Model 895

Fluke DC Differential Voltmeters

Fluke solid state DC Differential Voltmeters offer the widest range of performance and accuracy in the market. Most units operate from either internal rechargeable batteries or 115/230 V, 50-440 Hz line power. Battery power is essential for measurement where maximum accuracy demands complete line isolation. Input ranges are 1, 10, 100 and 1000 volts, each with 10% overranging.

Fluke voltmeters are electrically and mechanically designed to perform under the extremes of temperature, shock, vibration and humidity. Each zener diode reference is processed, computer matched and selected to establish excellent stability and temperature coefficient tracking. Fluke manufactures all of the precision wire wound resistors used. All solid state voltmeters are lightweight for portability and are provided with a tilt-back bail or functional detented handle for operator convenience. Recorder output is available on all Fluke differential voltmeters.



Model 896A

The new Fluke Model 896A represents an outstanding expansion of the capabilities and applications of the Model 895A DC Differential Voltmeter. Features of the new unit include the ability to measure ±15 Kv at multiplier input, measure ±1100 volts potentiometrically with up to ±5 Kv DC common-mode, mil-spec combination case and splashproof panel, and 100 μv full-scale sensitivity with 6 digit readout. The unit meets the MIL-E-16400 environmental spec.

Model	Input Range	Accuracy	Max. Full Scale Sensitivity	Max. Meter Resolution	Reference	Price
871A	0-1100 v	±0.02%	1 mv	10 μv	Zener Diode	$ 695
881A	0-1100 v	±0.005%	100 μv	1 μv	Zener Diode	895
885A	0-1100 v	±0.0025%	100 μv	1 μv	Zener Diode	1,060
891A*	0-1100 v	±0.01%	1 mv	10 μv	Zener Diode	695
895A*	0-1100 v	±0.0025%	100 μv	1 μv	Zener Diode	1,170
896A	0-±15000 v	±0.01%	100 μv	1 μv	Zener Diode	1,995

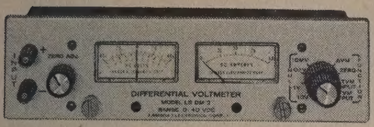
Solid state models available in either line-powered or combination rechargeable battery-line powered versions.
*Infinite input resistance to 1100 volts. Model 891 AR available in rack configuration at no extra charge.

Fluke, Box 7428, Seattle, Washington 98133. Phone: (206) 774-2211. TWX: (910) 449-2850.
In Europe, address Fluke Nederland (N.V.), P.O. Box 5053, Tilburg, Holland.
Phone: (04250) 70130. Telex: 884-50237. In the U.K., address Fluke International Corp.,
Garnett Close, Watford, WD2 4TT. Phone: Watford 27769. Telex: 934583.

FLUKE®

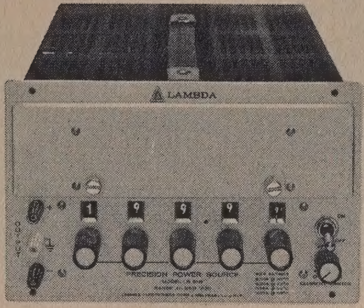
LS series is two instruments in one
Expand the capability of your laboratory

With this plug-in



it becomes a high precision power differential voltmeter

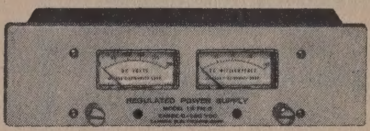
LAMBDA
DIFFERENTIAL VOLTMETER
PRECISION POWER SOURCE



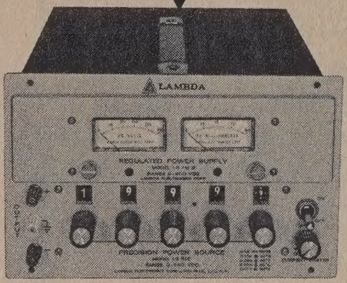
LS power source

ONE DAY DELIVERY ALL MODELS

With this plug-in



it becomes a metered high precision power supply



FEATURES OF THE HIGH PRECISION POWER DIFFERENTIAL VOLTMETER

- **Draw power as you measure voltage...**

The first and only differential voltmeter to furnish high stability power output while being used as a voltmeter...no need for a separate power supply.

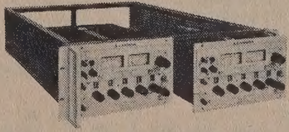
- **Plus all power supply specifications**

FEATURES OF THE METERED HIGH PRECISION POWER SOURCE

- **0.0005% plus 100μV Regulation** — best of any high stability power supply in this price range.
- **Ripple** — 35μV rms; 100μV p-p.
- **Accuracy**—0.01% + 1mV.
- **2 Meters**—monitor both voltage and current simultaneously and continuously.
- **Twice the power** — in a convenient ½-rack package.
- **Guaranteed for 5 years**—the only 5-year guarantee that includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

5 Year Guarantee

- **Multi-Current-Rated** — for 30°C, 40°C, 50°C, 60°C — Covers temperatures most often encountered in laboratory work.
- **5 Models** — with ranges of 0-10, 0-20, 0-40, 0-120, 0-250VDC—Wide selection of ranges to suit your specific needs.
- **Illuminated digital readout** — 5-digital voltage dials provide convenient precise adjustment (200μV resolution over entire range).
- **Only 5¼" high**—convenient half-rack size for rack or bench use.
- **Stability** — 0.001% + 100μV for 8 hours.
- **All silicon-designed for maximum reliability.**
- **Convection-cooled** — no blowers, no external heat sinks.
- **Remote programing**—by changes in voltage or resistance for convenience in systems, test equipment and automatic equipment applications.
- **Auto Series/Auto Parallel** — with Master-Slave tracking.
- **Constant voltage/Constant current.**
- **Completely protected** — short-circuit proof; continuously adjustable automatic current limiting.
- **Overvoltage protection**—available as low cost add-on accessory.
- **Rubber feet** — provided for bench use.
- **AC Input** — 105-132VAC, 47-440 Hz (derate dc output current 10% at 50 Hz) 205-265VAC at extra charge. ("-V" option)
- **Fungus Proofing Option**—Add suffix "R" to model number and add $20.00 to price



- **Mount in Rack Adapters**—LRA-1 ($60.00) or LRA-2 ($35.00). Rack adapter LRA-1 only is available with chassis slides mounted. Add suffix "CS" to rack adapter model number and $50 to price.

Basic Non-Metered Model	Voltage Range	Max. Amps at Ambient of (1)				
		30°C	40°C	50°C	60°C	(2) Price
LS-511A	0-10VDC	2.8A	2.5A	2.1A	1.7A	$375
LS-512A	0-20VDC	1.8A	1.6A	1.3A	1.1A	375
LS-513A	0-40VDC	1.0A	0.9A	0.75A	0.6A	375
LS-515A	0-120VDC	0.33A	0.29A	0.25A	0.21A	375
LS-518A	0-250VDC	0.1A	0.09A	0.08A	0.07A	380

Metered Accessory	
Model	(2) Price
LS-FM1	$55
LS-FM2	55
LS-FM3	55
LS-FM5	55
LS-FM6	55

Diff. VM Accessory	
Model	(2) Price
LS-DM1	$85
LS-DM2	85
LS-DM3	85
LS-DM5	85
LS-DM6	85

Over Volt. Protect.		
Model	Adj. V. Range	Price
LHOV-4	3-24	$35
LHOV-4	3-24	35
LHOV-5	3-47	35

NOTES:

1 Current rating applies over entire voltage range. Ratings based on 55-65 Hz operation. Derate current 10% for 50 Hz.

2 This price is for non-metered Precision Power Source. Addition of Metered Accessory Plug-In (next two columns) is necessary to have Metered High Precision Power Supply. Addition of Differential Voltmeter Accessory Plug-In to the basic model is necessary for the unit to function as a High Precision Differential Voltmeter.

LAMBDA
ELECTRONICS CORP.
515 BROAD HOLLOW ROAD, MELVILLE, L.I., N.Y. 11746
TEL. 516-694-4200, TWX: 510-224-6484
CABLE: LAMBDATRON, MELVILLE, N.Y.

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Check the green pages.

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Cohu Electronics Inc San Diego . . . . Cal
Colorado Hickok Corp Grand Junction . . . . Colo
Compagnie Generale de Metrologie Haute Savoie . . . . . France
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Data Technology Corp Palo Alto . . . . Cal
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IB Instruments Inc Cleveland . . . . Ohio
Impectron Inc New York . . . . N Y
Industrial Control Co Farmingdale . . . . N Y
Instrulab Inc Dayton . . . . Ohio
Julie Research Labs, Inc New York . . . . N Y
Keithley Instruments Inc Cleveland . . . . Ohio
Lambda Electronics Corp Melville . . . . N Y
Mastercraft Instrument Co Dubuque . . . . Iowa
Matsushita Electric Industrial Co Ltd Osaka . . . . Japan
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Medistor Instrument Co Seattle . . . . Wash
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Modutec Inc Norwalk . . . . Conn
Mura Corp Great Neck . . . . N Y
Nelson Electronic Labs Inc Plano . . . . Tex
Optical Electronics Inc Tuscon . . . . Ariz
Philbrick/Nexus Research A Teledyne Co Dedham . . . . . . Mass
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SRC Div Crescent Technology Corp Newport Beach, ... Cal
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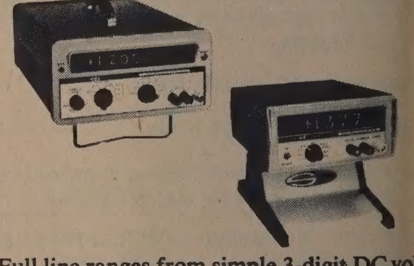
Special ingredients.

Does the laser have the special ingredients your project needs? The names and addresses of laser suppliers are listed alphabetically in the Electronics Buyers' Guide, classified by 5 kinds of lasers, from crystal lasers to ruby lasers.

Electronics Buyers' Guide

Digital voltmeters and multimeters



Full line ranges from simple 3-digit DC vol
meter priced at $395 to .01% multimete
that measure voltage (AC & DC), curren
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80 db noise rejection, selectable input filte
ing, and reading speeds up to six per secon
Automatic polarity indication and 20
over-ranging are standard on all meters. A
meters use modern integrated circuits to e
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SYSTRON DONNE

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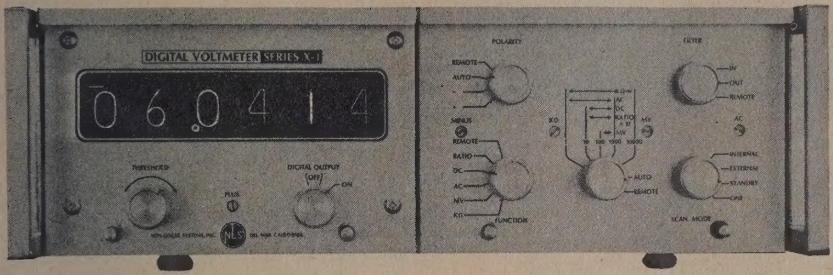
Digital Instrumentation


DIGITAL VOLTMETER SERIES X-1
0 6 0.4 1 4
THRESHOLD
DIGITAL OUTPUT
PLUS
FUNCTION
SCAN MODE
FILTER
POLARITY

Series X-1 Digital Voltmeter -

Five digits plus sixth digit 20% overrange; 0.001% linearity; accuracy ±(0.005% of reading + 0.001% F.S.); measures from 100 µV to 1 KV; automatic polarity and ranging.

Options include: AC measurements from 10 µV to 500 V; Frequency 50 Hz to 100 KHz. Resistance from 0.01Ω to 12 Megohms; Preamplifier extends DC measurements down to 1 µV; Printout; Remote Trigger; Ratio; Active Filter.

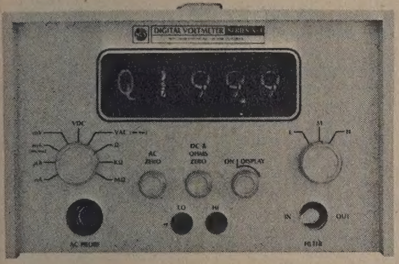
X-1 Eight Range Ohmmeter -

Automatic resistance measurements in eight ranges, from 100 µ ohms to 120 Megohms; DC measurements from 1 µV to 1 KV in five automatic or manually selectable ranges; incorporates high speed active filter to smooth out noisy input signals.

Series X-6 Computing Multimeter

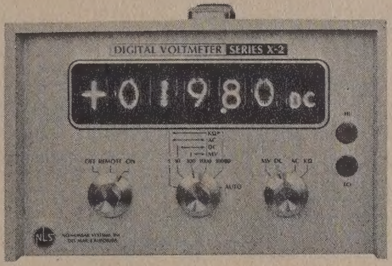
- Directly measures and computes the Deviation [(A-B)/B]. Ratio (A-B) or Difference (A-B) of any two absolute numerical values where A and B are presented as analogs of Resistance, DC voltages from 1 microvolt to 1000 volts or AC voltages from 10 microvolts to 500 volts.

Applications in transformer ratio and linearity testing, potentiometer and resistor manufacture and quality control, resolver checkout, accelerometer calibration, and automated test set readout.


DIGITAL VOLTMETER SERIES X-3
Q 1 9 9 9
AC PROBE
FILTER

X-3A Digital Multimeter -

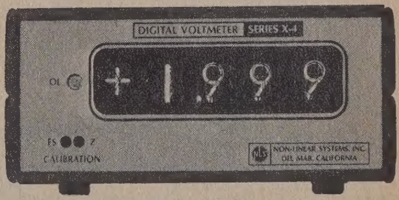
2000 digit display; measures from 10 µV to 1 KV, AC from 0.5 V to 300 V; Frequency 20 Hz to 500 MHz. Resistance from 10 mΩ to 2000 Megohms and Current from 10 picoamps to 200 mA; full input protection on all functions; Analog output; Power supply output. Options include: High Voltage Probe extends DC measurements to 30 KV; current shunt extends measurements to 2 amps.


DIGITAL VOLTMETER SERIES X-2
+0 1 9.8 0 DC

Series X-2 Digital Voltmeter -

Four digits plus fifth digit 20% overrange; accuracy ±(0.02% of reading +0.01% F.S.); measures from 1 mV to 1 KV; auto polarity.

Options include: Auto Ranging; AC Measurements from 100 µV to 500 V; Frequency 50 Hz to 100 KHz, Dual function Ohms/Millivolts converter measures from 100 Milliohms to 12 Megohms and extends DC down to 10 µV; Remote Trigger and Printout; Function Display Ratio; Current measurements from 1 nanoamp to 1 amp.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+ 1.9 9 9
CALIBRATION
NON-LINEAR SYSTEMS, INC.
DEL MAR, CALIFORNIA

Series X-4 Digital Voltmeter -

±0000 to ±1999, plus overload indication; 0.1% of reading + 0.05% of full scale; 60 readings/second; four models available giving ranges from 1.999 VDC to 1100 VDC; automatic polarity; BCD outputs.

Call COLLECT (714) 755-1134 to request detailed brochures and/or applications engineering assistance.

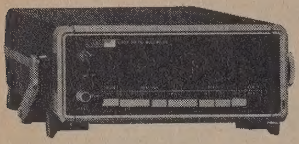
Originator of the Digital Voltmeter
NON-LINEAR SYSTEMS, INC.
DEL MAR, CALIFORNIA 92014

New Fluke Digital Voltmeters

The new Fluke family of digital voltmeters uses circuit disciplines never before adapted to this kind of instrumentation. Models 8100A and 8300A offer an analog to digital conversion technique based on storage capacitors, a single BCD counter and a resistive ladder network to serially determine and display all digits. The technique is called the **recirculating remainder A to D system.**

Fluke's true rms ac digital voltmeter, the Model 9500A, uses a differential thermocouple technique to automatically compare the heating effect of the input AC signal to an accurately known DC voltage.

Model 8100A
Digital Multimeter



- Measures AC and DC volts in four ranges to 1000 volts
- Measures ohms in five ranges to ten megohms
- Optional rechargeable battery pack operation
- Automatic polarity indication
- All functions are push-button selectable
- Active 2-pole switchable filter
- Four full digits plus "1" for 20% overranging
- Meets specifications for 90 days from 15°C to 35°C, and 0 to 80% relative humidity
- New conversion method reduces power consumption

SPECIFICATIONS

Size: 3½" high x 8½" wide x 15" deep

Power: 115/230 VAC±10%, 50 to 500 Hz., 10 watts, 8 hours operation on optional batteries

Price: Full multimeter, $695.

Option: 01-rechargeable battery power, $100.

Accessories: —HF probe, —HV probes, —switched AC-DC current shunts, —ruggedized case.

DC VOLTS

Ranges: 1V, 10V, 100V, 1000V

Accuracy: ±0.05%

AC VOLTS

Ranges: 1V, 10V, 100V, 1000V

Accuracy: ±0.2%

OHMS

Ranges: 1K, 10K, 100K, 1M, 10M

Accuracy: ±0.1%

Model 8300A
Digital Voltmeter

- Basic unit measure 0 to 1100 volts DC in three ranges
- New conversion method reduces parts up to 500% for increased reliability
- Reads out in five full digits plus "1" for 20% overranging
- 25 millisecond sampling speed
- Automatic ranging and polarity
- Fully guarded with 140 db common mode rejection
- Active 3 pole switchable filter
- Normal Mode Rejection Ratio 60 db, 50 Hz and up
- Full systems capability with timing signals, ready indicators and flags
- DTL-TTL compatible Data Output and Programming

LOW COST OPTIONS

- AC voltage measurement in four ranges 0 to 1100 volts
- Millivolt/Ohms option on one board
- External Reference for bipolar ratio measurement
- Fully isolated remote programming
- Fully isolated data (printer) output
- Add options any time on order or in the field for the same cost

SPECIFICATIONS

Ranges: 10V, 100V, 1000V

Accuracy: ±0.005%

Size: 3½" high x 17½" wide x 15" deep

Weight: 12 to 15 lbs.

OPTIONS

MILLIVOLT/OHMS

Resistance Ranges: 1K, 10K, 100K, 1000K, 10M (0.01% thru 100K, 0.02% thru 1000K, 0.1% thru 10M)

Millivolt Ranges: 100 mv, 1000 mv (0.01%)

AC Volts: 1V, 10V, 100V, 1000V (0.1% from 50 Hz to 20 Hz reduced above and below)

EXTERNAL REFERENCE (RATIO)

Reference Range: 2V to 10.5V

DATA OUTPUT

Data Available: Polarity, mode, range, BCD coded digits (serial or parallel), overrange digit, "ready" signal & complement, overload at input flag, external trigger

Logic Levels: +5V = 1
OV = 0

REMOTE CONTROL

Input Definition: Series 930 DTL

Control Modes: DTL, TTL or contact closure

Logic Levels: +5V; no command
OV or switch closure; call up function

Price:

Basic Unit	$1295
01 — A.C. Converter	$ 450
02 — MV/Ohms	$ 350
03 — Printer Output	$ 500
04 — Remote Control	$ 200
05 — External Reference	$ 200
06 — Rear Input	$ 15
07 — Rear Terminal Accessory	$ 25

Model 9500A
True RMS AC Digital Voltmeter

The Model 9500A will measure any complex waveform accurately. Measure noise, spurious signals, intermodulation distortion, losses in magnetic devices, microphonics, harmonic distortion, and power ripple.

- Frequency range 20 Hz to 700 KHz
- 1 millivolt to 1100 volt range
- Low capacitance, high resistance input
- Self-calibrating
- Manual, automatic, remote range selection. DTL-TTL logic compatibility available.
- Accepts floating inputs
- 1100V RMS may be applied to any range without damage

SPECIFICATIONS

Input Voltage: Five ranges of 0.1, 1, 10, 100, and 1000V, each with 60% overranging.

Accuracy: 0.05%

Crest Factor: 10 (1500V peak)

Data Output with Remote Control: BCD output and remote control

GENERAL

Input Power: 115/230 VAC±10%, 50 to 440 Hz

Size: 5¼" high x 17" wide x 15" deep

Price: Model 9500A including rack adapter kit $2485

Options:

01—Probe Input	$ 75
02—Rear Panel BNC Input	$ 50
03—1-2-4-8 BCD Output	$195
04—1-2-2-4 BCD Output	$195

FLUKE®

Fluke, Box 7428, Seattle, Washington 98133. Phone: (206) 774-2211.

HICKOK

DMS 3200

DIGITAL MEASURING SYSTEM

(Fully solid state with IC's)

HICKOK DIGITAL SYSTEMS
POLARITY
RANGE
DISPLAY
CAL
MODEL DP 100
DC PLUG-IN

This all-solid-state precision measurement system offers unlimited expansion capability through plug-in additions, resulting in a specialized instrument for each type of measurement. New plug-ins now broaden the measurement capability of this field-proven unit. Over 10,000 are in use at present.

Scaling controls make possible resolution of up to seven digits on the three-digit display by utilizing the overrange capability of many of the plug-ins, thus providing high resolution and accuracy with minimum investment. Companion devices such as the PR 4900 Digital Printer and 1050 Digital Set-Point Controller further extend the utility of the DMS 3200 System.

NEW!
NEW!
NEW!
NEW!

DC VOLTMETER PLUG-IN DP 100 $175
00.1 mv to 999. volts
± 0.1% rdg ± 1 digit

DC MICROVOLTMETER PLUG-IN DP 110 $475
0.001 mv to 999.9 volts
± 0.05% rdg ± 1 digit
4-digit resolution

AC VOLTMETER PLUG-IN DP 130 $395
0.01 mv to 999. volts
± 0.1% rdg ± 1 digit
22 Hz to 1.0 MHz

EVENT COUNTER/SLAVE PLUG-IN DP 140 $100
Up to 1,000,000 counts/sec
Cascade with second DMS to obtain 6-digit display

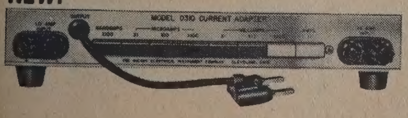
1 MHz COUNTER PLUG-IN DP 150A $255
00.1 Hz to 999. kHz
± 0.0005% rdg ± 1 digit
7-digit resolution

80 MHz COUNTER PLUG-IN DP 160 $395
00.1 Hz to 80.0 MHz
± 0.00005% rdg ± 1 digit
7-digit resolution

OHMMETER PLUG-IN DP 170 $295
.001 ohm to 999. megohms
± 0.1% rdg ± 1 digit
Microamp test current

CAPACITY METER PLUG-IN DP 200 $295
.001 picofarad to 9,999 mfd
± 0.1% rdg ± 1 digit
Low DC test voltage

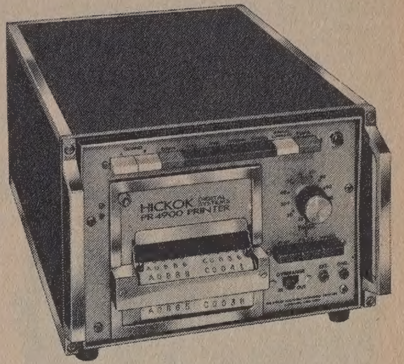
TIME INTERVAL METER PLUG-IN DP 210 $295
0.01 ms to 999. seconds
± 0.0005% rdg ± 1 digit
Period or time interval



DC CURRENT METER ADAPTER D 310 $100
.0001 microamp to 9.99 amps
± 0.15% rdg ± 1 digit

PR 4900

DIGITAL PRINTER



From $760

This professional printer provides print-out of up to 10 columns of digital information from one or two independent sources. It is a companion unit to the Hickok DMS 3200 Digital Measuring System; however, it may be used with any device which provides 10-line decimal or BCD coded data outputs. Voltage, frequency, time period, resistance, capacitance or event counts are examples of data which may be recorded in printed form on paper tape for storage and future reference.

1050

DIGITAL SET-POINT CONTROLLER

HICKOK DIGITAL SYSTEMS

$295

The Model 1050 Digital Set-Point Controller, when used with the Hickok DMS 3200 Digital Measuring System, can start and/or stop the operation of any peripheral function at predetermined measurement values, as selected by the operator. Set-points are absolute, assuring start or stop functions at specific values with zero set-point error.

When used with the DMS Main Frame and the appropriate DP Series plug-in digital measurements of voltage, frequency, period, resistance, capacity, events (and with appropriate transducers, pressure, flow, temperature, strain, etc.) can be used to activate external mechanical feeds, drives, print-outs, reject hoppers, feed motors, fuel adjustments, blowers, tabulation recorders, etc.

THE HICKOK ELECTRICAL INSTRUMENT CO. • 10514 Dupont Avenue • Cleveland, Ohio 44108

HEATHKIT® "Performance-Plus" Voltmeters

NEW Laboratory AC VTVM

The IM-38 is the essential instrument for virtually every kind of electronics work, and well suited too. Ten voltage ranges provide measurement capability from 10 millivolts to 300 volts — ideal for audio work; minimal circuit loading with the 10 megohm input. Extended frequency response of 10 Hz to 500 kHz ±1 dB and a calibrated dB scale for audio measurements too. The VU-type meter is ballistic damped for extra safety. The 2-stage amplifier provides 19 dB of negative feedback for high stability and linearity. Filament voltage is supplied from a transformer winding balanced to ground to keep AC noise to a minimum.

Kit IM-38 .... $41.95
Assembled IMW-38 .... $57.95

UNIQUE High Impedance VOM

For the first time, at less than $195, you can get a solid-state VOM that has: 9 DC voltage ranges — 150 mV-1500 V. • 9 AC ranges — 150 mV-1500 V. • 7 resistance ranges — 1 ohm-1000 megohms • 11 current ranges — 15 uA-1.5 A full scale • 11 megohm DC input • 10 megohm AC input • ±3% accuracy • AC response to 100 kHz • Zero center scale for + or — voltage measurements without switching • Portable or line operation • 120/240 VAC, 50-60 Hz wiring options

Kit IM-25 .... $85.00
Assembled IMW-25 .... $120.00

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Kit IM-16 .... $46.95
Assembled IMW-16 .... $69.95

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HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND .... OHIO
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON .... N J
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW .... N Y
SYSTRON-DONNER CORP CONCORD .... CAL
THETA INSTRUMENT CORP FAIRFIELD .... N J
WHITTAKER CORP GEN COM DIV PLAINVIEW .... N Y
Allen Aircraft Radio Inc Elk Grove Village Ill
A & M Instruments Inc Great Neck .... N Y
Anritsu Electric Co Ltd Tokyo .... Japan
Aul Instruments Inc Flushing .... NY
Avo Ltd Dover Kent .... England
B & K Mfg Co Div Dynascan Corp Chicago Ill
Boonton Electronics Corp Parsippany .... N J
Bradley Ltd G & E London NW 10 .... England
Central Scientific Co Chicago Ill
Cohu Electronics Inc San Diego .... Cal
Compagnie Generale de Metrologie Haute Savoie .... France
Controlomag Labs Roslyn .... Pa
Data Instrument Div Pennsauken .... N J
Datascan Inc Clifton .... N J
Data Technology Corp Palo Alto .... Cal
Dowa Trading Co Ltd Kobe .... Japan
Dranetz Engineering Labs Inc Plainfield .... N J
Dynamics Instrumentation A Multitech Co Monterey Park .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electronic Associates Inc West Long Branch .... N J
Electronic Development Corp Boston .... Mass
Electronic Measurements Corp New York .... N Y
Fen-Tone Corp New York .... N Y
Fluke Mfg Co Inc, John Seattle .... Wash
General Radio Co West Concord .... Mass
General Resistance Inc Div Chronetics Inc Mount Vernon .... N Y
Harris-Intertype Corp Cleveland .... Ohio
Heath Co Benton Harbor .... Mich
Hewlett-Packard Palo Alto .... Cal
Hickok Electrical Instrument Co Cleveland .... Ohio
Hickok Teaching Systems Inc Woburn .... Mass
Industrial Test Equipment Co Port Washington .... N Y
ITT Jennings Div, Intl Tel & Tel Corp San Jose .... Cal
J A C Electronics Ltd Camberley .... England
Keithley Instruments Inc Cleveland .... Ohio
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Kokuyo Electric Co Ltd Tokyo .... Japan
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Kyoritsu Electrical Instruments Works Ltd Tokyo .... Japan
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Lafayette Radio Electronics Syosset .... NY
Lear Siegler Inc Santa Monica .... Cal
Marconi Instruments Div, English Electric Corp
  Englewood .... N J
Matsushita Communication Industrial Co Ltd
  Yokohama .... Japan
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  San Pedro .... Cal
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Medistor Instrument Co Seattle .... Wash
Meguro Denpa Sokki K K Meguro-ku, Tokyo .... Japan
Metermaster, Inc Los Angeles .... Cal
Metronix Corp Tokyo .... Japan
Millivac Instruments Inc Schenectady .... N Y
Motorola Communications & Electronics Inc Chicago Ill
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North Atlantic Industries Inc Plainview .... N Y
Northeast Electronics Corp Concord .... N H
Philbrick/Nexus Research A Teledyne Co Dedham .... Mass
Philco-Ford Corp Washington .... D C
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon .... NY
Racal Electronics Ltd Bracknell Berks .... England
Radio Corp of America, Electronic Components Harrison .... N J
Robertson Instrument Co Azusa .... Cal
Ross Engineering Corp Saratoga .... Cal
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Sencore Inc Addison Ill
Sennheiser Electronic Corp (NY) New York .... N Y
Simpson Electric Co Chicago Ill
Singer Co Instr Div Ballantine Oper Boonton .... N J
Singer Co Instru Div Gertsch Oper Los Angeles .... Cal
Spectral Dynamics Corp of San Diego San Diego .... Cal
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Systron-Donner Corp Concord .... Cal
Takeda Riken Industry Co Ltd Tokyo .... Japan
Tecnica Elettronica Systems S a s Milan .... Italy
Tekelec-Airtronic SA Sevres 92 .... France
Theta Instrument Corp Fairfield .... N J
Trio Laboratories Inc Plainview .... N Y
Triplett Electrical Instrument Co Bluffton .... Ohio
Voltron Products Inc Pasadena .... Cal
VP Co Pasadena .... Cal
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Waveforms North Hollywood .... Cal
Whittaker Corp Gen Com Div Plainview .... N Y
Winslow Tele-Tronics Inc Eatontown .... N J

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Canadian Research Institute Don Mills .... Ont
Collins & Assoc Don L Glendale .... Cal
Custom Scientific Instruments Inc Whippany .... N J
Dowa Trading Co Ltd Kobe .... Japan
Dynasciences Corp Blue Bell .... Pa
Ealing Corp Cambridge .... Mass
Ferranti Electric Inc Plainview .... N Y
Ferranti, Ltd Lancashire .... England
Hallmark Standards Inc Mount Vernon .... N Y
Keithley Instruments Inc Cleveland .... Ohio
Landsverk Electrometer Co Glendale .... Cal
Medistor Instrument Co Seattle .... Wash
Monroe Electronics Inc Middleport .... N Y
Nichols Co Ltd, R H Downsview .... Ont
Rawco Instruments Inc Fort Worth .... Tex
Rawson-Lush Instrument Co Inc Acton .... Mass
Simco Co Inc Lansdale .... Pa
Singer Co Instrumentation Div Bridgeport .... Conn
Sweeney Mfg Co, B K Denver .... Colo
Wac Line Div Simmonds Precision Prods Dayton .... Ohio

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N Y .... ADV PG 7
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UNIVERSAL VOLTRONICS CORP MOUNT KISCO .... N Y
A & M Instruments Inc Great Neck .... N Y
Ammon Instruments Inc Manchester .... N H
Associated Research, Inc Chicago Ill
Aul Instruments Inc Flushing .... NY
Bartlett-Emery Instrument Co Fort Madison .... Iowa
Beckman Instruments Inc Fullerton, ... Cal
Beckman Instruments Intl SA 1207 Geneva .... Switzerland
Beede Electrical Instrument Co, Inc Penacook .... N H
Bitronics Inc Bethlehem .... Pa
California Instruments Corp San Diego .... Cal
Canadian Research Institute Don Mills .... Ont
Colorado Hickok Corp Grand Junction .... Colo
Compagnie Generale de Metrologie Haute Savoie .... France
Dana Laboratories Inc Irvine .... Cal
Dixson Inc Meter Div Grand Junction .... Colo
Dowa Trading Co Ltd Kobe .... Japan
Dynamco Ltd Chertsey Surrey .... Eng
E I L Instrument Div Unitec Industries Timonium .... Md
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Ferranti, Ltd Lancashire .... England
Fuji Electric Co Ltd Tokyo .... Japan
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Hallmark Standards Inc Mount Vernon .... N Y
Hickok Electrical Instrument Co Cleveland .... Ohio
Hipotronics Inc Brewster .... N Y
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HONEYWELL TEST INSTRUMENTS DIV DENVER
COLO .... ADV PG 8
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THETA INSTRUMENT CORP FAIRFIELD .... N J
Allen Aircraft Radio Inc Elk Grove Village Il
American Machine & Foundry Co Alexandria Div
  Alexandria .... Va
A & M Instruments Inc Great Neck .... N Y
Aul Instruments Inc Flushing .... NY
Beede Electrical Instrument Co, Inc Penacook .... N H
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Brower Labs Inc Waltham .... Mas
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Cohu Electronics Inc San Diego .... Ca
Colorado Hickok Corp Grand Junction .... Col
Compagnie Generale de Metrologie Haute Savoie .... Franc
Dixson Inc Meter Div Grand Junction .... Col
Doric Scientific Corp San Diego .... Ca
Dowa Trading Co Ltd Kobe .... Japa
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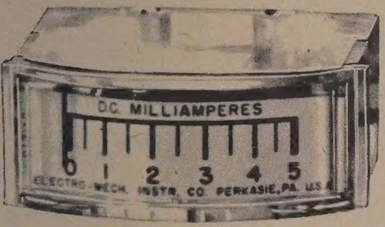
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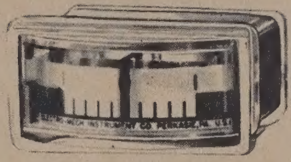
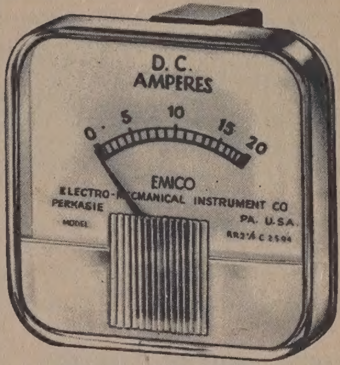
Model 13
1³⁄₁₆″ x ¾″



EDGE READING METER
Model 12 1¼″ x ⁵⁄₁₆″


D.C. AMPERES
0 5 10 15 20
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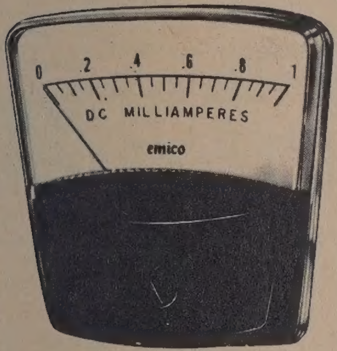
PLASTIC BEZEL METER
Model 42 2⁵⁄₁₆″ square


0 .2 .4 .6 .8 1
DC MILLIAMPERES
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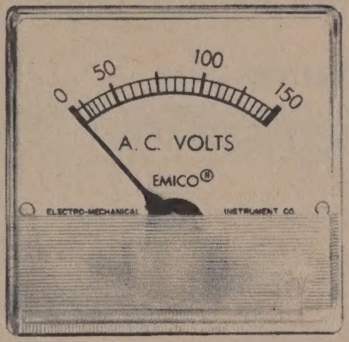
STARLINE METER
Model 32
approx. 3″ square


0 50 100 150
A. C. VOLTS
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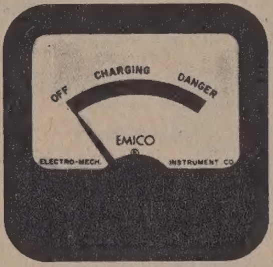
PLASTIC BEZEL METER
Model 52 approx. 2⅜″ square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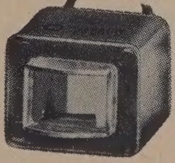
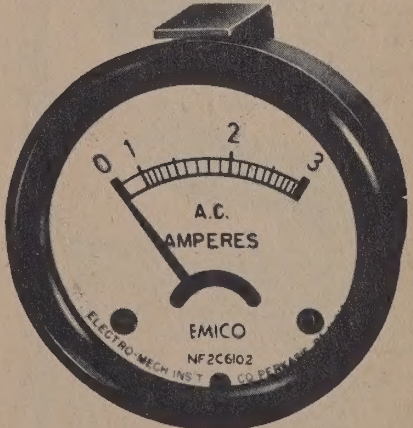
MICRO-MINIATURE CIRCUIT INDICATORS

For monitoring on-off conditions, malfunctions, or battery charge conditions, select either Model 802P (pointer-type) or 802F (flag-type) indicator. Rugged, dependable, extremely low-cost. Available with either wire leads or plug-in jacks for easy installation. For technical details, request Bulletin R12-A.



Model 202F approx. ½″ square

Model 802P approx. ½″ square


0 1 2 3
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2¼″ diameter

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General Microwave Corp Farmingdale .... N Y
General Radio Co West Concord .... Mass
Hallmark Standards Inc Mount Vernon .... N Y
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Honeywell Test Instruments Div Denver .... Colo
IB Instruments Inc Cleveland .... Ohio
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Mastercraft Instrument Co Dubuque .... Iowa
Medistor Instrument Co Seattle .... Wash
Millivac Instruments Inc Schenectady .... N Y
Mura Corp Great Neck .... N Y
Nelson Electronic Labs Inc Plano .... Tex
North Atlantic Industries Inc Plainview .... N Y
Phaostron Instrument & Electronic Co South Pasadena .... Cal
Philbrick/Nexus Research A Teledyne Co Dedham .... Mass
Philco-Ford Corp Washington .... D C
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  Mount Vernon .... NY
PMF Electronics Inc Dayton .... Ohio
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Simpson Electric Co Chicago Ill
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Singer Co Instr Div Ballantine Oper Boonton .... N J
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Vidar Corp Mountain View .... Cal
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
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PA .... ADV PG 709
FLUKE MFG CO INC, JOHN SEATTLE .... WASH
GENERAL ELECTRIC CO, ECSO SCHENECTADY
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HONEYWELL TEST INSTRUMENTS DIV DENVER
COLO .... ADV PG 8
IDEAL PRECISION METER CO INC BROOKLYN .... N Y
MODUTEC INC NORWALK .... CONN
NORTH ATLANTIC INDUSTRIES INC PLAINVIEW .... N Y
THETA INSTRUMENT CORP FAIRFIELD .... N J
Advanced Technology & Systems Corp Riverside .... Conn
Allen Aircraft Radio Inc Elk Grove Village Ill
American Machine & Foundry Co Alexandria Div
  Alexandria .... Va
A & M Instruments Inc Great Neck .... N Y
Ammon Instruments Inc Manchester .... N H
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook .... N Y
API Instruments Co Chesterland .... Ohio
Aul Instruments Inc Flushing .... NY
Bartlett-Emery Instrument Co Fort Madison .... Iowa
Beede Electrical Instrument Co, Inc Penacook .... N H
Bitronics Inc Bethlehem .... Pa
Boonton Electronics Corp Parsippany .... N J
California Instruments Corp San Diego .... Cal
Canadian Research Institute Don Mills .... Ont
Colorado Hickok Corp Grand Junction .... Colo
Compagnie Generale de Metrologie Haute Savoie .... France
Dana Laboratories Inc Irvine .... Cal
Datascan Inc Clifton .... N J
Digilin Inc Glendale .... Cal
Digital Instruments Co Inc Shawnee-Mission .... Kans
Dixson Inc Meter Div Grand Junction .... Colo
Doric Scientific Corp San Diego .... Cal
Dowa Trading Co Ltd Kobe .... Japan
Dynamco Ltd Chertsey Surrey .... Eng
Dynamics Instrumentation A Multitech Co Monterey Park .... Cal
EICO Electronic Instrument Co Inc Brooklyn .... NY
Electro-Mechanical Instrument Co, Inc Perkasie .... Pa
Electronic Development Corp Boston .... Mass
Electro Scientific Industries Inc Portland .... Ore
Fairchild Instrumentation Sunnyvale .... Cal
Fen-Tone Corp New York .... N Y
Ferranti, Ltd Lancashire .... England
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General Electric Co, ECSO Schenectady .... N Y
General Microwave Corp Farmingdale .... N Y
Gordon Co Claud S Richmond Ill
Hallmark Standards Inc Mount Vernon .... N Y
Hewlett-Packard Palo Alto .... Cal
Hickok Electrical Instrument Co Cleveland .... Ohio
Honeywell Precision Meter Div Manchester .... N H
Honeywell Test Instruments Div Denver .... Colo
Howell Instruments Co Fort Worth .... Tex
IB Instruments Inc Cleveland .... Ohio
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Julie Research Labs, Inc New York .... N Y
Kahl Scientific Instrument Corp El Cajon .... Cal
Keithley Instruments Inc Cleveland .... Ohio
Kikusui Electronics Corp
  Kanagawa City .... Kanagawa Pref Japan
Kuwano Electrical Instruments Co Ltd
  Kawasaki .... Kanagawa Pref

Lab Electro-Acoustique 92 Rueil-Malmaison .... France
Lewis Engineering Co Naugatuck .... Conn
Marconi Instruments Div, English Electric Corp
  Englewood .... N J
Mastercraft Instrument Co Dubuque .... Iowa
Medistor Instrument Co Seattle .... Wash
Metermaster, Inc Los Angeles .... Cal
Metronix Corp Tokyo .... Japan
Millivac Instruments Inc Schenectady .... N Y
Modutec Inc Norwalk .... Conn
Monroe Electronics Inc Middleport .... N Y
Motorola Communications & Electronics Inc Chicago Ill
Mura Corp Great Neck .... N Y
Nelson Electronic Labs Inc Plano .... Tex
Nichols Co Ltd, R H Downsview .... Ont
North Atlantic Industries Inc Plainview .... N Y
Phaostron Instrument & Electronic Co South Pasadena .... Cal
Philbrick/Nexus Research A Teledyne Co Dedham .... Mass
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon .... NY
PMF Electronics Inc Dayton .... Ohio
Q V S Inc East Orange .... N J
Racal Electronics Ltd Bracknell Berks .... England
Ramapo Instrument Co Inc Bloomingdale .... NJ
Rawson-Lush Instrument Co Inc Acton .... Mass
Robertson Instrument Co Azusa .... Cal
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Ross Engineering Corp Saratoga .... Cal
Sigma Instruments Canada Ltd Toronto 18 Ont .... Canada
Simpson Electric Co Chicago Ill
Singer Co Instrumentation Div Bridgeport .... Conn
Singer Co Instr Div Ballantine Oper Boonton .... N J
Solartron Electronic Group Ltd Farnbrough .... England
Solitron/Microwave Long Island City .... N Y
Spectral Dynamics Corp of San Diego San Diego .... Cal
Sterling Mfg Co Cleveland .... Ohio
Sun Electric Corp Chicago Ill
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Tecnica Elettronica Systems S a s Milan .... Italy
Tekelec-Airtronic SA Sevres 92 .... France
Theta Instrument Corp Fairfield .... N J
Trio Laboratories Inc Plainview .... N Y
Triplett Electrical Instrument Co Bluffton .... Ohio
United Systems Corp Dayton .... Ohio
Vidar Corp Mountain View .... Cal
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Western Reserve Electronics, Inc Cleveland .... Ohio
Westinghouse Electric Corp, Relay & Instr Div Newark .... N J
Weston Instruments Div Weston Instr Inc Newark .... N J
Westronics Inc Fort Worth .... Tex

VOLTMETERS—PEAK

HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND .... OHIO
MEASUREMENTS A MCGRAW-EDISON DIV BOONTON .... N J
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
American Machine & Foundry Co Alexandria Div
  Alexandria .... Va
A & M Instruments Inc Great Neck .... N Y
Aul Instruments Inc Flushing .... NY
Bio-Medical Electronics Inc Rockville .... Md
Dixson Inc Meter Div Grand Junction .... Colo
Dowa Trading Co Ltd Kobe .... Japan
Dynamco Ltd Chertsey Surrey .... Eng
Fuji Electric Co Ltd Tokyo .... Japan
Hallmark Standards Inc Mount Vernon .... N Y
Hickok Electrical Instrument Co Cleveland .... Ohio
Kikusui Electronics Corp
  Kanagawa City .... Kanagawa Pref Japan
Lear Siegler Inc, Cimron Div San Diego .... Cal
Marshall Research & Devel Corp Burlington .... Mass
Mastercraft Instrument Co Dubuque .... Iowa
Measurements A McGraw-Edison Div Boonton .... N J
Micro Instrument Co Hawthorne .... Cal
Narda Microwave Corp Plainview .... N Y
Nelson Electronic Labs Inc Plano .... Tex
Non-Linear Systems Inc Del Mar .... Cal
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon .... NY
PMF Electronics Inc Dayton .... Ohio
P P M Inc Cleveland .... Ohio
Rawson-Lush Instrument Co Inc Acton .... Mass
Ross Engineering Corp Saratoga .... Cal
Singer Co Instrumentation Div Bridgeport .... Conn
Singer Co Instr Div Ballantine Oper Boonton .... N J
Sun Electric Corp Chicago Ill
Wac Line Div Simmonds Precision Prods Dayton .... Ohio

VOLTMETERS—R-F

DRANETZ ENGINEERING LABS INC PLAINFIELD .... N J
HEWLETT-PACKARD PALO ALTO .... CAL
A & M Instruments Inc Great Neck .... N Y
Aul Instruments Inc Flushing .... NY
Bartlett-Emery Instrument Co Fort Madison .... Iowa
Beede Electrical Instrument Co, Inc Penacook .... N H
Boonton Electronics Corp Parsippany .... N J
Compagnie Generale de Metrologie Haute Savoie .... France
Components Specialties Inc Freeport .... N Y
Dowa Trading Co Ltd Kobe .... Japan
Dranetz Engineering Labs Inc Plainfield .... N J
General Radio Co West Concord .... Mass
Hewlett-Packard Palo Alto .... Cal
Kuwano Electrical Instruments Co Ltd
  Kawasaki .... Kanagawa Pref
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon .... NY
Racal Electronics Ltd Bracknell Berks .... England
Rawson-Lush Instrument Co Inc Acton .... Mass
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Ross Engineering Corp Saratoga .... Cal
Simpson Electric Co Chicago Ill
Solitron/Microwave Long Island City .... N Y

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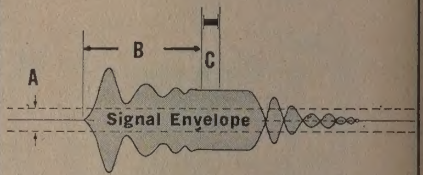
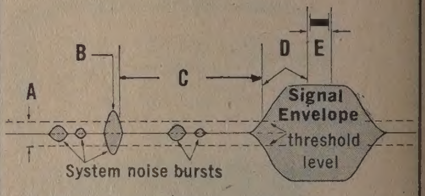


A. Adjustable threshold 4 - 20% of full scale
B. Count cycles or provide a delayed trigger and sample after initial transient
C. Sampling periods of 0.1, 1.0 and 10 milliseconds depending upon signal frequency, 100 H_Z to 1 m H_Z



A. Adjustable threshold 4 - 20% of full scale
B. If this noise burst exceeds the threshold, provide a trigger any time in C
D. Sample 3 to 30 cycles after threshold
E. Sampling period

A. Signal envelope as the result of programmed voltage, current, frequency, etc.
B. Provide a delayed or coincident trigger for each programmed step or initiate the next step automatically after sampling
C. Sampling period

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VOLTMETERS—SAMPLING

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Towner Systems Co Alameda .... Cal

VOLT-OHM-MILLIAMMETERS

HEATH CO BENTON HARBOR .... MICH
HEWLETT-PACKARD PALO ALTO .... CAL
HICKOK ELECTRICAL INSTRUMENT CO CLEVELAND ... OHIO
HONEYWELL TEST INSTRUMENTS DIV DENVER COLO .... ADV PG 8
IDEAL PRECISION METER CO INC BROOKLYN .... N Y
NON-LINEAR SYSTEMS INC DEL MAR .... CAL
WHITTAKER CORP GEN COM DIV PLAINVIEW .... N Y
Advanced Measurement Instruments, Inc Somerville .... Mass
Advance Electronics Ltd Ilford Essex .... England
A & M Instruments Inc Great Neck .... N Y
Amprobe Instrument Div SOS Consolidated Inc. Lynbrook . N Y
Aul Instruments Inc Flushing .... NY
Avo Ltd Dover Kent .... England
Barrs Electronics Dallas .... Tex
B & K Mfg Co Div Dynascan Corp Chicago Ill
California Instruments Corp San Diego .... Cal
Canadian Research Institute Don Mills .... Ont
Carol Electronics Div Weeco Inc Martinsburg .... W Va
Claricon Products Elizabeth .... N J
Cohu Electronics Inc San Diego .... Cal
Compagnie Generale de Metrologie Haute Savoie ..... France
Components Specialties Inc Freeport .... N Y
Connolly & Co Inc Mountain View .... Cal
Delta Products Inc Grand Junction .... Colo
Dowa Trading Co Ltd Kobe .... Japan
E G & G Inc Laboratory Prods Div Goleta .... Cal
Electronic Measurements Corp New York .... N Y
Electro Scientific Industries Inc Portland .... Ore
Fairchild Instrumentation Sunnyvale .... Cal
Fen-Tone Corp New York .... N Y
Gralex Industries Inc Copiague .... N Y
Hallmark Standards Inc Mount Vernon .... N Y
Heath Co Benton Harbor .... Mich
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Hickok Teaching Systems Inc Woburn .... Mass
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Ideal Precision Meter Co Inc Brooklyn .... N Y
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Lear Siegler Inc, Cimron Div San Diego .... Cal
Mastercraft Instrument Co Dubuque .... Iowa
Medistor Instrument Co Seattle .... Wash
Metermaster, Inc Los Angeles .... Cal
Millivac Instruments Inc Schenectady .... N Y
Motorola Communications & Electronics Inc Chicago Ill
Mura Corp Great Neck .... N Y
Nelson Electronic Labs Inc Plano .... Tex
Nichols Co Ltd, R H Downsview .... Ont
Non-Linear Systems Inc Del Mar .... Cal
Northeast Electronics Corp Concord .... N H
Phaostron Instrument & Electronic Co South Pasadena ... Cal
Philbrick/Nexus Research A Teledyne Co Dedham ...... Mass
Philips Electronic Instruments, Test & Measuring Inst
  Mount Vernon .... NY
Philmore Mfg Co Inc Richmond Hill .... N Y
Q V S Inc East Orange .... N J
Radio Corp of America, Electronic Components Harrison .. N J
Robertson Instrument Co Azusa .... Cal
Sanwa Electric Instrument Co, Ltd Tokyo .... Japan
Simpson Electric Co Chicago Ill
Singer Co Instr Div Ballantine Oper Boonton .... N J
Sperry Instruments Inc A W New York .... N Y
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Tecnica Elettronica Systems S a s Milan .... Italy
Trio Laboratories Inc Plainview .... N Y
Triplett Electrical Instrument Co Bluffton .... Ohio
United Systems Corp Dayton .... Ohio
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Western Reserve Electronics, Inc Cleveland .... Ohio
Weston Instruments Div Weston Instr Inc Newark .... N J
Whittaker Corp Gen Com Div Plainview .... N Y
Winslow Tele-Tronics Inc Eatontown .... N J

VOLUME CONTROLS

See **Potentiometers**

VSWR CALIBRATORS, INDICATORS, METERS, & MONITORS

See **Detectors—Standing-Wave**

VULCANIZED FIBRE

See **Fibre—Vulcanized**

VU METERS

See **Meters—Sound Level**

WAMOSCOPES

See **Oscillators**

WASHERS

See Also **Grommets**

AMERICAN LAVA CORP CHATTANOOGA .... TENN
CIRCON COMPONENT CORP GOLETA CAL ..... ADV PG 292
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
ELECTRICAL INSULATION CO INC COPIAGUE .... N Y
FEDERAL SCREW PRODUCTS INC CHICAGO ILL
SECS, INC LONG ISLAND CITY .... N Y
STAR PORCELAIN CO TRENTON N J .... ADV PG 110
STAR STAINLESS SCREW CO PATERSON .... N J
Abacus Electronics Corp Dobbs Ferry .... N Y
Abesto Corp Bloomfield .... N J
Acme Model Engineering Co Ridgefield .... N J
Aikow Shoji Kaisha Ltd Osaka .... Japan
Aircraft Components Inc Benton Harbor .... Mich
Allmetal Screw Products Co Inc Garden City .... N Y
Alpha Metals Inc Jersey City .... NJ
Aluminum Co of America Pittsburgh .... Pa
Amatom Electronic Hardware New Rochelle .... N Y
American Lava Corp Chattanooga .... Tenn
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Anti-Corrosive Metal Products Co, Inc Albany .... N Y
Asheville-Schoonmaker Mica Co Newport News .... Va
Atomite Electronics Corp Roosevelt .... N Y
Auburn Mfg Co Middletown .... Conn
Basic Ceramics Inc Sub Basic Inc Hawthorne .... NJ
Bendix Corp Rubber Prods Plant Toledo .... Ohio
Blinn Co Inc, Delbert Pomona .... Cal
Chase Metals Service Div Chase Brass & Copper Co
  Cleveland .... Ohio
Circon Component Corp Goleta .... Cal
Connor Spring Mfg Co Div Sloss & Britain San Jose ...... Cal
Crane Packing Co Morton Grove Ill
Daburn Electronics & Cable Corp Bronx .... N Y
Division Lead Co Summit Ill
Dixon Corp Bristol .... R I
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Electrical Insulation Co Inc Copiague .... N Y
Eljay Corp Columbia .... Md
Emeloid Co Inc Hillside .... N J
Emerson Plastics Corp Bronx .... New York
Emtec Inc, Empire Spring Div Elyria .... Ohio
Engineered Plastics Inc Gibsonville .... N C
Ethylene Corp Murray Hill .... N J
Eugene Engineering Co Inc Rockland .... Mass
Fastex Div Illinois Tool Works Des Plaines Ill
Federal Screw Products Inc Chicago Ill
Fel Pro Inc Div Felt Products Mfg Co Skokie Ill
Franklin Fibre-Lamitex Corp Wilmington .... Del
Gasket Mfg Co Inc Carson .... Cal
G C Electronics Div, Hydrometals Inc Rockford Ill
General Findings Co Industrial Div Attleboro .... Mass
General Gaskets Inc Middletown .... Conn
Gillette Electronic Products Co Beverly .... N J
Goodrich Industrial Prods Co, B F Akron .... Ohio
Gries Reproducer Co Div Coats & Clark Inc New Rochelle .. N Y
Harper Co, H M Morton Grove Ill
Hayakawa Electric Co Ltd Osaka .... Japan
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Indium Corp of America Utica .... N Y
Insulating Shapes Inc Bronx .... N Y
Leed Insulator Corp Los Angeles .... Cal
Maryland Lava Co Inc Bel Air .... Md
Mechanical Rubber Products Co, Inc Warwick .... NY
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Micro Contacts, Inc Hicksville .... N Y
Microdot Inc. Troy .... Mich
Midwest Sintered Products Corp Riverdale Ill
Minor Rubber Co Inc Bloomfield .... N J
Morris Co, J I Southbridge .... Mass
National Moldite Co Inc Newark .... N J
Norrich Plastics Corp Roosevelt .... N Y
Nylogrip Products Waltham .... Mass
Penn Fibre & Specialty Co Philadelphia .... Pa
Permonite Mfg Co Chicago Ill
Plastiglide Mfg Corp Santa Monica .... Cal
Product Components Corp Hastings-on-Hudson .... N Y
Richards Metal Products Inc Wolcott .... Conn
Roosevelt Metal Co Inc Brooklyn .... N Y
Russell Industries Inc Lynbrook .... N Y
Seastrom Mfg Co Inc Glendale .... Cal
Secs, Inc Long Island City .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Severna Div Bunker-Ramo Corp Roseland .... N J
Shakeproof Div, Illinois Tool Works Inc Elgin Ill
Shamban & Co, W S Los Angeles .... Cal
Smith Inc, Herman H Brooklyn .... N Y
Spaulding Fibre Co Inc Tonawanda .... N Y
Staff Gasket Mfg Corp New York .... N Y
Stake Fastener Co Div Dupree Inc S El Monte .... Cal
Standard Polymer Inc Van Nuys .... Cal
Star Porcelain Co Trenton .... N J
Star Stainless Screw Co Paterson .... N J
Stimpson Co Inc, Edwin B Brooklyn .... N Y
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Tekna Products Co Rochester .... N Y
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
USM Corp, Fastener Div Shelton .... Conn
Wakefield Engineering Inc Wakefield .... Mass
Waldom Electronics Inc Chicago Ill
Weckesser Co Inc Chicago Ill
Welco Electric Corp South Bend .... Ind
Wilmington Fibre Specialty Co New Castle .... Del
Wrought Washer Mfg Co Milwaukee .... Wis

WATER DEMINERALIZERS

See **Demineralizing Equipment**

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Curtis Instruments Inc Mt Kisco .... N Y

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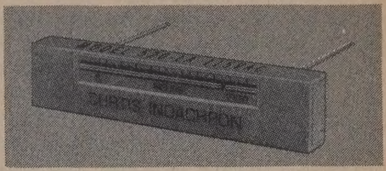

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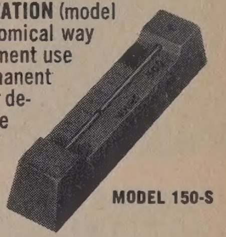

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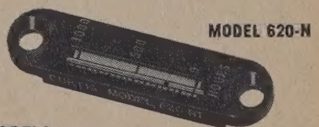

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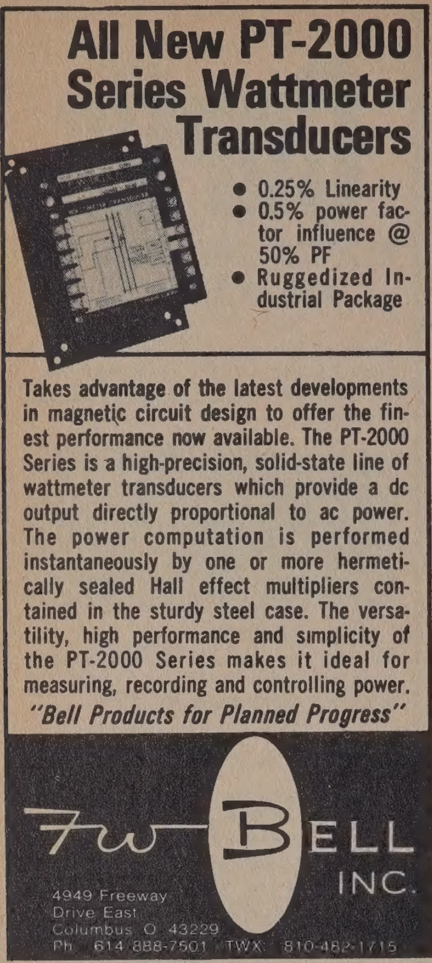

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BELL, INC F W COLUMBUS OHIO .... ADV PG 712
FLUKE MFG CO INC, JOHN SEATTLE .... WASH
INTRONICS INC NEWTON .... MASS
Allied Research Assoc Inc Eng Sys Div Concord .... Mass
American Aerospace Controls Inc Farmingdale .... N Y
A & M Instruments Inc Great Neck .... N Y
Applied Electronics Burlingame .... Cal
Automatic Metal Products Corp Brooklyn .... N Y
Bayly Engineering Ltd Ajax .... Ont
Bell, Inc F W Columbus .... Ohio
Boonton Electronics Corp Parsippany .... N J
Douglas Microwave Co Div Struthers Electronics Corp
  Mamaroneck .... N Y
Dowa Trading Co Ltd Kobe .... Japan
E I L Instrument Div Unitec Industries Timonium .... Md
Electronic Applications Co Pine Brook .... N J
Esterline Angus Div Esterline Corp Indianapolis .... Ind
Fluke Mfg Co Inc, John Seattle .... Wash
General Microwave Corp Farmingdale .... N Y
Gillette Electronic Products Co Beverly .... N J
Halmar Electronics Inc Columbus .... Ohio
Hickok Teaching Systems Inc Woburn .... Mass
Industrial Test Equipment Co Port Washington .... N Y
Intronics Inc Newton .... Mass
Marconi Instruments Div, English Electric Corp
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NH Research Inc Santa Ana .... Cal
Ohio Semitronics Inc Columbus .... Ohio
Philco-Ford Corp Washington .... D C
Racal Electronics Ltd Bracknell Berks .... England
Rohde & Schwarz Sales Co USA Inc Passaic .... N J
Scientific Columbus Inc Columbus .... Ohio
Simpson Electric Co Chicago Ill
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck .... N Y
Tecnica Elettronica Systems S a s Milan .... Italy
Voltron Products Inc Pasadena .... Cal
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Weston Instruments Div Weston Instr Inc Newark .... N J
Weston Lexington Weston Instruments Div Lexington .... Mass
Westronics Inc Fort Worth .... Tex

WATTMETERS—METER TYPE

API INSTRUMENTS CO CHESTERLAND .... OHIO
BIRD ELECTRONIC CORP CLEVELAND (SOLON)
OHIO .... ADV PGS 368,369
GENERAL ELECTRIC CO, ECSO SCHENECTADY
N Y .... ADV PG 7
Allen Aircraft Radio Inc Elk Grove Village Ill
A & M Instruments Inc Great Neck .... N Y
API Instruments Co Chesterland .... Ohio
Automatic Metal Products Corp Brooklyn .... N Y
Beede Electrical Instrument Co, Inc Penacook .... N H
B F Electronics Solana Beach .... Cal
Bird Electronic Corp Cleveland (Solon) .... Ohio
Bitronics Inc Bethlehem .... Pa
Canadian Research Institute Don Mills .... Ont
Components Specialties Inc Freeport .... N Y
Dowa Trading Co Ltd Kobe .... Japan
Drake Co, R L Miamisburg .... Ohio
E I L Instrument Div Unitec Industries Timonium .... Md
Epic Inc New York .... N Y
Esterline Angus Div Esterline Corp Indianapolis .... Ind
Ferranti, Ltd Lancashire .... England
Fuji Electric Co Ltd Tokyo .... Japan
General Electric Co, ECSO Schenectady .... N Y
Hallmark Standards Inc Mount Vernon .... N Y
Metermaster, Inc Los Angeles .... Cal
Motorola Communications & Electronics Inc Chicago Ill
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Nelson Electronic Labs Inc Plano .... Tex
Nichols Co Ltd, R H Downsview .... Ont
Sangamo Electric Co Springfield Ill
Scientific Columbus Inc Columbus .... Ohio
Simpson Electric Co Chicago Ill
Singer Co Instrumentation Div Bridgeport .... Conn
Solitron/Microwave Long Island City .... N Y
Sunshine Scientific Instruments Inc Philadelphia .... Pa
Triplett Electrical Instrument Co Bluffton .... Ohio
Voltron Products Inc Pasadena .... Cal
Wac Line Div Simmonds Precision Prods Dayton .... Ohio
Waters Mfg Inc Wayland .... Mass
Weston Instruments Div Weston Instr Inc Newark .... N J

WATTMETERS—MICROWAVE CALORIMETRIC

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN .. IND
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV
EAST BOSTON MASS .... ADV PG 372
HEWLETT-PACKARD PALO ALTO .... CAL
Allen Aircraft Radio Inc Elk Grove Village Ill
Altronic Research Corp Cleveland .... Ohio
Aviation Electric Ltd St Laurent, Montreal .... Que
Bendix Corp, Microwave Devices Div Franklin .... Ind
Boonton Electronics Corp Parsippany .... N J
Chemalloy Electronics Corp Santee .... Cal
Control Data Corp. Boston Sp & Def Sys Div
  East Boston .... Mass
Dowa Trading Co Ltd Kobe .... Japan
Electro Impulse Lab Inc Red Bank .... N J
Electronic Applications Co Pine Brook .... N J
General Microwave Corp Farmingdale .... N Y
Harris-Intertype Corp Cleveland .... Ohio
Hewlett-Packard Palo Alto .... Cal
Kahl Scientific Instrument Corp El Cajon .... Cal
Marconi Co Ltd Chelmsford .... England
MSI Electronics Inc Woodside .... N Y
Narda Microwave Corp Plainview .... N Y
Oki Electric Industry Co Ltd Tokyo .... Japan
Oki Electronics of America, Inc Fort Lauderdale .... Fla
Philco-Ford Corp Washington .... D C
PRD Electronics Inc, Sub H-I Corp Westbury .... N Y
Ramcor Inc Huntington .... NY
Raytheon Co, Microwave & Power Tube Div Waltham .... Mass
RLC Electronics Inc Port Chester .... N Y
Varian Palo Alto .... Cal

WAVE ANALYZERS

***See* Analyzers—Wave**

WAVEFORM GENERATORS

***See* Generators—Signal**

WAVEGUIDE ASSEMBLIES—ELECTROFORMED

NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
VEGA PRECISION LABS VIENNA .... VA
Aircom Inc Union .... N H
Allied Research & Engineering Co Los Angeles .... Cal
Arra, Inc Bay Shore .... NY
Aviel Electronics, Inc Burbank .... Cal
Buckbee-Mears Co. St Paul .... Minn
Cardwell Condenser Corp Lindenhurst .... N Y
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp
  Mamaroneck .... N Y
Dynatex Div Republic Corp Redwood City .... Cal
Eastern Microwave Corp Winchester .... Mass
Electroforms Inc Gardena .... Cal
Jet Electronics Corp Albuquerque .... N M
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
MCS Corp Monrovia .... Cal
Metaplast Electrochemicals Corp Bronx .... N Y
Microwave Development Labs Inc Needham Heights .... Mass
Narda Microwave Corp Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Schutter Microwave Div, Cardwell Condenser Corp
  Lindenhurst .... NY
Struthers Electronics Corp Sub Struthers-Wells
  Mamaroneck .... N Y
Vega Precision Labs Vienna .... Va
Waveline Inc West Caldwell .... N J

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JAPAN .... ADV PG 712
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Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Allen Aircraft Radio Inc Elk Grove Village Ill
Alpha Industries Inc Newton Upper Falls .... Mass
Andrew Corp Orland Park Ill
Cardwell Condenser Corp Lindenhurst .... N Y
Co-Operative Industries Inc Chester .... N J
Costelow Co Inc Topeka .... Kans
Dainichi-Nippon Cables, Ltd Tokyo .... Japan
Fenwick Paris 10 .... France
Gabriel Electronics Div Maremont Corp Saco .... Maine
Jet Electronics Corp Albuquerque .... N M
Lieco Inc West Babylon .... N Y
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microwave Products Inc Chatsworth .... Cal
Mitsubishi Electric Corp Tokyo .... Japan
Narda Microwave Corp Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Plaxial Div United-Carr Inc Newton Highlands .... Mass
Portchester Instrument Corp Port Chester .... N Y
Premier Microwave Corp Port Chester .... NY
Schutter Microwave Div, Cardwell Condenser Corp
  Lindenhurst .... NY
Topper Mfg Co Inc Great Neck .... NY
Western Int'l Inc., Connector Div. Yonkers .... NY

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AMPHENOL DANBURY .... CONN
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Allen Aircraft Radio Inc Elk Grove Village Ill
Alpha Industries Inc Newton Upper Falls .... Mass
Aluminum Design Corp Brookfield Ill
Amphenol Danbury .... Conn
Andrew Corp Orland Park Ill
Ava Electronics & Machine Corp Upper Darby .... Pa
Cardwell Condenser Corp Lindenhurst .... N Y
Co-Operative Industries Inc Chester .... N J
Costelow Co Inc Topeka .... Kans
Diamond Antenna & Microwave Corp Winchester .... Mass
Fenwick Paris 10 .... France
Gabriel Electronics Div Maremont Corp Saco .... Maine
General Microwave Corp Farmingdale .... N Y
Guide Industries Inc Sun Valley .... Cal
Herley Industries, Inc Syosset .... N Y
Lieco Inc West Babylon .... N Y
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microwave Products Inc Chatsworth .... Cal
Mitsubishi Electric Corp Tokyo .... Japan
Narda Microwave Corp Plainview .... N Y
Nippon Electric Co Ltd Tokyo .... Japan
Omega Laboratories Inc Rowley .... Mass
Portchester Instrument Corp Port Chester .... N Y
Premier Microwave Corp Port Chester .... NY
Radiatronics Div Tasker Industries Newport Beach .... Cal
Schutter Microwave Div, Cardwell Condenser Corp
  Lindenhurst .... NY
Systron-Donner Corp Concord .... Cal

WAVEGUIDE ASSEMBLIES—RIGID

ALUMINUM DESIGN CORP BROOKFIELD ILL .... ADV PG 713
AMPHENOL DANBURY CONN .... ADV PG 713
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV
  EAST BOSTON MASS .... ADV PG 372
NIPPON ELECTRIC CO LTD TOKYO .... JAPAN
PREMIER MICROWAVE CORP PORT CHESTER .... NY
SYSTRON-DONNER CORP CONCORD .... CAL
VEGA PRECISION LABS VIENNA .... VA
Ainslie Corp Braintree .... Mass
Aircom Inc Union .... N H
Airtec Inc Roselle .... N J
Airtron, Div of Litton Industries, Inc Morris Plains .... N J
Allen Aircraft Radio Inc Elk Grove Village Ill
Alpha Industries Inc Newton Upper Falls .... Mass
Aluminum Design Corp Brookfield Ill
Amperex Electronic Corp, Professional Tube Div Hicksville .... NY
Amphenol Danbury .... Conn
Andrew Corp Orland Park Ill
Arra, Inc Bay Shore .... NY
Ava Electronics & Machine Corp Upper Darby .... Pa
Aviel Electronics, Inc Burbank .... Cal
Cardwell Condenser Corp Lindenhurst .... N Y
Control Data Corp. Boston Sp & Def Sys Div
  East Boston .... Mass
Costelow Co Inc Topeka .... Kans
Diamond Antenna & Microwave Corp Winchester .... Mass
Douglas Microwave Co Div Struthers Electronics Corp
  Mamaroneck .... N Y
Eastern Microwave Corp Winchester .... Mass
Electroforms Inc Gardena .... Cal
Fenwick Paris 10 .... France
Forway Industries Inc Woodbury .... N J
Gabriel Electronics Div Maremont Corp Saco .... Maine
General Microwave Corp Farmingdale .... N Y
Gombos Microwave Inc Clifton .... N J
Guide Industries Inc Sun Valley .... Cal
Harris-Intertype Corp Cleveland .... Ohio
Herley Industries, Inc Syosset .... N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE
  91 Marcoussis .... France
Lieco Inc West Babylon .... N Y
Lockhart Industries Inc Paramount .... Cal
Maury Microwave Corp Cucamonga .... Cal
MCS Corp Monrovia .... Cal
Meridian Metalcraft Inc Whittier .... Cal
Microwave Associates Inc Burlington .... Mass
Microwave Development Labs Inc Needham Heights .... Mass

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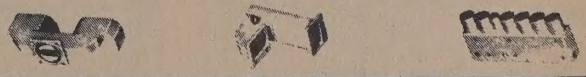

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Mitsubishi Electric Corp Tokyo	Japan
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
Nippon Electric Co Ltd Tokyo	Japan
O'Dell Brothers Mountain View	Cal
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Portchester Instrument Corp Port Chester	N Y
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Premier Microwave Corp Port Chester	NY
Radiation Systems Inc McLean	Va
Radiatronics Div Tasker Industries Newport Beach	Cal
R F Systems Inc Cohasset	Mass
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Solitron/Microwave Long Island City	N Y
Specialty Waveguide Corp Burlington	Mass
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Taco (Technical Appliance Corp Sub Jerrold Corp) Sherburne	NY
Teledata Inc Queens Village	N Y
Tru-Connector Corp Peabody	Mass
Uniform Tubes Inc Collegeville	Pa
Vector Industries A Teledyne Co Palo Alto	Cal
Vega Precision Labs Vienna	Va
Victor Microwave Inc Wakefield	Mass
Waveline Inc West Caldwell	N J
Western Int'l Inc., Connector Div. Yonkers	NY

WAVEGUIDE ASSEMBLIES—SOLID DIELECTRIC

AMPHENOL DANBURY	**CONN**
NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
PREMIER MICROWAVE CORP PORT CHESTER	**NY**
Aircom Inc Union	N H
Amphenol Danbury	Conn
Aviel Electronics, Inc Burbank	Cal
Cardwell Condenser Corp Lindenhurst	N Y
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Eastern Microwave Corp Winchester	Mass
Engelmann Microwave Co Montville	NJ
Forway Industries Inc Woodbury	N J
General Microwave Corp Farmingdale	N Y
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Herley Industries, Inc Syosset	N Y
Lieco Inc West Babylon	N Y
MCS Corp Monrovia	Cal
Meridian Metalcraft Inc Whittier	Cal
Microwave Associates Inc Burlington	Mass
Narda Microwave Corp Plainview	N Y
Nippon Electric Co Ltd Tokyo	Japan
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Portchester Instrument Corp Port Chester	N Y
Premier Microwave Corp Port Chester	NY
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Solitron/Microwave Long Island City	N Y
Victor Microwave Inc Wakefield	Mass

WAVEGUIDE ATTENUATORS—COAXIAL

See **Attenuators—Microwave**

WAVEGUIDE DISSIPATIVE STRIPS

NIPPON ELECTRIC CO LTD TOKYO	**JAPAN**
Coax Devices Chelsea	Mass
Core-Tronics, Inc Orange	N J
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Engelmann Microwave Co Montville	NJ
Film Components Div Reon Resister Corp Yonkers	N Y
Gombos Microwave Inc Clifton	N J
Herley Industries, Inc Syosset	N Y
Metavac Inc Flushing	N Y
Microwave Filter Co Inc East Syracuse	NY
Nippon Electric Co Ltd Tokyo	Japan
Portchester Instrument Corp Port Chester	N Y
Solitron/Microwave Long Island City	N Y

WAVEGUIDE FILTERS

See **Filters**

WAVEGUIDE FITTINGS (BENDS, CORNERS, ELBOWS, TWISTS)

ALUMINUM DESIGN CORP BROOKFIELD	**ILL**
AMPHENOL DANBURY	**CONN**
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PREMIER MICROWAVE CORP PORT CHESTER	**NY**
SYSTRON-DONNER CORP CONCORD	**CAL**
Aircom Inc Union	N H
Airtec Inc Roselle	N J
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Allen Aircraft Radio Inc Elk Grove Village	Ill
Allied Research & Engineering Co Los Angeles	Cal
Alpha Industries Inc Newton Upper Falls	Mass
Aluminum Design Corp Brookfield	Ill
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Amphenol Danbury	Conn
Andrew Corp Orland Park	Ill
Arra, Inc Bay Shore	NY
Arwood Corp Rockleigh	NJ
Ava Electronics & Machine Corp Upper Darby	Pa
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Cardwell Condenser Corp Lindenhurst	N Y
Chemalloy Electronics Corp Santee	Cal
Control Data Corp. Boston Sp & Def Sys Div East Boston	Mass
Co-Operative Industries Inc Chester	N J
Costelow Co Inc Topeka	Kans
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Eastern Microwave Corp Winchester	Mass
Fenwick Paris 10	France
Forway Industries Inc Woodbury	N J
Gabriel Electronics Div Maremont Corp Saco	Maine
General Microwave Corp Farmingdale	N Y
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Herley Industries, Inc Syosset	N Y
Lieco Inc West Babylon	N Y
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Meridian Metalcraft Inc Whittier	Cal
Microlab/F X R Livingston	N J
Microwave Associates Inc Burlington	Mass
Microwave Development Labs Inc Needham Heights	Mass
Microwave Labs of America Brooklyn	N Y
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
O'Dell Brothers Mountain View	Cal
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Pem Machine & Tool Co Inc Cranford	N J
PRD Electronics Inc, Sub H-I Corp Westbury	N Y
Premier Microwave Corp Port Chester	NY
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Radiatronics Div Tasker Industries Newport Beach	Cal
R F Systems Inc Cohasset	Mass
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Specialty Waveguide Corp Burlington	Mass
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
Systron-Donner Corp Concord	Cal
Topper Mfg Co Inc Great Neck	NY
Victor Microwave Inc Wakefield	Mass
Waveline Inc West Caldwell	N J
Western Int'l Inc., Connector Div. Yonkers	NY

WAVEGUIDE FLANGES

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SYSTRON-DONNER CORP CONCORD	**CAL**
Airtec Inc Roselle	N J
Airtron, Div of Litton Industries, Inc Morris Plains	N J
Allen Aircraft Radio Inc Elk Grove Village	Ill
American Radar Components, Inc Denville	N J
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Amphenol Danbury	Conn
Andrew Corp Orland Park	Ill
Arwood Corp Rockleigh	NJ
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Cardwell Condenser Corp Lindenhurst	N Y
Control Data Corp. Boston Sp & Def Sys Div East Boston	Mass
Co-Operative Industries Inc Chester	N J
Costelow Co Inc Topeka	Kans
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Fenwick Paris 10	France
Formcraft Tool Co Chicago	Ill
Gabriel Electronics Div Maremont Corp Saco	Maine
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Herley Industries, Inc Syosset	N Y
Janney Cylinder Co Sub Edgewater Corp Philadelphia	Pa
Kings Electronics Co Inc Tuckahoe	N Y
Lieco Inc West Babylon	N Y
Maury Microwave Corp Cucamonga	Cal
MCS Corp Monrovia	Cal
Meridian Metalcraft Inc Whittier	Cal
Microlab/F X R Livingston	N J
Micro Parts Inc Los Angeles	Cal
Microwave Associates Inc Burlington	Mass
Microwave Development Labs Inc Needham Heights	Mass
Narda Microwave Corp Plainview	N Y
O'Dell Brothers Mountain View	Cal
Omega Laboratories Inc Rowley	Mass
Pabst Engineering Equipment Co Inc Elizabeth	NJ
Pem Machine & Tool Co Inc Cranford	N J
Radiatronics Div Tasker Industries Newport Beach	Cal
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Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Specialty Waveguide Corp Burlington	Mass
Struthers Electronics Corp Sub Struthers-Wells Mamaroneck	N Y
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TA Mfg Corp Los Angeles	Cal
Waveline Inc West Caldwell	N J
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WAVEGUIDE HORNS

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WAVEGUIDE TUBING

SUPERIOR TUBE CO NORRISTOWN	**PA**
SYSTRON-DONNER CORP CONCORD	**CAL**
WALL CO, A T WARWICK	**RI**
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Airtron, Div of Litton Industries, Inc Morris Plains	N J
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American Radar Components, Inc Denville	N J
Anaconda American Brass Co Waterbury	Conn
Andrew Corp Orland Park	Ill
Beckman Instruments Intl SA 1207 Geneva	Switzerland
Cardwell Condenser Corp Lindenhurst	N Y
Chase Metals Service Div Chase Brass & Copper Co Cleveland	Ohio
Connolly & Co Inc Mountain View	Cal
Costelow Co Inc Topeka	Kans
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Fenwick Paris 10	France
Formcraft Tool Co Chicago	Ill
Herley Industries, Inc Syosset	N Y
Improved Seamless Wire Co Providence	R I
Janney Cylinder Co Sub Edgewater Corp Philadelphia	Pa
Leach & Garner Co, Industrial Div Attleboro	Mass
MCS Corp Monrovia	Cal
Meridian Metalcraft Inc Whittier	Cal
Microwave Associates Inc Burlington	Mass
Microwave Development Labs Inc Needham Heights	Mass
Narda Microwave Corp Plainview	N Y
Omega Laboratories Inc Rowley	Mass
Revere Copper & Brass, Inc New York	N Y
R F Systems Inc Cohasset	Mass
Schutter Microwave Div, Cardwell Condenser Corp Lindenhurst	NY
Specialty Waveguide Corp Burlington	Mass
Standard Metals Div Edw N Cook Plate Co Inc North Attleboro	Mass
Superior Tube Co Norristown	Pa
Systron-Donner Corp Concord	Cal
Uniform Tubes Inc Collegeville	Pa
Wall Co, A T Warwick	RI
Waveline Inc West Caldwell	N J
Western Int'l Inc., Connector Div. Yonkers	NY
Yokowo Mfg Co Ltd Tokyo	Japan

WAVEMETERS—MICROWAVE

BENDIX CORP, MICROWAVE DEVICES DIV FRANKLIN	**IND**
CONTROL DATA CORP. BOSTON SP & DEF SYS DIV EAST BOSTON MASS	**ADV PG 372**
HEWLETT-PACKARD PALO ALTO	**CAL**
MICROWAVE CAVITY LABS DIV KMS INDUS INC LA GRANGE	**ILL**
PREMIER MICROWAVE CORP PORT CHESTER	**NY**
SYSTRON-DONNER CORP CONCORD	**CAL**
Aircom Inc Union	N H
Alpha Industries Inc Newton Upper Falls	Mass
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Bendix Corp, Microwave Devices Div Franklin	Ind
Control Data Corp. Boston Sp & Def Sys Div East Boston	Mass
Diamond Antenna & Microwave Corp Winchester	Mass
Douglas Microwave Co Div Struthers Electronics Corp Mamaroneck	N Y
Frequency Engineering Labs Farmingdale	N J
General Microwave Corp Farmingdale	N Y
Gombos Microwave Inc Clifton	N J
Guide Industries Inc Sun Valley	Cal
Herley Industries, Inc Syosset	N Y
Hewlett-Packard Palo Alto	Cal
Marconi Instruments Div, English Electric Corp Englewood	N J
MCS Corp Monrovia	Cal
Microwave Cavity Labs Div KMS Indus Inc La Grange	Ill
Microwave Filter Co Inc East Syracuse	NY
Microwave Labs of America Brooklyn	N Y
Narda Microwave Corp Plainview	N Y
Neico Microwave Co Waltham	Mass
Oki Electric Industry Co Ltd Tokyo	Japan
Oki Electronics of America, Inc Fort Lauderdale	Fla
Portchester Instrument Corp Port Chester	N Y
Premier Microwave Corp Port Chester	NY
Radio Corp of America, Comml Elctn Prods Div Camden	N J
Rohde & Schwarz Sales Co USA Inc Passaic	N J
Systron-Donner Corp Concord	Cal
Telonic Engineering Co Div Telonic Indus Inc Laguna Beach	Cal
TRW Electronic Components Div TRW Inc Camden	N J
Victor Microwave Inc Wakefield	Mass
Waveline Inc West Caldwell	N J

WAXES

Baker Castor Oil Co Bayonne	N J
Biwax Corp Des Plaines	Ill
Enthone Inc New Haven	Conn
Humble Oil & Refining Co Houston	Tex
Mitchell Rand Mfg Corp Hillburn	N Y
Phoenix Materials Corp Forbes Road	Pa
Stevenson Bro & Co Inc Philadelphia	Pa
Universal Shellac & Supply Co Inc Brooklyn	N Y

WELDERS—ARC, INERT GAS

Air Products & Chemicals, Inc Allentown	Pa
Delonics Corp New York	N Y
Denki Kogyo Co Ltd Tokyo	Japan
Dynatech Products Co Div Dynatech Corp Burlington	Mass

Electron Beam Corp Lynn .... Mass
Falstrom Co Passaic .... N J
Forney Industries Inc Fort Collins .... Colo
Fuji-Electric Co Ltd Tokyo .... Japan
Hirst Electric Industries Ltd Crawley, Sussex .... England
KSM Welding Sys Div Omark Indus Inc Moorestown .... N J
Liquid Carbonic Div, Gen Dynamics Corp Chicago Ill
Matsushita Electric Industrial Co Ltd Osaka .... Japan
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Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
Pyromet Industries San Carlos .... Cal
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Sciaky Bros Inc Chicago Ill
Silver & Assoc Inc G H Newtonville .... Mass
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Tescom Corp Minneapolis .... Minn
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Ulvac Corp Tokyo .... Japan
Unibraze Corp White Plains .... N Y
Union Carbide Corp, Linde Div New York .... N Y
Western Arctronics South El Monte .... Cal

WELDERS—ELECTRON BEAM

HEINTZ DIV KELSEY-HAYES CO PHILADELPHIA PA .... ADV PG 344,345
Alcatel Paris 8eme .... France
Brad Thompson Industries Inc Indio .... Cal
Electron Beam Corp Lynn .... Mass
Energy Beams Inc Haskell .... N J
Heintz Div Kelsey-Hayes Co Philadelphia .... Pa
Nuclide Corp, AGV Div Acton .... Mass
Sciaky Bros Inc Chicago Ill
Thomson Electric Welder Co Inc Lynn .... Mass
Ulvac Corp Tokyo .... Japan

WELDERS—LASER BEAM

American Optical Corp Tech Prods Gr Laser Prods Dept Southbridge .... Mass
Coherent Radiation Labs Palo Alto .... Cal
Control Data Corp Melville Space & Def Sys Div Melville .... N Y
Electro Powerpacs Corp Cambridge .... Mass
General Laser Corp Natick .... Mass
Hadron, Inc. Westbury .... N Y
International Laser Systems Inc Orlando .... Fla
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis .... France
Laser Tool Corp. Framingham .... Mass
Microtek Electronics Inc Cambridge .... Mass
Ovitron Corp Industrial Syst Div Cheshire .... Conn
Space Rays Inc Burlington .... Mass

WELDERS—POWER SUPPLY

***See* Power Supplies, DC—Welding**

WELDERS—RESISTANCE

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE N J .... ADV PG 715
Ace-Sycamore Inc Sycamore Ill
Associate General Labs Inc Brookfield Ill
Conrac Corp New York .... N Y
Delonics Corp New York .... N Y
Eisler Engineering Co Newark .... N J
Electron Beam Corp Lynn .... Mass
Ewald Instruments Corp Kent .... Conn
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Hirst Electric Industries Ltd Crawley, Sussex .... England
Hughes Aircraft Co Welder Dept Oceanside .... Cal
Kahle Engineering Co Union City .... N J
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Miller Electric Mfg Co Appleton .... Wis
Omark Industries Inc Portland .... Ore
Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
Protronic Industries Inc Anaheim .... Cal
Raytheon Co Production Equip Dept Norwalk .... Conn
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Taylor-Winfield Corp Warren .... Ohio
Technical Components Co Inc Chicago Ridge Ill
Texas Instruments Incorporated Dallas .... Tex
Thomson Electric Welder Co Inc Lynn .... Mass
Unibraze Corp White Plains .... N Y
Weldmatic Div Unitek Corp Monrovia .... Cal
Wells Electronics Inc, Weltek Div South Bend .... Ind
Western Arctronics South El Monte .... Cal

WELDERS—SPOT

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
Ace-Sycamore Inc Sycamore Ill
Delonics Corp New York .... N Y
Dynatech Products Co Div Dynatech Corp Burlington .... Mass
Eisler Engineering Co Newark .... N J
Electron Beam Corp Lynn .... Mass
Engineering & Electronic Devices Inc Los Angeles .... Cal
Ewald Instruments Corp Kent .... Conn
Falstrom Co Passaic .... N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Forney Industries Inc Fort Collins .... Colo
Henes Mfg Co Phoenix .... Ariz
Hirst Electric Industries Ltd Crawley, Sussex .... England
Hughes Aircraft Co Welder Dept Oceanside .... Cal
Kahle Engineering Co Union City .... N J
Liquid Carbonic Div, Gen Dynamics Corp Chicago Ill
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Miller Electric Mfg Co Appleton .... Wis
Origin Electric Co Ltd Tokyo .... Japan
Precision Arc Co Stratford .... Conn
Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
Pyromet Industries San Carlos .... Cal
Raytheon Co Production Equip Dept Norwalk .... Conn
Sciaky Bros Inc Chicago Ill
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
Sonobond Corp West Chester .... Pa
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Taylor-Winfield Corp Warren .... Ohio
Technical Components Co Inc Chicago Ridge Ill
Thomson Electric Welder Co Inc Lynn .... Mass
Unibraze Corp White Plains .... N Y
Union Carbide Corp, Linde Div New York .... N Y
Weldmatic Div Unitek Corp Monrovia .... Cal
Wells Electronics Inc, Weltek Div South Bend .... Ind
Western Arctronics South El Monte .... Cal

WELDERS—SPOT, ALUMINUM

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
Delonics Corp New York .... N Y
Eisler Engineering Co Newark .... N J
Electron Beam Corp Lynn .... Mass
Ewald Instruments Corp Kent .... Conn
Falstrom Co Passaic .... N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Hirst Electric Industries Ltd Crawley, Sussex .... England
Kahle Engineering Co Union City .... N J
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Origin Electric Co Ltd Tokyo .... Japan
Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
Raytheon Co Production Equip Dept Norwalk .... Conn
Sciaky Bros Inc Chicago Ill
Sonobond Corp West Chester .... Pa
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Taylor-Winfield Corp Warren .... Ohio
Tescom Corp Minneapolis .... Minn
Thomson Electric Welder Co Inc Lynn .... Mass

WELDERS—SPOT, FINE WIRE

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Delonics Corp New York .... N Y
Dynatech Products Co Div Dynatech Corp Burlington .... Mass
Eisler Engineering Co Newark .... N J
Ewald Instruments Corp Kent .... Conn
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Forney Industries Inc Fort Collins .... Colo
Hadron, Inc. Westbury .... N Y
Hirst Electric Industries Ltd Crawley, Sussex .... England
Hughes Aircraft Co Welder Dept Oceanside .... Cal
Jonard Industries Corp Bronx .... N Y
Kahle Engineering Co Union City .... N J
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Matsushita Electric Industrial Co Ltd Osaka .... Japan
Microtek Electronics Inc Cambridge .... Mass
Miller Electric Mfg Co Appleton .... Wis
Precision-Cincinnati Inc A Teledyne Co Cincinnati .... Ohio
Protronic Industries Inc Anaheim .... Cal
Raytheon Co Production Equip Dept Norwalk .... Conn
Roosevelt Metal Co Inc Brooklyn .... N Y
Sciaky Bros Inc Chicago Ill
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
Sonobond Corp West Chester .... Pa
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Taylor-Winfield Corp Warren .... Ohio
Tescom Corp Minneapolis .... Minn
Texas Instruments Incorporated Dallas .... Tex
Union Carbide Corp, Linde Div New York .... N Y
United American Metals Div Brooklyn .... N Y
Weldmatic Div Unitek Corp Monrovia .... Cal
Wells Electronics Inc, Weltek Div South Bend .... Ind

WELDERS—THIN FILM

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
Cavitron Ultrasonics Div Cavitron Corp Long Island City .... N Y
Ewald Instruments Corp Kent .... Conn
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Hadron, Inc. Westbury .... N Y
Hirst Electric Industries Ltd Crawley, Sussex .... England
Hughes Aircraft Co Welder Dept Oceanside .... Cal
Hugle Industries Sunnyvale .... Cal
Laser Tool Corp. Framingham .... Mass
Microtek Electronics Inc Cambridge .... Mass
Miller Electric Mfg Co Appleton .... Wis
Nuclide Corp, AGV Div Acton .... Mass
Optomechanisms Inc Plainview .... N Y
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
Sonobond Corp West Chester .... Pa
Sorensen Operation, Raytheon Co. Norwalk .... Conn
Taylor-Winfield Corp Warren .... Ohio
Weldmatic Div Unitek Corp Monrovia .... Cal
Wells Electronics Inc, Weltek Div South Bend .... Ind
Western Arctronics South El Monte .... Cal

WELDERS—ULTRASONIC

***See* Ultrasonic Equipment**

WELDING CONTROLS

***See* Controls—Welding**

WELDING SERVICES, ELECTRONIC—MINIATURE PACKAGE

CHICAGO SWITCH INC CHICAGO ILL
ELCO CORP WILLOW GROVE .... PA
FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
KINETRON CORP ASBURY PARK .... NJ
Allegri-Tech Inc Nutley .... N J
American Atomics Corp Tucson .... Ariz
Associate General Labs Inc Brookfield Ill
Atlantic Instruments & Electronics, Inc Watertown .... Mass
Borders Electronics Co Inc Medford .... NJ
Brown Engineering-A Teledyne Co Huntsville .... Ala
Bundy Electronics Corp Div Covington Corp Springfield .... N J
Chicago Switch Inc Chicago Ill
Do-Rite Mfg Co East Paterson .... N J
Elco Corp Willow Grove .... Pa
Electronic Parts Mfg Co Inc Union City .... N J
Elzee Metal Products Co Inc Brooklyn .... N Y
Emtec Inc, Empire Spring Div Elyria .... Ohio
Eugene Engineering Co Inc Rockland .... Mass
Falstrom Co Passaic .... N J
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
Flexible Products Inc Lakeville .... Minn
Greenfield Components Corp Greenfield .... Mass
Gyrotronics Inc Asbury Park .... N J
Hughes Aircraft Co Welder Dept Oceanside .... Cal
Kinetron Corp Asbury Park .... NJ
Microtek Electronics Inc Cambridge .... Mass
Muckle Mfg Co Owatonna .... Minn
Pabst Engineering Equipment Co Inc Elizabeth .... NJ
Paraplegics Mfg Co Inc Bensenville Ill
Precision Arc Co Stratford .... Conn
Radix Electronics Corp Anaheim .... Cal
R F Systems Inc Cohasset .... Mass
Robotron Corp Detroit .... Mich
Rodale Electronics Inc Garden City .... NY
Rotary Co, Inc Buffalo .... N Y
Roxter Corp Long Island City .... N Y
Sciaky Bros Inc Chicago Ill
Silver & Assoc Inc G H Newtonville .... Mass
Sippican Corp, Ind Prods Div Mattapoisett .... Mass
Skyline Products Inc Deer Park .... N Y
Space Craft Inc Huntsville .... Ala
Sparton Southwest Inc Albuquerque .... NM
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Taffet Electronics Inc Woodside .... N Y
Tri-D Corp Plainville .... Conn
TRW Systems Group Redondo Beach .... Cal
Walkirt Co Los Angeles .... Cal
Western Arctronics South El Monte .... Cal

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WHEATSTONE BRIDGE

See **Bridges**

WHEELS—BONDED

See **Abrasives**

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Diamonds Unlimited Inc Rochester ..... NY
DoAll Co Des Plaines Ill
Fish-Schurman Corp New Rochelle ..... N Y
Janel Inc Stirling ..... N J
Jonard Industries Corp Bronx ..... N Y
Micromech Mfg Corp Union ..... N J
Norton Co Worcester ..... Mass
Raybestos-Manhattan Inc Bridgeport ..... Conn
Universal Shellac & Supply Co Inc Brooklyn ..... N Y

WHEELS, DIAMOND—WAFERING OR SLICING

Avco Bay State Abrasives Div Westboro ..... Mass
Diamonds Unlimited Inc Rochester ..... NY
DoAll Co Des Plaines Ill
Engis Equipment Co Morton Grove Ill
Fish-Schurman Corp New Rochelle ..... N Y
Greenlee Diamond Tool Co Des Plaines Ill
Henley & Co Inc New York ..... N Y
Janel Inc Stirling ..... N J
Jonard Industries Corp Bronx ..... N Y
Micromech Mfg Corp Union ..... N J
Norton Co Worcester ..... Mass
Techni-Tool Inc Philadelphia ..... Pa
United Mineral & Chemical Corp New York ..... N Y
Universal Shellac & Supply Co Inc Brooklyn ..... N Y

WHIP ANTENNAS

See **Antennas—Mobile**

WHITE ROOMS

See **Clean Rooms**

WIDE-BAND AMPLIFIERS

See **Amplifiers—R-F**

WINDERS—PAPER TAPE

Computer Accessories Corp Huntington ..... N Y
Connecticut Technical Corp Hartford ..... Conn
Cycle Equipment Co Los Gatos ..... Cal
Digitronics Corp Albertson ..... N Y
Floyd Drives Co Denver ..... Colo
Remex Electronics Hawthorne ..... Cal
Robins Data Devices Inc Flushing ..... N Y
Teletype Corp Skokie Ill

WINDING MACHINES

See **Machines—Coil-Winding; Machines—Grid-Winding; Machines—Resistor-Manufacturing**

WINDINGS—TRANSFORMER

See **Coils—Windings Only**

WINDOWS—DIAL

ELECTRONIC HARDWARE CORP JAMAICA ..... NY
Apahouser Corp of N E Boston ..... Mass
Atlantic Optical Moulding Co Dudley ..... Mass
Electronic Hardware Corp Jamaica ..... NY
Eljay Corp Columbia ..... Md
Felsenthal Instruments Co Chicago Ill
Franklin Fibre-Lamitex Corp Wilmington ..... Del
Harva Co Inc Schoharie ..... N Y
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ..... Pa
Livingston Electronic Div Jettron Prods Inc Hanover ..... N J
Metavac Inc Flushing ..... N Y
Optics Electronics Corp Dallas ..... Tex
O & S Research Inc Riverton ..... N J
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim ..... Cal
U S Precision Lens & Plastics Inc Cincinnati ..... Ohio

WINDOWS—INFRARED

KELLER INC, HUGO P NEW YORK ..... N Y
Bausch & Lomb Inc Rochester ..... N Y
Beckman Instruments Inc Fullerton, ... Cal
Bendix Corp Electro Optics Div Ann Arbor ..... Mich
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center ..... N Y
Coherent Radiation Labs Palo Alto ..... Cal
Cominco American Inc Electronic Matls Div Spokane ..... Wash
Corning Glass Works Corning ..... N Y
Crystalab Products Corp Rochelle Park ..... N J
Electronic Space Products Inc Los Angeles ..... Cal
General Electrodynamics Corp Garland ..... Tex
General Optics Inc Bloomfield ..... N J
Geoscience Instruments Corp Mt Vernon ..... N Y
Industrial Optics Div Yardney Razdow Labs Newark ..... N J
Infrared Industries Inc Santa Barbara ..... Cal
Insaco Inc Quakertown ..... Pa
Isomet Corp Palisades Park ..... N J
Jones Optical Works Inc A D Burlington ..... Mass
Keller Inc, Hugo P New York ..... N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis ..... France
Laser Optics Inc Danbury ..... Conn
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ..... Pa
Meller Co, Adolf Providence ..... R I
Metavac Inc Flushing ..... N Y
Optical Coating Lab Inc Santa Rosa ..... Cal
Optical Products A Teledyne Co Monrovia ..... Cal
Optics Electronics Corp Dallas ..... Tex
O & S Research Inc Riverton ..... N J
Perkin-Elmer Corp Norwalk ..... Conn
Perkin-Elmer Corp, Optical Group Norwalk ..... Conn
Ransom Labs, John H Los Angeles ..... Cal
Republic Lens Co Inc Bronx ..... N Y
Semiconductor Specialties Corp Fair Lawn ..... NJ
Semi-Elements Inc Saxonburg ..... Pa
Sylvania Elec Prods Inc, Chem & Met Div Towanda ..... Pa
Syncor Products Co, Inc Malden ..... Mass
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim ..... Cal
Wacker Chemical Corp New York ..... N Y
Wilks Scientific Corp South Norwalk ..... Conn

WINDOWS—MICROWAVE

SYSTRON-DONNER CORP CONCORD ..... CAL
Aircom Inc Union ..... N H
Airtec Inc Roselle ..... N J
Airtron, Div of Litton Industries, Inc Morris Plains ..... N J
American Electronic Labs Inc Lansdale ..... Pa
Andrew Corp Orland Park Ill
Asheville-Schoonmaker Mica Co Newport News ..... Va
Avco Systems Div Wilmington ..... Mass
Bomac Div Varian Associates Beverly ..... Mass
Ceramaseal Inc, Sub Lapp Insulator Co Inc New Lebanon Center ..... N Y
Custom Materials Inc Chelmsford ..... Mass
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls ..... N Y
Eastern Microwave Corp Winchester ..... Mass
Electromagnetic Technology Corp Mountain View ..... Cal
Emerson & Cuming Inc Canton ..... Mass
Emerson Plastics Corp Bronx ..... New York
Fenwick Paris 10 ..... France
Gabriel Electronics Div Maremont Corp Saco ..... Maine
Guide Industries Inc Sun Valley ..... Cal
Herley Industries, Inc Syosset ..... N Y
Insulating Shapes Inc Bronx ..... N Y
Jones Optical Works Inc A D Burlington ..... Mass
Latronics Corp Latrobe ..... Pa
Litton Industries, Electron Tube Div San Carlos ..... Cal
MCS Corp Monrovia ..... Cal
Meller Co, Adolf Providence ..... R I
Microwave Associates Inc Burlington ..... Mass
Microwave Development Labs Inc Needham Heights ..... Mass
National Beryllia Corp Haskell ..... N J
Neico Microwave Co Waltham ..... Mass
Optical Products A Teledyne Co Monrovia ..... Cal
Plessey Co Ltd Ilford Essex ..... England
Portchester Instrument Corp Port Chester ..... N Y
R F Systems Inc Cohasset ..... Mass
Rogers Corp Rogers ..... Conn
Royal Worcester Industrial Ceramics Inc Charlotte ..... N C
Semi-Elements Inc Saxonburg ..... Pa
Solitron/Microwave Long Island City ..... N Y
Syncor Products Co, Inc Malden ..... Mass
Systron-Donner Corp Concord ..... Cal
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim ..... Cal
Union Carbide Corp, Carbon Products Div New York ..... N Y
U S Dielectric Inc Worcester ..... Mass
Varian Palo Alto ..... Cal
Western Gold & Platinum Co Belmont ..... Cal

WINDOWS—PRESSURIZED

GRANVILLE-PHILIPS CO BOULDER ..... COLO
SYSTRON-DONNER CORP CONCORD ..... CAL
Airtec Inc Roselle ..... N J
American Electronic Labs Inc Lansdale ..... Pa
Andrew Corp Orland Park Ill
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls ..... N Y
Dynasil Corp of America Berlin ..... N J
Electromagnetic Technology Corp Mountain View ..... Cal
Electron Technology Inc Kearny ..... N J
Fusite Corp Cincinnati ..... Ohio
Glasseal Products Co Inc Linden ..... N J
Granville-Philips Co Boulder ..... Colo
Herley Industries, Inc Syosset ..... N Y
Hermetic Seal Corp, Div Sterling Elctns Corp Rosemead ..... Cal
Hydro Products Div Dillingham Corp San Diego ..... Cal
Laser Optics Inc Danbury ..... Conn
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ..... Pa
MCS Corp Monrovia ..... Cal
Microwave Development Labs Inc Needham Heights ..... Mass
Optical Products A Teledyne Co Monrovia ..... Cal
O & S Research Inc Riverton ..... N J
Portchester Instrument Corp Port Chester ..... N Y
Solitron/Microwave Long Island City ..... N Y
Systron-Donner Corp Concord ..... Cal
Tekform Products Co Sub Bliss & Laughlin Indus Anaheim ..... Cal
Varian Palo Alto ..... Cal

WINDOWS—R-F SUPPRESSION

Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls ..... N Y
Herley Industries, Inc Syosset ..... N Y
Liberty Mirror Div Libbey-Owens Ford Co Brackenridge ..... Pa
Metex Corp Edison ..... N J
Ray Proof Corp Norwalk ..... Conn
Technical Wire Products Inc Cranford ..... N J

WIRE—ANTENNA

CHESTER CABLE CO DIV TENNESSEE CORP CHESTER ..... N Y
DABURN ELECTRONICS & CABLE CORP BRONX ..... N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL
HACKENSACK CABLE CORP HACKENSACK ..... N J
Anaconda Wire and Cable Co New York ..... N Y
Belden Mfg Co Chicago Ill
Bergen Wire Rope Co Lodi ..... N J
Birnbach Co Inc Freeport ..... N Y
Calcon Mfg Corp Washington ..... Pa
Carol Cable Co Pawtucket ..... R I
Carol Cable Co West Glendale ..... Cal
Chester Cable Co Div Tennessee Corp Chester ..... N Y
Columbia Wire Products Co Chicago Ill
Copperweld Steel Co Flexo Wire Div Oswego ..... N Y
Daburn Electronics & Cable Corp Bronx ..... N Y
Dayton Aircraft Products Inc Fort Lauderdale ..... Fla
Dearborn Wire & Cable Co Chicago Ill
G C Electronics Div, Hydrometals Inc Rockford Ill
General Cable Corp New York ..... N Y
Hackensack Cable Corp Hackensack ..... N J
Hudson Wire Co Ossining ..... N Y
IRC Div TRW Inc Los Angeles ..... Cal
ITT Wire & Cable Div Surprenant Products Clinton ..... Mass
ITT Wire & Cable Div Royal Products Pawtucket ..... R I
Judd Wire Div Electronized Chem Corp Turners Falls ..... Mass
K L A Labs Inc Detroit ..... Mich
Lance Antenna Corp Sylmar ..... Cal
Lance Industries Sylmar ..... Cal
National Standard Co Niles ..... Mich
Pacific Electricord Co Gardena ..... Cal
Parker Metal Goods Co Worcester ..... Mass
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City ..... Conn
Plastoid Corp Long Island City ..... N Y
Saxton Products Inc Congers ..... N Y
Standard Wire & Cable Co Los Angeles ..... Cal
Superior Insulated Wire Corp Stony Point ..... N Y
Texas Instruments Incorporated Dallas ..... Tex
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh ..... Pa
Welco Electric Corp South Bend ..... Ind

WIRE, BARE—ALUMINUM

DABURN ELECTRONICS & CABLE CORP BRONX ..... N Y
DAINICHI-NIPPON CABLES, LTD TOKYO ..... JAPAN
DEARBORN WIRE & CABLE CO CHICAGO ILL
All-State Welding Alloys Co, Inc White Plains ..... N Y
Aluminum Co of America Pittsburgh ..... Pa
Anaconda Wire and Cable Co New York ..... N Y
Anchor Alloys Inc Brooklyn ..... N Y
Anchor Metal Co, Inc Div Brooklyn ..... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place ..... N Y
Birnbach Co Inc Freeport ..... N Y
Bram Metallurgical Chemical Co Philadelphia ..... Pa
California Fine Wire Co Grover City ..... Cal
Chase Metals Service Div Chase Brass & Copper Co Cleveland ..... Ohio
Cominco American Inc Electronic Matls Div Spokane ..... Wash
Consolidated Reactive Metals Inc Mamaroneck ..... N Y
Copperweld Steel Co Flexo Wire Div Oswego ..... N Y
Daburn Electronics & Cable Corp Bronx ..... N Y
Dainichi-Nippon Cables, Ltd Tokyo ..... Japan
Dearborn Wire & Cable Co Chicago Ill
Eaton Yale & Towne Inc Reliance Div Massillon ..... Ohio
Electronic Space Products Inc Los Angeles ..... Cal
General Cable Corp New York ..... N Y
Hudson Wire Co Ossining ..... N Y
International Wire Products Corp Wyckoff ..... N J
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland ..... Cal
Koch Light Labs Ltd Colnbrook, Bucks ..... England
Kulicke & Soffa Industries Inc Fort Washington ..... Pa
Little Falls Alloys Inc Paterson ..... N J
Mackay Inc, A D New York ..... N Y
Materials for Electronics, Inc Jamaica ..... N Y
Materials Research Corp Orangeburg ..... N Y
Molecu-Wire Corp Farmingdale ..... N J
Montgomery Co Windsor Locks ..... Conn
Nesor Alloy Corp West Caldwell ..... N J
Paul & Stein Bros Inc, F H New York ..... N Y
Permaluster Inc Burbank ..... Cal
Rea Magnet Wire Co Inc Fort Wayne ..... Ind
Reynolds Metals Co Richmond ..... Va
Rome Cable Div Cyprus Mines Corp Rome ..... N Y
Roosevelt Metal Co Inc Brooklyn ..... N Y
Ryerson & Son Inc, J T Chicago Ill
Secon Wire Div White Plains ..... N Y
Semi-Alloys Inc Mt Vernon ..... N Y
Steel Heddle Mfg Co Philadelphia ..... Pa
Tatsuta Electric Wire & Cable Co Ltd Osaka ..... Japan
United American Metals Div Brooklyn ..... N Y
United Mineral & Chemical Corp New York ..... N Y
Wilkinson Co Westlake Village ..... Cal
York Wire Co Clifton ..... N J

WIRE, BARE—BERYLLIUM COPPER

DEARBORN WIRE & CABLE CO CHICAGO ILL
SUMITOMO SPECIAL METALS CO LTD OSAKA ..... JAPAN

Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
Brush Beryllium Co Cleveland	Ohio
California Fine Wire Co Grover City	Cal
Dearborn Wire & Cable Co Chicago	Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark	N J
Eaton Yale & Towne Inc Reliance Div Massillon	Ohio
Electronic Space Products Inc Los Angeles	Cal
Essex Intl Inc, Magnet Wire Div Fort Wayne	Ind
Hudson Wire Co Ossining	N Y
Kawecki Berylco Industries Inc New York	N Y
Kentucky Electronics Inc Owensboro	Ky
Koch Light Labs Ltd Colnbrook, Bucks	England
Little Falls Alloys Inc Paterson	N J
Mackay Inc, A D New York	N Y
Nesor Alloy Corp West Caldwell	N J
Secon Wire Div White Plains	N Y
Steel Heddle Mfg Co Philadelphia	Pa
Sumitomo Special Metals Co Ltd Osaka	Japan
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Var-Lac-Oid Chemical Co Elizabeth	N J
Wilkinson Co Westlake Village	Cal

WIRE, BARE—COLUMBIUM

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Active Alloys, Inc Elizabeth	N J
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
Dearborn Wire & Cable Co Chicago	Ill
Electronic Space Products Inc Los Angeles	Cal
Fansteel Inc North Chicago	Ill
Kawecki Berylco Industries Inc New York	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
Mackay Inc, A D New York	N Y
Materials Research Corp Orangeburg	N Y
Molecu-Wire Corp Farmingdale	N J
Polysciences Inc Warrington	Pa
Rembar Co Inc Dobbs Ferry	N Y
Roosevelt Metal Co Inc Brooklyn	N Y
United American Metals Div Brooklyn	N Y
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J

WIRE, BARE—COPPER

CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Anaconda Wire and Cable Co New York	N Y
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Bridgeport Insulated Wire Co Bridgeport	Conn
California Fine Wire Co Grover City	Cal
Cerro Corp New York	NY
Chase Brass & Copper Co Cleveland	Ohio
Chase Metals Service Div Chase Brass & Copper Co Cleveland	Ohio
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Copperweld Steel Co Flexo Wire Div Oswego	N Y
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Eaton Yale & Towne Inc Reliance Div Massillon	Ohio
Electronic Space Products Inc Los Angeles	Cal
Essex Intl Inc, Magnet Wire Div Fort Wayne	Ind
General Cable Corp New York	N Y
Hudson Wire Co Ossining	N Y
International Wire Products Corp Wyckoff	N J
IRC Div TRW Inc Los Angeles	Cal
Kawecki Berylco Industries Inc New York	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
Leach & Garner Co, Industrial Div Attleboro	Mass
Little Falls Alloys Inc Paterson	N J
Materials Research Corp Orangeburg	N Y
Molecu-Wire Corp Farmingdale	N J
Montgomery Co Windsor Locks	Conn
Nesor Alloy Corp West Caldwell	N J
Nippert Electric Products Co Delaware	Ohio
Nonotuck Mfg Co South Hadley Falls	Mass
Omega Engineering Inc Stamford	Conn
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Pyco Inc Penndel	Pa
Rainbow Wire Corp Madison	N J
Rea Magnet Wire Co Inc Fort Wayne	Ind
Rome Cable Div Cyprus Mines Corp Rome	N Y
Roosevelt Metal Co Inc Brooklyn	N Y
Saxton Products Inc Congers	N Y
Semi-Alloys Inc Mt Vernon	N Y
Standard Wire & Cable Co Los Angeles	Cal
Steel Heddle Mfg Co Philadelphia	Pa
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Texas Instruments Incorporated Dallas	Tex
United American Metals Div Brooklyn	N Y
United Mineral & Chemical Corp New York	N Y
Viking Wire Co Inc Danbury	Conn
Welco Electric Corp South Bend	Ind
Western Gold & Platinum Co Belmont	Cal
Wilkinson Co Westlake Village	Cal

WIRE, BARE—COPPER, GOLD PLATED

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Brainin Corp Mt Vernon	NY
Bram Metallurgical Chemical Co Philadelphia	Pa
Burton Research Labs Culver City	Cal
Burton Silverplating Co Los Angeles	Cal
California Fine Wire Co Grover City	Cal
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Hudson Wire Co Ossining	N Y
Improved Seamless Wire Co Providence	R I
International Wire Products Corp Wyckoff	N J
Kawecki Berylco Industries Inc New York	N Y
Kentucky Electronics Inc Owensboro	Ky
Mackay Inc, A D New York	N Y
Nesor Alloy Corp West Caldwell	N J
Roosevelt Metal Co Inc Brooklyn	N Y
Secon Wire Div White Plains	N Y
Semi-Alloys Inc Mt Vernon	N Y
Summit Finishing Div Kawecki Berylco Ind Inc Thomaston	Conn
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Texas Instruments Incorporated Dallas	Tex
United American Metals Div Brooklyn	N Y
United Refining & Smelting Co Franklin Park	Ill

WIRE, BARE—COPPER, NICKEL CLAD

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Associated Engineering & Mfg Corp Glen Ridge	N J
Birnbach Co Inc Freeport	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
California Fine Wire Co Grover City	Cal
Copperweld Steel Co Flexo Wire Div Oswego	N Y
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Hudson Wire Co Ossining	N Y
Improved Seamless Wire Co Providence	R I
International Wire Products Corp Wyckoff	N J
Kawecki Berylco Industries Inc New York	N Y
Kentucky Electronics Inc Owensboro	Ky
Little Falls Alloys Inc Paterson	N J
Mackay Inc, A D New York	N Y
Molecu-Wire Corp Farmingdale	N J
Montgomery Co Windsor Locks	Conn
Nesor Alloy Corp West Caldwell	N J
Nonotuck Mfg Co South Hadley Falls	Mass
Porter H K Co, Fabricated Metals Div Pittsburgh	Pa
Roosevelt Metal Co Inc Brooklyn	N Y
Semi-Alloys Inc Mt Vernon	N Y
Standard Wire & Cable Co Los Angeles	Cal
Steel Heddle Mfg Co Philadelphia	Pa
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Texas Instruments Incorporated Dallas	Tex
United American Metals Div Brooklyn	N Y

WIRE, BARE—COPPER, SILVER PLATED

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brainin Corp Mt Vernon	NY
Bram Metallurgical Chemical Co Philadelphia	Pa
Burton Research Labs Culver City	Cal
Burton Silverplating Co Los Angeles	Cal
California Fine Wire Co Grover City	Cal
Copperweld Steel Co Flexo Wire Div Oswego	N Y
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
General Cable Corp New York	N Y
Hudson Wire Co Ossining	N Y
Improved Seamless Wire Co Providence	R I
International Wire Products Corp Wyckoff	N J
Johnson Matthey & Mallory Ltd Toronto 15	Ont
Kawecki Berylco Industries Inc New York	N Y
Kentucky Electronics Inc Owensboro	Ky
Little Falls Alloys Inc Paterson	N J
Mackay Inc, A D New York	N Y
Molecu-Wire Corp Farmingdale	N J
Montgomery Co Windsor Locks	Conn
Nesor Alloy Corp West Caldwell	N J
Nonotuck Mfg Co South Hadley Falls	Mass
Semi-Alloys Inc Mt Vernon	N Y
Standard Wire & Cable Co Los Angeles	Cal
Steel Heddle Mfg Co Philadelphia	Pa
Summit Finishing Div Kawecki Berylco Ind Inc Thomaston	Conn
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Technical Components Co Inc Chicago Ridge	Ill
Texas Instruments Incorporated Dallas	Tex
United Refining & Smelting Co Franklin Park	Ill

WIRE, BARE—COPPER, TINNED

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Allied Electronics Corp Chicago	Ill
Anaconda Wire and Cable Co New York	N Y
Belden Mfg Co Chicago	Ill
Bergen Wire Rope Co Lodi	N J
Birnbach Co Inc Freeport	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa

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Daburn Electronics & Cable Corp Bronx .... N Y
Dainichi-Nippon Cables, Ltd Tokyo .... Japan
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Hudson Wire Co Ossining .... N Y
International Wire Products Corp Wyckoff .... N J
IRC Div TRW Inc Los Angeles .... Cal
Kawecki Berylco Industries Inc New York .... N Y
Little Falls Alloys Inc Paterson .... N J
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Prestolite Wire & Cable Div Eltra Corp Port Huron .... Mich
Rainbow Wire Corp Madison .... N J
Rome Cable Div Cyprus Mines Corp Rome .... N Y
Saxton Products Inc Congers .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Standard Wire & Cable Co Los Angeles .... Cal
Steel Heddle Mfg Co Philadelphia .... Pa
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Tatsuta Electric Wire & Cable Co Ltd Osaka .... Japan
Technical Components Co Inc Chicago Ridge Ill
Welco Electric Corp South Bend .... Ind

WIRE, BARE—FINE WIRE SPECIALTIES (INCL. GRID WIRE)

ART WIRE & STAMPING CO NEWARK N J .... ADV PG 727
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL .. ADV PG 717
Active Alloys, Inc Elizabeth .... N J
Armco Steel Corp Middletown .... Ohio
Art Wire & Stamping Co Newark .... N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Belden Mfg Co Chicago Ill
Birnbach Co Inc Freeport .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
Brookfield Wire Co Inc Brookfield .... Mass
California Fine Wire Co Grover City .... Cal
Carpenter Technology Corp Reading .... Pa
Cerro Corp New York .... NY
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon .... Ohio
Cominco American Inc Electronic Matls Div Spokane ... Wash
Consolidated Reactive Metals Inc Mamaroneck .... N Y
Copperweld Steel Co Flexo Wire Div Oswego .... N Y
Daburn Electronics & Cable Corp Bronx .... N Y
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Driver-Harris Co Harrison .... N J
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark .... N J
General Cable Corp New York .... N Y
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
Handy & Harman New York .... N Y
Hudson Wire Co Ossining .... N Y
Improved Seamless Wire Co Providence .... R I
Indium Corp of America Utica .... N Y
International Wire Products Corp Wyckoff .... N J
Kawecki Berylco Industries Inc New York .... N Y
Kentucky Electronics Inc Owensboro .... Ky
Koch Light Labs Ltd Colnbrook, Bucks .... England
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Leach & Garner Co, Industrial Div Attleboro .... Mass
Little Falls Alloys Inc Paterson .... N J
Mackay Inc, A D New York .... N Y
Matthey Bishop Inc Malvern .... Pa
Molecu-Wire Corp Farmingdale .... N J
Montgomery Co Windsor Locks .... Conn
National Standard Co Niles .... Mich
Nesor Alloy Corp West Caldwell .... N J
Nonotuck Mfg Co South Hadley Falls .... Mass
Permaluster Inc Burbank .... Cal
Philips Elmet Corp Lewiston .... Me
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Radio Corp of America, Electronic Components Harrison .. N J
Rea Magnet Wire Co Inc Fort Wayne .... Ind
Secon Wire Div White Plains .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Steel Heddle Mfg Co Philadelphia .... Pa
Sylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Unique Wire Weaving Co Inc Hillside .... N J
United Mineral & Chemical Corp New York .... N Y
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh .... Pa
Viking Wire Co Inc Danbury .... Conn
Wilkinson Co Westlake Village .... Cal
York Wire Co Clifton .... N J

WIRE, BARE—GLASS SEALING

DEARBORN WIRE & CABLE CO CHICAGO ILL
SUMITOMO SPECIAL METALS CO LTD OSAKA .... JAPAN
Active Alloys, Inc Elizabeth .... N J
Associated Engineering & Mfg Corp Glen Ridge .... N J
Brookfield Wire Co Inc Brookfield .... Mass
California Fine Wire Co Grover City .... Cal
Carpenter Technology Corp Reading .... Pa
Cerro Corp New York .... NY
Cominco American Inc Electronic Matls Div Spokane ... Wash
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Driver-Harris Co Harrison .... N J
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
Improved Seamless Wire Co Providence .... R I
Indium Corp of America Utica .... N Y
Inter-Technical Group Inc Irvington-on-Hudson .... N Y
Kawecki Berylco Industries Inc New York .... N Y
Kentucky Electronics Inc Owensboro .... Ky
Mackay Inc, A D New York .... N Y
Magnetics Inc Butler .... Pa
Matthey Bishop Inc Malvern .... Pa
Molecu-Wire Corp Farmingdale .... N J
Nesor Alloy Corp West Caldwell .... N J
Nonotuck Mfg Co South Hadley Falls .... Mass
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Semi-Alloys Inc Mt Vernon .... N Y
Special Metals Corp New Hartford .... NY
Sumitomo Special Metals Co Ltd Osaka .... Japan
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Texas Instruments Incorporated Dallas .... Tex
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh .... Pa
Westinghouse Elec. Corp., Specialty Metals Div Blairsville . Pa

WIRE, BARE—GOLD

DEARBORN WIRE & CABLE CO CHICAGO ILL
NEY CO, J M BLOOMFIELD .... CONN
WALL CO, A T WARWICK .... RI
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
California Fine Wire Co Grover City .... Cal
Cominco American Inc Electronic Matls Div Spokane ... Wash
Consolidated Reactive Metals Inc Mamaroneck .... N Y
Dearborn Wire & Cable Co Chicago Ill
Electronic Space Products Inc Los Angeles .... Cal
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark .... N J
Handy & Harman New York .... N Y
Hudson Wire Co Ossining .... N Y
Improved Seamless Wire Co Providence .... R I
International Wire Products Corp Wyckoff .... N J
Jelliff Corp, C O Southport .... Conn
Johnson Matthey & Mallory Ltd Toronto 15 .... Ont
Kentucky Electronics Inc Owensboro .... Ky
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks .... England
Kulicke & Soffa Industries Inc Fort Washington .... Pa
Leach & Garner Co, Industrial Div Attleboro .... Mass
Mackay Inc, A D New York .... N Y
Materials Research Corp Orangeburg .... N Y
Matthey Bishop Inc Malvern .... Pa
Metz Refining Co South Plainfield .... N J
Molecu-Wire Corp Farmingdale .... N J
Nesor Alloy Corp West Caldwell .... N J
Ney Co, J M Bloomfield .... Conn
Polysciences Inc Warrington .... Pa
Roosevelt Metal Co Inc Brooklyn .... N Y
Secon Wire Div White Plains .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
Standard Metals Div Edw N Cook Plate Co Inc North Attleboro .... Mass
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
United Refining & Smelting Co Franklin Park Ill
Var-Lac-Oid Chemical Co Elizabeth .... N J
Wall Co, A T Warwick .... RI
Western Gold & Platinum Co Belmont .... Cal
Wilkinson Co Westlake Village .... Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo . N Y

WIRE, BARE—MOLYBDENUM

DEARBORN WIRE & CABLE CO CHICAGO ILL
Active Alloys, Inc Elizabeth .... N J
Allen-Jones Electronics Div WEMS Inc Gardena .... Cal
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Associated Engineering & Mfg Corp Glen Ridge .... N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Bergen Wire Rope Co Lodi .... N J
Bram Metallurgical Chemical Co Philadelphia .... Pa
Cleveland Refractory Metals, Div Chase Brass Copper Co Solon .... Ohio
C M Mfg Co Bloomfield .... N J
Dearborn Wire & Cable Co Chicago Ill
Electronic Space Products Inc Los Angeles .... Cal
Fansteel Inc North Chicago Ill
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Materials Research Corp Orangeburg .... N Y
Nesor Alloy Corp West Caldwell .... N J
Norton Co Metals Div Newton .... Mass
Philips Elmet Corp Lewiston .... Me
Rembar Co Inc Dobbs Ferry .... N Y
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
Sylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh .... Pa
Var-Lac-Oid Chemical Co Elizabeth .... N J
Westinghouse Electric Corp, Lamp Div Bloomfield .... N J

WIRE, BARE—MONEL

DEARBORN WIRE & CABLE CO CHICAGO ILL
SUMITOMO SPECIAL METALS CO LTD OSAKA .... JAPAN
Active Alloys, Inc Elizabeth .... N J
Anchor Metal Co, Inc Div Brooklyn .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
Brookfield Wire Co Inc Brookfield .... Mass
California Fine Wire Co Grover City .... Cal
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Driver-Harris Co Harrison .... N J
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Harper Co, H M Morton Grove Ill
Hudson Wire Co Ossining .... N Y
International Wire Products Corp Wyckoff .... N J
Jelliff Corp, C O Southport .... Conn
Kawecki Berylco Industries Inc New York .... N Y
Kentucky Electronics Inc Owensboro .... Ky
Leach & Garner Co, Industrial Div Attleboro .... Mass
Mackay Inc, A D New York .... N Y
Molecu-Wire Corp Farmingdale .... N J
Montgomery Co Windsor Locks .... Conn
Nesor Alloy Corp West Caldwell .... N J
Nonotuck Mfg Co South Hadley Falls .... Mass
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Sumitomo Special Metals Co Ltd Osaka .... Japan
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
United American Metals Div Brooklyn .... N Y
York Wire Co Clifton .... N J

WIRE, BARE—PHOSPHOR BRONZE

DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL
HACKENSACK CABLE CORP HACKENSACK .... N J
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Belden Mfg Co Chicago Ill
Bergen Wire Rope Co Lodi .... N J
Birnbach Co Inc Freeport .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
California Fine Wire Co Grover City .... Cal
Chase Brass & Copper Co Cleveland .... Ohio
Chase Metals Service Div Chase Brass & Copper Co Cleveland .... Ohio
Copperweld Steel Co Flexo Wire Div Oswego .... N Y
Daburn Electronics & Cable Corp Bronx .... N Y
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Eaton Yale & Towne Inc Reliance Div Massillon .... Ohio
Hackensack Cable Corp Hackensack .... N J
Hudson Wire Co Ossining .... N Y
International Wire Products Corp Wyckoff .... N J
Kentucky Electronics Inc Owensboro .... Ky
Little Falls Alloys Inc Paterson .... N J
Mackay Inc, A D New York .... N Y
Montgomery Co Windsor Locks .... Conn
Nesor Alloy Corp West Caldwell .... N J
Nonotuck Mfg Co South Hadley Falls .... Mass
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Roosevelt Metal Co Inc Brooklyn .... N Y
Saxton Products Inc Congers .... N Y
Secon Wire Div White Plains .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Standard Wire & Cable Co Los Angeles .... Cal
Steel Heddle Mfg Co Philadelphia .... Pa
United American Metals Div Brooklyn .... N Y

WIRE, BARE—PLATINUM

DEARBORN WIRE & CABLE CO CHICAGO ILL
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Active Alloys, Inc Elizabeth .... N J
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Bergen Wire Rope Co Lodi .... N J
Brainin Corp Mt Vernon .... NY
Bram Metallurgical Chemical Co Philadelphia .... Pa
California Fine Wire Co Grover City .... Cal
Consolidated Reactive Metals Inc Mamaroneck .... N Y
Dearborn Wire & Cable Co Chicago Ill
Electronic Space Products Inc Los Angeles .... Cal
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark .... N J
Handy & Harman New York .... N Y
Hudson Wire Co Ossining .... N Y
Improved Seamless Wire Co Providence .... R I
Jelliff Corp, C O Southport .... Conn
Johnson Matthey & Mallory Ltd Toronto 15 .... Ont
Kentucky Electronics Inc Owensboro .... Ky
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks .... England
Leach & Garner Co, Industrial Div Attleboro .... Mass
Materials Research Corp Orangeburg .... N Y
Matthey Bishop Inc Malvern .... Pa
Metz Refining Co South Plainfield .... N J
Molecu-Wire Corp Farmingdale .... N J
Nesor Alloy Corp West Caldwell .... N J
Omega Engineering Inc Stamford .... Conn
Polysciences Inc Warrington .... Pa
Pyco Inc Penndel .... Pa
Radio Corp of America, Electronic Components Harrison .. N J
Roosevelt Metal Co Inc Brooklyn .... N Y
Secon Wire Div White Plains .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
Standard Metals Div Edw N Cook Plate Co Inc North Attleboro .... Mass
United American Metals Div Brooklyn .... N Y

United Mineral & Chemical Corp New York	N Y
United Refining & Smelting Co Franklin Park	Ill
Var-Lac-Oid Chemical Co Elizabeth	N J
Western Gold & Platinum Co Belmont	Cal
Wilkinson Co Westlake Village	Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo	N Y

WIRE, BARE—SILVER

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
NEY CO, J M BLOOMFIELD	**CONN**
WALL CO, A T WARWICK	**RI**
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO	**N Y**
Active Alloys, Inc Elizabeth	N J
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Brainin Corp Mt Vernon	NY
Bram Metallurgical Chemical Co Philadelphia	Pa
California Fine Wire Co Grover City	Cal
Cominco American Inc Electronic Matls Div Spokane	Wash
Consolidated Reactive Metals Inc Mamaroneck	N Y
Dearborn Wire & Cable Co Chicago	Ill
Electronic Space Products Inc Los Angeles	Cal
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Handy & Harman New York	N Y
Hudson Wire Co Ossining	N Y
Improved Seamless Wire Co Providence	R I
International Wire Products Corp Wyckoff	N J
Johnson Matthey & Mallory Ltd Toronto 15	Ont
Kentucky Electronics Inc Owensboro	Ky
Kester Solder Co Chicago	Ill
Koch Light Labs Ltd Colnbrook, Bucks	England
Leach & Garner Co, Industrial Div Attleboro	Mass
Little Falls Alloys Inc Paterson	N J
Mackay Inc, A D New York	N Y
Materials Research Corp Orangeburg	N Y
Metz Refining Co South Plainfield	N J
Molecu-Wire Corp Farmingdale	N J
Montgomery Co Windsor Locks	Conn
Nesor Alloy Corp West Caldwell	N J
Ney Co, J M Bloomfield	Conn
Polysciences Inc Warrington	Pa
Roosevelt Metal Co Inc Brooklyn	N Y
Secon Wire Div White Plains	N Y
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Standard Metals Div Edw N Cook Plate Co Inc North Attleboro	Mass
Steel Heddle Mfg Co Philadelphia	Pa
United American Metals Div Brooklyn	N Y
United Mineral & Chemical Corp New York	N Y
United Refining & Smelting Co Franklin Park	Ill
Var-Lac-Oid Chemical Co Elizabeth	N J
Wall Co, A T Warwick	RI
Western Gold & Platinum Co Belmont	Cal
Wilkinson Co Westlake Village	Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo	N Y

WIRE, BARE—STEEL (INCL. GUY WIRE)

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
HACKENSACK CABLE CORP HACKENSACK	**N J**
Armco Steel Corp Middletown	Ohio
Bergen Wire Rope Co Lodi	N J
Birnbach Co Inc Freeport	N Y
Bostitch Div Textron Inc East Greenwich	R I
Brookfield Wire Co Inc Brookfield	Mass
Dearborn Wire & Cable Co Chicago	Ill
Eaton Yale & Towne Inc Reliance Div Massillon	Ohio
General Cable Corp New York	N Y
Hackensack Cable Corp Hackensack	N J
Lance Antenna Corp Sylmar	Cal
National Standard Co Niles	Mich
Nesor Alloy Corp West Caldwell	N J
Parker Metal Goods Co Worcester	Mass
Porter H K Co, Fabricated Metals Div Pittsburgh	Pa
Republic Steel Corp Cleveland	Ohio
Ryerson & Son Inc, J T Chicago	Ill
Saxton Products Inc Congers	N Y
Steel Heddle Mfg Co Philadelphia	Pa
U S Steel Corp Pittsburgh	Pa
Wright Steel & Wire Co, G F Worcester	Mass

WIRE, BARE—STEEL, COPPER CLAD

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
SUMITOMO SPECIAL METALS CO LTD OSAKA	**JAPAN**
Anaconda Wire and Cable Co New York	N Y
Anchor Alloys Inc Brooklyn	N Y
Anchor Metal Co, Inc Div Brooklyn	N Y
Belden Mfg Co Chicago	Ill
Bergen Wire Rope Co Lodi	N J
Brookfield Wire Co Inc Brookfield	Mass
California Fine Wire Co Grover City	Cal
Columbia Wire Products Co Chicago	Ill
Copperweld Steel Co Flexo Wire Div Oswego	N Y
Crown Metal Products Wyano	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
General Cable Corp New York	N Y
Hudson Wire Co Ossining	N Y
Improved Seamless Wire Co Providence	R I
International Wire Products Corp Wyckoff	N J
Kentucky Electronics Inc Owensboro	Ky
Montgomery Co Windsor Locks	Conn
National Standard Co Niles	Mich
Nesor Alloy Corp West Caldwell	N J
Porter H K Co, Fabricated Metals Div Pittsburgh	Pa
Roosevelt Metal Co Inc Brooklyn	N Y
Saxton Products Inc Congers	N Y
Semi-Alloys Inc Mt Vernon	N Y
Steel Heddle Mfg Co Philadelphia	Pa
Sumitomo Special Metals Co Ltd Osaka	Japan
Sylvania Electric Prods Inc, Parts Div Warren	Pa
Texas Instruments Incorporated Dallas	Tex
United American Metals Div Brooklyn	N Y
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh	Pa

WIRE, BARE—STEEL, STAINLESS

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
HACKENSACK CABLE CORP HACKENSACK	**N J**
Active Alloys, Inc Elizabeth	N J
Allegheny Ludlum Steel Corp Pittsburgh	Pa
Armco Steel Corp Middletown	Ohio
Atlas Wire & Cable Co. Inc. Yonkers	NY
Bergen Wire Rope Co Lodi	N J
Bram Metallurgical Chemical Co Philadelphia	Pa
Brookfield Wire Co Inc Brookfield	Mass
California Fine Wire Co Grover City	Cal
Carpenter Technology Corp Reading	Pa
Chase Metals Service Div Chase Brass & Copper Co Cleveland	Ohio
Colt Industries Inc, Crucible Inc Pittsburgh	Pa
Copperweld Steel Co Flexo Wire Div Oswego	N Y
Dearborn Wire & Cable Co Chicago	Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark	N J
Driver-Harris Co Harrison	N J
Eaton Yale & Towne Inc Reliance Div Massillon	Ohio
General Cable Corp New York	N Y
Hackensack Cable Corp Hackensack	N J
Hudson Wire Co Ossining	N Y
International Wire Products Corp Wyckoff	N J
Kentucky Electronics Inc Owensboro	Ky
Mackay Inc, A D New York	N Y
Molecu-Wire Corp Farmingdale	N J
National Standard Co Niles	Mich
Nesor Alloy Corp West Caldwell	N J
Podgor Co Inc, Joseph E Philadelphia	Pa
Porter H K Co, Fabricated Metals Div Pittsburgh	Pa
Republic Steel Corp Cleveland	Ohio
Ryerson & Son Inc, J T Chicago	Ill
Saxton Products Inc Congers	N Y
Semi-Alloys Inc Mt Vernon	N Y
Steel Heddle Mfg Co Philadelphia	Pa
Sylvania Electric Prods Inc, Parts Div Warren	Pa
U S Steel Corp Pittsburgh	Pa
Universal-Cyclops Specialty Steel Div Cyclops Corp Pittsburgh	Pa
York Wire Co Clifton	N J

WIRE, BARE—TANTALUM

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Active Alloys, Inc Elizabeth	N J
Allen-Jones Electronics Div WEMS Inc Gardena	Cal
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bergen Wire Rope Co Lodi	N J
Bram Metallurgical Chemical Co Philadelphia	Pa
California Fine Wire Co Grover City	Cal
Dearborn Wire & Cable Co Chicago	Ill
Electronic Space Products Inc Los Angeles	Cal
Fansteel Inc North Chicago	Ill
Kawecki Berylco Industries Inc New York	N Y
Kennametal Inc Latrobe	Pa
Kentucky Electronics Inc Owensboro	Ky
Koch Light Labs Ltd Colnbrook, Bucks	England
Mackay Inc, A D New York	N Y
Materials Research Corp Orangeburg	N Y
Norton Co Metals Div Newton	Mass
Paul & Stein Bros Inc, F H New York	N Y
Polysciences Inc Warrington	Pa
Pyco Inc Penndel	Pa
Rembar Co Inc Dobbs Ferry	N Y
Ryerson & Son Inc, J T Chicago	Ill
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Ulvac Corp Tokyo	Japan
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J

WIRE, BARE—TITANIUM

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Active Alloys, Inc Elizabeth	N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bergen Wire Rope Co Lodi	N J
Bram Metallurgical Chemical Co Philadelphia	Pa
California Fine Wire Co Grover City	Cal
Colt Industries Inc, Crucible Inc Pittsburgh	Pa
Dearborn Wire & Cable Co Chicago	Ill
Electronic Space Products Inc Los Angeles	Cal
Kawecki Berylco Industries Inc New York	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
Little Falls Alloys Inc Paterson	N J
Mackay Inc, A D New York	N Y
Materials Research Corp Orangeburg	N Y
Nesor Alloy Corp West Caldwell	N J
Polysciences Inc Warrington	Pa
Porter H K Co, Fabricated Metals Div Pittsburgh	Pa
Ryerson & Son Inc, J T Chicago	Ill
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J
York Wire Co Clifton	N J

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WIRE, BARE—TUNGSTEN

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Active Alloys, Inc Elizabeth	N J
Allen-Jones Electronics Div WEMS Inc Gardena	Cal
Associated Engineering & Mfg Corp Glen Ridge	N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bergen Wire Rope Co Lodi	N J
Bram Metallurgical Chemical Co Philadelphia	Pa
California Fine Wire Co Grover City	Cal
Cleveland Refractory-Metals, Div Chase Brass Copper Co Solon	Ohio
C M Mfg Co Bloomfield	N J
Dearborn Wire & Cable Co Chicago	Ill
Fansteel Inc North Chicago	Ill
General Electric Co Lamp Metals & Components Dept Cleveland	Ohio
Koch Light Labs Ltd Colnbrook, Bucks	England
Mackay Inc, A D New York	N Y
Materials Research Corp Orangeburg	N Y
Norton Co Metals Div Newton	Mass
Omega Engineering Inc Stamford	Conn
Philips Elmet Corp Lewiston	Me
Polysciences Inc Warrington	Pa
Pyco Inc Penndel	Pa
Rembar Co Inc Dobbs Ferry	N Y
Ryerson & Son Inc, J T Chicago	Ill
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
Sylvania Elec Prods Inc, Chem & Met Div Towanda	Pa
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J
Westinghouse Electric Corp, Lamp Div Bloomfield	N J

WIRE, BARE—ZIRCONIUM

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Active Alloys, Inc Elizabeth	N J
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bergen Wire Rope Co Lodi	N J
Bram Metallurgical Chemical Co Philadelphia	Pa
California Fine Wire Co Grover City	Cal
Dearborn Wire & Cable Co Chicago	Ill
Electronic Space Products Inc Los Angeles	Cal
Hudson Wire Co Ossining	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
Mackay Inc, A D New York	N Y
Materials Research Corp Orangeburg	N Y
Polysciences Inc Warrington	Pa
Ryerson & Son Inc, J T Chicago	Ill
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J

WIRE CLOTH

See **Fabrics**

WIRE—CUT & STRIPPED

ALLIED ELECTRONICS CORP CHICAGO ILL
ATLAS WIRE & CABLE CO. INC. YONKERS ....NY
DABURN ELECTRONICS & CABLE CORP BRONX ....N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL
ENDICOTT COIL CO INC BINGHAMTON ....N Y
SUMITOMO SPECIAL METALS CO LTD OSAKA ....JAPAN
Abbott & Co Prospect ....Ohio
Aerospace Systems A Teledyne Co Fairmont ....Minn
Aircraft & Electronic Specialties, Inc Plainfield ....Ind
Allied Electronics Corp Chicago Ill
Alpha Wire Elizabeth ....N J
American Cable Electronic Supply Inc Sacramento ......Cal
American Electric Cable Co Holyoke ....Mass
Atlas Wire & Cable Co. Inc. Yonkers ....NY
Avionics, Inc South Bend ....Ind
Bergen Wire Rope Co Lodi ....N J
Birnbach Co Inc Freeport ....N Y
Cable Electric Products Inc Providence ....R I
Calmont Wire & Cable Inc Santa Ana ....Cal
Cambridge Thermionic Corp Cambridge ....Mass
Carol Cable Co Pawtucket ....R I
Carol Cable Co West Glendale ....Cal
Columbia Wire Products Co Chicago Ill
Consolidated Products Corp Gardena ....Cal
Continental Wire & Cable York ....Pa
Cordex, Inc Mount Eaton ....Ohio
Daburn Electronics & Cable Corp Bronx ....N Y
Dearborn Wire & Cable Co Chicago Ill
Drake Mfg Co Harwood Heights Ill
DuCom Inc Salem ....Mass
Empire Electronics Co Inc Paterson ....N J
Endicott Coil Co Inc Binghamton ....N Y
Estes Engineering Co Gardena ....Cal
First Electronics Corp Boston ....Mass
Florida General Electronics Inc Ormond Beach ....Fla
Flow Electronic Cable Corp Cambridge ....Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield . Mass
Gore & Assoc Inc, W L Newark ....Del
Haydu Products Inc Opa Locka ....Fla
Helix Spring Corp Long Island City ....NY
Hi-Lo Mfg Corp Chicago Ill
Hobson Brothers Inc Chicago Ill
Holyoke Wire & Cable Corp Holyoke ....Mass
Industrial Winding Machinery Corp River Edge ....N J
IRC Div TRW Inc Los Angeles ....Cal
ITT Wire & Cable Div Surprenant Products Clinton .....Mass
ITT Wire & Cable Div Royal Products Pawtucket ....R I
Jetronics Co Div J L Hall Co Inc Redwood City ....Cal
JPM Co Lewisburg ....Pa
Judd Wire Div Electronized Chem Corp Turners Falls....Mass
Keiser's Industries Inc Mt Holly Springs ....Pa
Lake Erie Electric Mfg, Inc Erie ....Pa
Manger Electric Co Inc Stamford ....Conn
Mercury Electronics Corp York ....Pa
Meson Electronics Co, Inc Rochester ....N Y
Mid-West Metal Products Inc Kansas City ....Kans
M-T Electronics Co San Leandro ....Cal
National Wire & Cable Corp Los Angeles ....Cal
Omega Leads Inc Culver City ....Cal
Pacific Electricord Co Gardena ....Cal
Paraplegics Mfg Co Inc Bensenville Ill
Parker Metal Goods Co Worcester ....Mass
Plastic Wire & Cable Corp Sub Triangle Indus Inc
  Jewett City ....Conn
Porter H K Co, Fabricated Metals Div Pittsburgh ....Pa
Rainbow Wire Corp Madison ....N J
Rhode Island Insulated Wire Co Cranston ....R I
Runzel Cord & Wire Co Chicago Ill
Saxton Products Inc Congers ....N Y
Seven Associates Inc Sunnyvale ....Cal
Sittler Corp Chicago Ill
South Bay Cable Corp Gardena ....Cal
Standard Wire & Cable Co Los Angeles ....Cal
Sumitomo Special Metals Co Ltd Osaka ....Japan
Technical Components Co Inc Chicago Ridge Ill
Techni-Tool Inc Philadelphia ....Pa
Teletronics Labs Inc El Segundo ....Cal
Thermax Wire Corp Flushing ....N Y
Tricraft Products Corp Chicago Ill
Victor Electric Wire & Cable Corp West Warwick ....R I
VP Co Pasadena ....Cal
Welco Electric Corp South Bend ....Ind
Western Int'l Inc., Connector Div. Yonkers ....NY
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe ......Pa
Whitmor Wire & Cable Corp North Hollywood ....Cal

WIRE CUTTING MACHINES

See **Machines—Wire-Processing**

WIRE—FINE WIRE SPECIALTIES

See **Tube Parts; Wire—Resistance; Wire—Bare**

WIRE—FUSE

See **Wire-Resistance**

WIRE—GLASS-SEALING

See **Wire—Bare, Glass-Sealing**

WIRE—GUY

DABURN ELECTRONICS & CABLE CORP BRONX ....N Y
HACKENSACK CABLE CORP HACKENSACK
  N J ....ADV PG 720
Bergen Wire Rope Co Lodi ....N J
Copperweld Steel Co Flexo Wire Div Oswego ....N Y
Daburn Electronics & Cable Corp Bronx ....N Y
G C Electronics Div, Hydrometals Inc Rockford Ill
General Cable Corp New York ....N Y
Hackensack Cable Corp Hackensack ....N J
Hi-Lo Mfg Corp Chicago Ill
Jetronics Co Div J L Hall Co Inc Redwood City ....Cal
Lynn Electronics Corp Philadelphia ....Pa
Paraplegics Mfg Co Inc Bensenville Ill
Rohn Mfg Co Peoria Ill
Tricraft Products Corp Chicago Ill
Wright Steel & Wire Co, G F Worcester ....Mass

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WIRE HARNESSES

See **Harnesses—Wire; Cable Assemblies**

WIRE, HIGH TEMPERATURE—ALUMINUM OXIDE INSULATED

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
Aero Research Instrument Dept American Standard
  Franklin Park Ill
Amperex Electronic Corp, Professional Tube Div Hicksville . NY
Bram Metallurgical Chemical Co Philadelphia ....Pa
C M Mfg Co Bloomfield ....N J
Consolidated Controls Corp El Segundo ....Cal
Consolidated Controls Corp Bethel ....Conn
Consolidated Wire & Associated Corps Chicago Ill
Control Products Corp Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
ITT Europe Inc Components Gp Brussels 1 ....Belgium
Marlin Mfg Corp Cleveland ....Ohio
National Beryllia Corp Haskell ....N J
Omega Engineering Inc Stamford ....Conn
Pall Trinity Micro Corp Cortland ....N Y
Permaluster Inc Burbank ....Cal
Pyco Inc Penndel ....Pa
Pyro Electric Inc Walkerton ....Ind
Tensolite Div Carlisle Corp Tarrytown ....N Y
Thermotronic Devices Conshohocken ....Pa

WIRE, HIGH TEMPERATURE—ASBESTOS INSULATED

ATLAS WIRE & CABLE CO. INC. YONKERS ....NY
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
Anaconda Wire and Cable Co New York ....N Y
Atlas Wire & Cable Co. Inc. Yonkers ....NY
Cable Electric Products Inc Providence ....R I
Carol Cable Co Pawtucket ....R I
Cerro Corp New York ....NY
Cerro Sales Corp New York ....NY
Cerro Wire & Cable Div Cerro Corp New Haven, ...Conn
Columbia Wire Products Co Chicago Ill
Consolidated Wire & Associated Corps Chicago Ill
Continental Wire & Cable York ....Pa
Dearborn Wire & Cable Co Chicago Ill
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div
  Newark ....N J
General Cable Corp New York ....N Y
General Electric Co Wire & Cable Dept Bridgeport......Conn
Gulton Industries Inc Metuchen ....N J
Hitemp Div Simplex Wire & Cable Co Westbury ....N Y
ITT Wire & Cable Div Royal Products Pawtucket ....R I
Kanthal Corp Bethel ....Conn
Lewis Engineering Co Naugatuck ....Conn
Miller Electric Co Woonsocket ....R I
Pall Trinity Micro Corp Cortland ....N Y
Pyco Inc Penndel ....Pa
Pyro Electric Inc Walkerton ....Ind
Rainbow Wire Corp Madison ....N J
Revere Electronic Div Wallingford ....Conn
Rhode Island Insulated Wire Co Cranston ....R I
Saxton Products Inc Congers ....N Y
Simplex Wire & Cable Co Cambridge ....Mass
Standard Wire & Cable Co Los Angeles ....Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka ....Japan
Thermotronic Devices Conshohocken ....Pa
Western Insulated Wire A Teledyne Co Los Angeles ......Cal

WIRE, HIGH TEMPERATURE—CERAMIC INSULATED

ATLAS WIRE & CABLE CO. INC. YONKERS ....NY
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
Aero Research Instrument Dept American Standard
  Franklin Park Ill
Atlas Wire & Cable Co. Inc. Yonkers ....NY
Birnbach Co Inc Freeport ....N Y
Conax Corp Buffalo ....N Y
Consolidated Controls Corp El Segundo ....Cal
Consolidated Wire & Associated Corps Chicago Ill
Continental Wire & Cable York ....Pa
Control Products Corp Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div
  Newark ....N J
General Cable Corp New York ....N Y
Gulton Industries Inc Metuchen ....N J
Hitemp Div Simplex Wire & Cable Co Westbury ....N Y
Marlin Mfg Corp Cleveland ....Ohio
Omega Engineering Inc Stamford ....Conn
Pall Trinity Micro Corp Cortland ....N Y
Permaluster Inc Burbank ....Cal
Physical Sciences Corp Arcadia ....Cal
Pyco Inc Penndel ....Pa
Pyro Electric Inc Walkerton ....Ind
Rea Magnet Wire Co Inc Fort Wayne ....Ind
Secon Wire Div White Plains ....N Y
Standard Wire & Cable Co Los Angeles ....Cal
Thermotronic Devices Conshohocken ....Pa

WIRE, HIGH TEMPERATURE—GLASS INSULATED

ATLAS WIRE & CABLE CO. INC. YONKERS ....NY
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER ...N Y
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO
  ILL ....ADV PG 721
DABURN ELECTRONICS & CABLE CORP BRONX ....N Y
DAINICHI-NIPPON CABLES, LTD TOKYO ....JAPAN
DEARBORN WIRE & CABLE CO CHICAGO ILL
Anaconda Wire and Cable Co New York ....N Y
Atlas Wire & Cable Co. Inc. Yonkers ....NY
Bean Inc, William T Detroit ....Mich
Belden Mfg Co Chicago Ill
Birnbach Co Inc Freeport ....N Y
Brand-Rex Div Amer Enka Corp Willimantic ....Conn
Bridgeport Insulated Wire Co Bridgeport ....Conn
Carol Cable Co Pawtucket ....R I
Cerro Wire & Cable Div Cerro Corp New Haven, ...Conn
Chester Cable Co Div Tennessee Corp Chester ....N Y
Columbia Wire Products Co Chicago Ill
Consolidated Wire & Associated Corps Chicago Ill
Continental Wire & Cable York ....Pa
Daburn Electronics & Cable Corp Bronx ....N Y
Dainichi-Nippon Cables, Ltd Tokyo ....Japan
Dearborn Wire & Cable Co Chicago Ill
Dielectric Materials Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark ....N J
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div
  Newark ....N J
Essex Intl Inc, Magnet Wire Div Fort Wayne ....Ind
General Cable Corp New York ....N Y
General Electric Co Wire & Cable Dept Bridgeport......Conn
Gulton Industries Inc Metuchen ....N J
Haveg Industries Inc, Super Temp Wire Div Winooski .....Vt
Hitemp Div Simplex Wire & Cable Co Westbury ....N Y
Holyoke Wire & Cable Corp Holyoke ....Mass
IRC Div TRW Inc Los Angeles ....Cal
ITT Wire & Cable Div Royal Products Pawtucket ....R I

Lewis Engineering Co Naugatuck	Conn
Molecu-Wire Corp Farmingdale	N J
National Wire & Cable Corp Los Angeles	Cal
Omega Engineering Inc Stamford	Conn
Pall Trinity Micro Corp Cortland	N Y
Philadelphia Insulated Wire Co Moorestown	N J
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Pyco Inc Penndel	Pa
Pyro Electric Inc Walkerton	Ind
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Standard Wire & Cable Co Los Angeles	Cal
Suflex Corp Woodside	N Y
Tensolite Div Carlisle Corp Tarrytown	N Y
Thermotronic Devices Conshohocken	Pa
Varflex Corp Rome	N Y
Wirecraft Products Inc West Brookfield	Mass

WIRE, HIGH TEMPERATURE—MICA INSULATED

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Dearborn Wire & Cable Co Chicago	Ill
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Lewis Engineering Co Naugatuck	Conn
Pall Trinity Micro Corp Cortland	N Y
Revere Electronic Div Wallingford	Conn
Thermax Wire Corp Flushing	N Y

WIRE, HIGH TEMPERATURE—SILICONE INSULATED

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Anaconda Wire and Cable Co New York	N Y
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Calmont Wire & Cable Inc Santa Ana	Cal
Cerro Corp New York	NY
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Cicoil Corp Chatsworth	Cal
Columbia Wire Products Co Chicago	Ill
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark	N J
Essex Intl Inc, Magnet Wire Div Fort Wayne	Ind
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
ITT Wire & Cable Div Surprenant Products Clinton	Mass
ITT Wire & Cable Div Royal Products Pawtucket	R I
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lane Industries, Electronics Div North Hollywood	Cal
Lewis Engineering Co Naugatuck	Conn
Markel & Sons Inc L Frank Norristown	Pa
Molecu-Wire Corp Farmingdale	N J
National Wire & Cable Corp Los Angeles	Cal
Omega Engineering Inc Stamford	Conn
Pall Trinity Micro Corp Cortland	N Y
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Rhode Island Insulated Wire Co Cranston	R I
Secon Wire Div White Plains	N Y
Simplex Wire & Cable Co Cambridge	Mass
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Thermotronic Devices Conshohocken	Pa
Varflex Corp Rome	N Y
Viking Wire Co Inc Danbury	Conn
Western Insulated Wire A Teledyne Co Los Angeles	Cal

WIRE, HIGH VOLTAGE, INSULATED—SHIELDED

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Anaconda Wire and Cable Co New York	N Y
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Carol Cable Co West Glendale	Cal
Cerro Corp New York	NY
Cerro Sales Corp New York	NY
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Co-Operative Industries Inc Chester	N J
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Estes Engineering Co Gardena	Cal
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gore & Assoc Inc, W L Newark	Del
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Markel & Sons Inc L Frank Norristown	Pa
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Raychem Corp Menlo Park	Cal
Reynolds Metals Co Richmond	Va
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Tensolite Div Carlisle Corp Tarrytown	N Y
Thermax Wire Corp Flushing	N Y
Victor Electric Wire & Cable Corp West Warwick	R I

WIRE, HIGH VOLTAGE, INSULATED—UNSHIELDED

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Allied Electronics Corp Chicago	Ill
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Anaconda Wire and Cable Co New York	N Y
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Carol Cable Co West Glendale	Cal
Cerro Corp New York	NY
Cerro Sales Corp New York	NY
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Estes Engineering Co Gardena	Cal
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gore & Assoc Inc, W L Newark	Del
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
ITT Wire & Cable Div Royal Products Pawtucket	R I
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Markel & Sons Inc L Frank Norristown	Pa
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Raychem Corp Menlo Park	Cal
Reynolds Metals Co Richmond	Va
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Tensolite Div Carlisle Corp Tarrytown	N Y

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Aerial Wire
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Bare Copper Wire
Bonding Strap
Braided Copper
Broadcast Studio Cable
Bronze Wire
Bus Bar Wire
Cathode Ray Tube Cable
Coaxial Cable
Copper—Bare
Copper—Braided Tinned
Copper—Solid Tinned
Copper—Stranded Bare
Copper—Stranded Tinned
Cord—Power, Service
Cord Sets
Direct Burial Cable
Electrical Cordage
Heavy Formvar Magnet Wire
Hi-Fi Interconnecting Cable
Hi-Temp Wire
Hi Voltage Wire
Hook-up Wire:
  General Purpose
  Plastic
  Cotton
  Glass
  Nylon
Ignition Wire
Inter-Communication Cable
Juke Box Speaker Cable
Lamp Cord
Lead Covered Communication Cable
Lead Sheathed Cable
Magnet Wire
Microphone Cable—Plastic
Microphone Cable—Rubber
Military Specification:
  MIL-C-17C   MIL-C-3432B
  MIL-W-76B   MIL-W-5806A
  MIL-W-583B   MIL-C-7878
  MIL-W-3861   MIL-W-16878D
Multi-Conductor Cable—Shielded
Multi-Conductor Cable—Unshielded
Neoprene Cable
Phono Pick-up and Grid Wire—Shielded
Phono Pick-up and Grid Wire—Unshielded
Plain Enameled Magnet Wire
Plastic Hook-up Wire
Plastic Jacketed Cable, Shielded
Plastic Jacketed Cable, Unshielded
R. G. Coaxial Cables
Resistance Wire
Rubber Covered Cable, Shielded
Rubber Covered Cable, Unshielded
Teflon Wire and Cables
Telephone Wire and Cables
Television Wire and Cables
Test Lead Wire
Tinned Copper—Solid
Tinned Copper—Stranded
Transmission Line—Shielded
Transmission Line—Unshielded
U/L Lamp Cord—Plastic
U/L Lamp Cord—Rubber
U/L Service Cord—Neoprene
U/L Service Cord—Rubber
Underground—Plastic Covered Cable
Underground—Lead Covered Cable
Service Cord
Shielded Cable
Shielding—Braided Copper
Shielded—Hook-up Wire
Shielded Microphone Cable
Shielded Multi-Conductor Cable
Speaker Cable, Shielded
Speaker Cable, Unshielded
Spiral Wrapped Shielded Cable
S.R.H.V. Type (H.W.)
S.R.I.R. Type (M.W.)
Stereo Phono Pick-up Arm Cable, Shielded
Stereo Phono Pick-up Arm Cable, Unshielded

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CONSOLIDATED
WIRE AND
ASSOCIATED
CORPORATIONS

1639 So. Clinton Street
Chicago, Illinois 60616 • HA 1-4441

Triple A Specialty Co Chicago	Ill
Victor Electric Wire & Cable Corp West Warwick	R I

WIRE, HOOKUP, INSULATED—COTTON

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
Hudson Wire Co Ossining	N Y
IRC Div TRW Inc Los Angeles	Cal
JPM Co Lewisburg	Pa
Lenz Electric Mfg Co Chicago	Ill
Molecu-Wire Corp Farmingdale	N J
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Runzel Cord & Wire Co Chicago	Ill
Rye Industries, Inc Mamaroneck	N Y
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
Superior Insulated Wire Corp Stony Point	N Y
Technical Components Co Inc Chicago Ridge	Ill
Welco Electric Corp South Bend	Ind

WIRE, HOOKUP, INSULATED—COTTON OVER PLASTIC

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
Hudson Wire Co Ossining	N Y
IRC Div TRW Inc Los Angeles	Cal
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Phalo Corp Shrewsbury	Mass
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Runzel Cord & Wire Co Chicago	Ill
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
Superior Insulated Wire Corp Stony Point	N Y
Technical Components Co Inc Chicago Ridge	Ill
Vikoa Inc Hoboken	N J

WIRE, HOOKUP, INSULATED—GLASS OVER PLASTIC

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Aircraft & Electronic Specialties, Inc Plainfield	Ind
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
Hudson Wire Co Ossining	N Y
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turner's Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Mohawk Wire & Cable Corp Leominster	Mass
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Tensolite Div Carlisle Corp Tarrytown	N Y
Thermax Wire Corp Flushing	N Y

WIRE, HOOKUP, INSULATED—KEL-F (FLUOROCARBON)

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Adam Spence Corp Edison	NJ
Atlas Wire & Cable Co. Inc. Yonkers	NY
Calmont Wire & Cable Inc Santa Ana	Cal
Chemplast Inc Wayne	N J
Consolidated Wire & Associated Corps Chicago	Ill
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Rainbow Wire Corp Madison	N J
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
Standard Wire & Cable Co Los Angeles	Cal

WIRE, HOOKUP, INSULATED—NYLON

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Hallmark Standards Inc Mount Vernon	N Y
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Holyoke Wire & Cable Corp Holyoke	Mass
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lewis Engineering Co Naugatuck	Conn
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Whitmor Wire & Cable Corp North Hollywood	Cal

WIRE, HOOKUP, INSULATED—NYLON OVER PLASTIC

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Hallmark Standards Inc Mount Vernon	N Y
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Il
Thermal Wire & Electronics Corp South Hero	Vt
Whitmor Wire & Cable Corp North Hollywood	Cal

WIRE, HOOKUP, INSULATED—PLASTIC (GENERAL PURPOSE, BRAID, SOLID OR WRAP)

ATLAS WIRE & CABLE CO. INC. YONKERS	**N**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**IL**
DABURN ELECTRONICS & CABLE CORP BRONX N Y	**ADV PG 71**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPA**
DEARBORN WIRE & CABLE CO CHICAGO	**IL**
Alpha Wire Elizabeth	N
American Electric Cable Co Holyoke	Mas
Apex Wire & Cable Corp Hauppauge	N
Atlas Wire & Cable Co. Inc. Yonkers	N
Bean Inc, William T Detroit	Mic
Birnbach Co Inc Freeport	N
Brand-Rex Div Amer Enka Corp Willimantic	Con
Calmont Wire & Cable Inc Santa Ana	Ca
Carol Cable Co West Glendale	Ca
Cerro Wire & Cable Div Cerro Corp New Haven,	Con
Chester Cable Co Div Tennessee Corp Chester	N
Columbia Wire Products Co Chicago	I
Consolidated Products Corp Gardena	Ca
Consolidated Wire & Associated Corps Chicago	I
Continental Wire & Cable York	P

Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Eagle Electric Mfg Co Inc Long Island City	N Y
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gore & Assoc Inc, W L Newark	Del
Gulton Industries Inc Metuchen	N J
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Miller Electric Co Woonsocket	R I
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Raychem Corp Menlo Park	Cal
Rhode Island Insulated Wire Co Cranston	R I
Rockland Insulated Wire & Cable Co Haverstraw	N Y
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
Simplex Wire & Cable Co Cambridge	Mass
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Superior Continental Corp Hickory	N C
Superior Insulated Wire Corp Stony Point	N Y
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Tensolite Div Carlisle Corp Tarrytown	N Y
Thermax Wire Corp Flushing	N Y
Triple A Specialty Co Chicago	Ill
Victor Electric Wire & Cable Corp West Warwick	R I
Vikoa Inc Hoboken	N J
Westmoreland Plastics Co, Div Vulcan Inc. Latrobe	Pa
Whitmor Wire & Cable Corp North Hollywood	Cal
Workman Electronic Products Inc Sarasota	Fla

WIRE, HOOKUP, INSULATED—POLYETHYLENE

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
American Electric Cable Co Holyoke	Mass
Apex Wire & Cable Corp Hauppauge	N Y
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Carol Cable Co West Glendale	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Holyoke Wire & Cable Corp Holyoke	Mass
ITT Wire & Cable Div Surprenant Products Clinton	Mass
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Miller Electric Co Woonsocket	R I
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rome Cable Div Cyprus Mines Corp Rome	N Y
Rye Industries, Inc Mamaroneck	N Y
Saxton Products Inc Congers	N Y
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Superior Continental Corp Hickory	N C
Superior Insulated Wire Corp Stony Point	N Y
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Victor Electric Wire & Cable Corp West Warwick	R I
Whitmor Wire & Cable Corp North Hollywood	Cal

WIRE, HOOKUP, INSULATED—POLYVINYLCHLORIDE

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Allied Electronics Corp Chicago	Ill
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Apex Wire & Cable Corp Hauppauge	N Y
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
BeMan Mfg, Inc New Cumberland	Pa
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Cablerie Charbonnet Lyon 4	France
Calmont Wire & Cable Inc Santa Ana	Cal
Carol Cable Co West Glendale	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Holyoke Wire & Cable Corp Holyoke	Mass
ITT Wire & Cable Div Surprenant Products Clinton	Mass
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
K L A Labs Inc Detroit	Mich
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Miller Electric Co Woonsocket	R I
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rockland Insulated Wire & Cable Co Haverstraw	N Y
Rome Cable Div Cyprus Mines Corp Rome	N Y
Saxton Products Inc Congers	N Y
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Suflex Corp Woodside	N Y
Superior Continental Corp Hickory	N C
Superior Insulated Wire Corp Stony Point	N Y
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Victor Electric Wire & Cable Corp West Warwick	R I
Welco Electric Corp South Bend	Ind
Whitmor Wire & Cable Corp North Hollywood	Cal

WIRE, HOOKUP, INSULATED—SHIELDED

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Allied Electronics Corp Chicago	Ill
Alpha Wire Elizabeth	N J
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Bean Inc, William T Detroit	Mich
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Cablerie Charbonnet Lyon 4	France
Calmont Wire & Cable Inc Santa Ana	Cal
Carol Cable Co West Glendale	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Dielectric Materials Co Chicago	Ill
Electronized Chemicals Corp Burlington	Mass
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gore & Assoc Inc, W L Newark	Del
Gulton Industries Inc Metuchen	N J
Hallmark Standards Inc Mount Vernon	N Y
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Holyoke Wire & Cable Corp Holyoke	Mass
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
JPM Co Lewisburg	Pa
Judd Wire Div Electronized Chem Corp Turners Falls	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
K L A Labs Inc Detroit	Mich
Lenz Electric Mfg Co Chicago	Ill
Lewis Engineering Co Naugatuck	Conn
Markel & Sons Inc L Frank Norristown	Pa
Mohawk Wire & Cable Corp Leominster	Mass
National Wire & Cable Corp Los Angeles	Cal
Pace Wire & Cable Corp Oceanside	NY
Pacific Automation Products Inc Glendale	Cal
Pacific Electricord Co Gardena	Cal
Phalo Corp Shrewsbury	Mass
Philadelphia Insulated Wire Co Moorestown	N J
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Raychem Corp Menlo Park	Cal
Revere Electronic Div Wallingford	Conn
Rhode Island Insulated Wire Co Cranston	R I
Rockland Insulated Wire & Cable Co Haverstraw	N Y
Rome Cable Div Cyprus Mines Corp Rome	N Y
Runzel Cord & Wire Co Chicago	Ill
Rye Industries, Inc Mamaroneck	N Y
Saxton Products Inc Congers	N Y
South Bay Cable Corp Gardena	Cal
Standard Wire & Cable Co Los Angeles	Cal
Superior Continental Corp Hickory	N C
Superior Insulated Wire Corp Stony Point	N Y
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Tensolite Div Carlisle Corp Tarrytown	N Y
Thermal Wire & Electronics Corp South Hero	Vt
Thermax Wire Corp Flushing	N Y
Victor Electric Wire & Cable Corp West Warwick	R I
Whitmor Wire & Cable Corp North Hollywood	Cal
Wirecraft Products Inc West Brookfield	Mass

WIRE, HOOKUP, INSULATED—SILICONE RUBBER

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**

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MIL-W-7139, MIL-W-8777, MIL-C-25038

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ATLAS WIRE & CABLE COMPANY INC.
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Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Calmont Wire & Cable Inc Santa Ana	Cal
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Columbia Wire Products Co Chicago	Ill
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
Gulton Industries Inc Metuchen	N J
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Holyoke Wire & Cable Corp Holyoke	Mass
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Kaiser Aluminum & Chem Corp Electrical Prods Div Oakland	Cal
Lewis Engineering Co Naugatuck	Conn
Markel & Sons Inc L Frank Norristown	Pa
National Wire & Cable Corp Los Angeles	Cal
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Rhode Island Insulated Wire Co Cranston	R I
Rye Industries, Inc Mamaroneck	N Y
Saxton Products Inc Congers	N Y
Standard Wire & Cable Co Los Angeles	Cal
Suflex Corp Woodside	N Y
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill

WIRE, HOOKUP, INSULATED—SILK

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
American Electric Cable Co Holyoke	Mass
Atlas Wire & Cable Co. Inc. Yonkers	NY
Birnbach Co Inc Freeport	N Y
Consolidated Wire & Associated Corps Chicago	Ill
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
General Cable Corp New York	N Y
Hudson Wire Co Ossining	N Y
IRC Div TRW Inc Los Angeles	Cal
Plastoid Corp Long Island City	N Y
Rainbow Wire Corp Madison	N J
Rhode Island Insulated Wire Co Cranston	R I
Saxton Products Inc Congers	N Y

WIRE, HOOKUP, INSULATED—TEFLON (FLUOROCARBON)

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
ATLAS WIRE & CABLE CO. INC. YONKERS NY	**ADV PG 723**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Adam Spence Corp Edison	NJ
Allied Electronics Corp Chicago	Ill
Alpha Wire Elizabeth	N J
Atlas Wire & Cable Co. Inc. Yonkers	NY
Bean Inc, William T Detroit	Mich
Belden Mfg Co Chicago	Ill
BeMan Mfg, Inc New Cumberland	Pa
Birnbach Co Inc Freeport	N Y
Brand-Rex Div Amer Enka Corp Willimantic	Conn
Calmont Wire & Cable Inc Santa Ana	Cal
Cerro Corp New York	NY
Cerro Sales Corp New York	NY
Cerro Wire & Cable Div Cerro Corp New Haven,	Conn
Chemplast Inc Wayne	N J
Chester Cable Co Div Tennessee Corp Chester	N Y
Cimco Wire & Cable Co Allendale	N J
Columbia Wire Products Co Chicago	Ill
Consolidated Products Corp Gardena	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Continental Wire & Cable York	Pa
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
Gore & Assoc Inc, W L Newark	Del
Harbour Industries Inc Shelburne	Vt
Haveg Industries Inc, Super Temp Wire Div Winooski	Vt
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Holyoke Wire & Cable Corp Holyoke	Mass
Inso Electronic Products Inc Nutley	N J
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Lewis Engineering Co Naugatuck	Conn
Markel & Sons Inc L Frank Norristown	Pa
National Wire & Cable Corp Los Angeles	Cal
Philadelphia Insulated Wire Co Moorestown	N J
Plastoid Corp Long Island City	N Y
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Rainbow Wire Corp Madison	N J
Revere Electronic Div Wallingford	Conn
Saxton Products Inc Congers	N Y
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Technical Components Co Inc Chicago Ridge	Ill
Tensolite Div Carlisle Corp Tarrytown	N Y
Thermal Wire & Electronics Corp South Hero	Vt
Thermax Wire Corp Flushing	N Y
Wirecraft Products Inc West Brookfield	Mass

WIRE—INDIUM

DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Alpha Metals Inc Jersey City	NJ
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
Cerro Corp New York	NY
City Chemical Corp New York	N Y
Cominco American Inc Electronic Matls Div Spokane	Wash
Cramco Solder Alloys Scarborough	Ont
Dearborn Wire & Cable Co Chicago	Ill
Indium Corp of America Utica	N Y
Koch Light Labs Ltd Colnbrook, Bucks	England
Semi-Alloys Inc Mt Vernon	N Y
Semi-Elements Inc Saxonburg	Pa
United Mineral & Chemical Corp New York	N Y
Var-Lac-Oid Chemical Co Elizabeth	N J

WIRELESS MICROPHONES

***See* Microphones—Wireless**

WIRE-LINE CARRIER SYSTEMS

***See* Communication Systems**

WIRE—LINE-CORD

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CHESTER CABLE CO DIV TENNESSEE CORP CHESTER	**N Y**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Allied Electronics Corp Chicago	Ill
Anaconda Wire and Cable Co New York	N Y
Atlas Wire & Cable Co. Inc. Yonkers	NY
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Cable Electric Products Inc Providence	R I
Carol Cable Co Pawtucket	R I
Carol Cable Co West Glendale	Cal
Cerro Corp New York	NY
Cerro Sales Corp New York	NY
Chester Cable Co Div Tennessee Corp Chester	N Y
Columbia Wire Products Co Chicago	Ill
Consolidated Wire & Associated Corps Chicago	Ill
Cordex, Inc Mount Eaton	Ohio
Daburn Electronics & Cable Corp Bronx	N Y
Dearborn Wire & Cable Co Chicago	Ill
Eagle Electric Mfg Co Inc Long Island City	N Y
General Cable Corp New York	N Y
General Electric Co Wire & Cable Dept Bridgeport	Conn
IRC Div TRW Inc Los Angeles	Cal
ITT Wire & Cable Div Surprenant Products Clinton	Mass
ITT Wire & Cable Div Royal Products Pawtucket	R I
Miller Electric Co Woonsocket	R I
Pacific Electricord Co Gardena	Cal
Paraplegics Mfg Co Inc Bensenville	Ill
Phalo Corp Shrewsbury	Mass
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Plastoid Corp Long Island City	N Y
Plessey Co Ltd Ilford Essex	England
Port Plastics Inc Montebello	Cal
Prestolite Wire & Cable Div Eltra Corp Port Huron	Mich
Saxton Products Inc Congers	N Y
Superior Insulated Wire Corp Stony Point	N Y
Victor Electric Wire & Cable Corp West Warwick	R I
Western Insulated Wire A Teledyne Co Los Angeles	Cal

WIRE—LITZ

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Atlas Wire & Cable Co. Inc. Yonkers	NY
Barker Sales Co Ridgefield	NJ
Belden Mfg Co Chicago	Ill
Bram Metallurgical Chemical Co Philadelphia	Pa
Bridgeport Insulated Wire Co Bridgeport	Conn
Consolidated Wire & Associated Corps Chicago	Ill
Dearborn Wire & Cable Co Chicago	Ill
Gordon Co Claud S Richmond	Ill
Hudson Wire Co Ossining	N Y
Montgomery Co Windsor Locks	Conn
Pacific Electric Motor Co Oakland	Cal
Saxton Products Inc Congers	N Y
Slepian & Co, Arthur Bridgeport	Conn
Standard Wire & Cable Co Los Angeles	Cal

WIRE, MAGNET—COTTON ENAMELED

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Anaconda Wire and Cable Co New York	N Y
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
Bridgeport Insulated Wire Co Bridgeport	Conn
Consolidated Wire & Associated Corps Chicago	Ill
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne	Ind
General Cable Corp New York	N Y
Gordon Co Claud S Richmond	Ill
Hudson Wire Co Ossining	N Y
Molecu-Wire Corp Farmingdale	N J
Phelps Dodge Magnet Wire Corp Fort Wayne	Ind
Rainbow Wire Corp Madison	N J
Saxton Products Inc Congers	N Y
Slepian & Co, Arthur Bridgeport	Conn

WIRE, MAGNET—DACRON, POLYESTER

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
SIEMENS AMERICA INC NEW YORK	**N Y**
Anaconda Wire and Cable Co New York	N Y
Barker Sales Co Ridgefield	NJ
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
Bridgeport Insulated Wire Co Bridgeport	Conn
Consolidated Wire & Associated Corps Chicago	Ill
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne	Ind
General Cable Corp New York	N Y
Gordon Co Claud S Richmond	Ill
Molecu-Wire Corp Farmingdale	N J
Phelps Dodge Magnet Wire Corp Fort Wayne	Ind
Rainbow Wire Corp Madison	N J
Saxton Products Inc Congers	N Y
Siemens America Inc New York	N Y
Slepian & Co, Arthur Bridgeport	Conn
Viking Wire Co Inc Danbury	Conn

WIRE, MAGNET—ENAMELED

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
SIEMENS AMERICA INC NEW YORK	**N Y**
Allied Electronics Corp Chicago	Ill
Anaconda Wire and Cable Co New York	N Y
Barker Sales Co Ridgefield	NJ
Belden Mfg Co Chicago	Ill
Birnbach Co Inc Freeport	N Y
California Fine Wire Co Grover City	Cal
Consolidated Wire & Associated Corps Chicago	Ill
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japan
Dearborn Wire & Cable Co Chicago	Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne	Ind
General Cable Corp New York	N Y
Hitemp Div Simplex Wire & Cable Co Westbury	N Y
Hudson Wire Co Ossining	N Y
Molecu-Wire Corp Farmingdale	N J
Phalo Corp Shrewsbury	Mass
Phelps Dodge Magnet Wire Corp Fort Wayne	Ind
Philips Elmet Corp Lewiston	Me
Rainbow Wire Corp Madison	N J
Rea Magnet Wire Co Inc Fort Wayne	Ind
Saxton Products Inc Congers	N Y
Schwalm Electronics Inc Highland Park	Ill
Siemens America Inc New York	N Y
Slepian & Co, Arthur Bridgeport	Conn
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Viking Wire Co Inc Danbury	Conn

WIRE, MAGNET—FORMVAR

ALLIED ELECTRONICS CORP CHICAGO	**ILL**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPAN**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Allied Electronics Corp Chicago	Il
Anaconda Wire and Cable Co New York	N Y
Barker Sales Co Ridgefield	NJ
Belden Mfg Co Chicago	Il
Birnbach Co Inc Freeport	N Y
Bram Metallurgical Chemical Co Philadelphia	Pa
Bridgeport Insulated Wire Co Bridgeport	Conr
California Fine Wire Co Grover City	Ca
Consolidated Wire & Associated Corps Chicago	Il
Daburn Electronics & Cable Corp Bronx	N Y
Dainichi-Nippon Cables, Ltd Tokyo	Japar
Dearborn Wire & Cable Co Chicago	Il
Essex Intl Inc, Magnet Wire Div Fort Wayne	In
General Cable Corp New York	N Y
Hudson Wire Co Ossining	N Y
Molecu-Wire Corp Farmingdale	N
Phalo Corp Shrewsbury	Mas
Phelps Dodge Magnet Wire Corp Fort Wayne	In
Philips Elmet Corp Lewiston	M
Rainbow Wire Corp Madison	N
Rea Magnet Wire Co Inc Fort Wayne	In
Saxton Products Inc Congers	N Y
Schwalm Electronics Inc Highland Park	Il
Slepian & Co, Arthur Bridgeport	Con
United Mineral & Chemical Corp New York	N Y
Viking Wire Co Inc Danbury	Con

WIRE, MAGNET—GLASS REINFORCED

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**IL**
DAINICHI-NIPPON CABLES, LTD TOKYO	**JAPA**
DEARBORN WIRE & CABLE CO CHICAGO	**IL**
Birnbach Co Inc Freeport	N
Consolidated Wire & Associated Corps Chicago	I
Dainichi-Nippon Cables, Ltd Tokyo	Japa
Dearborn Wire & Cable Co Chicago	I
Essex Intl Inc, Magnet Wire Div Fort Wayne	In
General Cable Corp New York	N
Gordon Co Claud S Richmond	I
Molecu-Wire Corp Farmingdale	N

Phelps Dodge Magnet Wire Corp Fort Wayne .... Ind
Rainbow Wire Corp Madison .... N J

WIRE, MAGNET—NIOBIUM- TIN

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
SIEMENS AMERICA INC NEW YORK .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg
Corp Carle Place .... N Y
California Fine Wire Co Grover City .... Cal
Consolidated Wire & Associated Corps Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Kawecki Berylco Industries Inc New York .... N Y
Mackay Inc, A D New York .... N Y
Siemens America Inc New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J

WIRE, MAGNET—NYLON

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DAINICHI-NIPPON CABLES, LTD TOKYO .... JAPAN
DEARBORN WIRE & CABLE CO CHICAGO ILL
Anaconda Wire and Cable Co New York .... N Y
Barker Sales Co Ridgefield .... NJ
Belden Mfg Co Chicago Ill
Birnbach Co Inc Freeport .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
Bridgeport Insulated Wire Co Bridgeport .... Conn
California Fine Wire Co Grover City .... Cal
Consolidated Wire & Associated Corps Chicago Ill
Dainichi-Nippon Cables, Ltd Tokyo .... Japan
Dearborn Wire & Cable Co Chicago Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne .... Ind
General Cable Corp New York .... N Y
Gordon Co Claud S Richmond Ill
Hudson Wire Co Ossining .... N Y
Molecu-Wire Corp Farmingdale .... N J
Phalo Corp Shrewsbury .... Mass
Rainbow Wire Corp Madison .... N J
Rea Magnet Wire Co Inc Fort Wayne .... Ind
Saxton Products Inc Congers .... N Y
Schwalm Electronics Inc Highland Park Ill
Slepian & Co, Arthur Bridgeport .... Conn
Viking Wire Co Inc Danbury .... Conn

WIRE, MAGNET—SELF BONDING

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
SIEMENS AMERICA INC NEW YORK .... N Y
Barker Sales Co Ridgefield .... NJ
Belden Mfg Co Chicago Ill
Birnbach Co Inc Freeport .... N Y
Bridgeport Insulated Wire Co Bridgeport .... Conn
California Fine Wire Co Grover City .... Cal
Consolidated Wire & Associated Corps Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne .... Ind
General Cable Corp New York .... N Y
Hudson Wire Co Ossining .... N Y
Molecu-Wire Corp Farmingdale .... N J
Phelon Co Inc, R E East Longmeadow .... Mass
Phelps Dodge Magnet Wire Corp Fort Wayne .... Ind
Rea Magnet Wire Co Inc Fort Wayne .... Ind
Schwalm Electronics Inc Highland Park Ill
Siemens America Inc New York .... N Y
Slepian & Co, Arthur Bridgeport .... Conn
Tatsuta Electric Wire & Cable Co Ltd Osaka .... Japan
United Mineral & Chemical Corp New York .... N Y
Viking Wire Co Inc Danbury .... Conn

WIRE, MAGNET—SOLDERS-STRIPPABLE

ALLIED ELECTRONICS CORP CHICAGO ILL
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
DEARBORN WIRE & CABLE CO CHICAGO ILL
SIEMENS AMERICA INC NEW YORK .... N Y
Allied Electronics Corp Chicago Ill
Barker Sales Co Ridgefield .... NJ
Birnbach Co Inc Freeport .... N Y
Bridgeport Insulated Wire Co Bridgeport .... Conn
California Fine Wire Co Grover City .... Cal
Consolidated Wire & Associated Corps Chicago Ill
Daburn Electronics & Cable Corp Bronx .... N Y
Dearborn Wire & Cable Co Chicago Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne .... Ind
General Cable Corp New York .... N Y
Hudson Wire Co Ossining .... N Y
Phalo Corp Shrewsbury .... Mass
Phelon Co Inc, R E East Longmeadow .... Mass
Phelps Dodge Magnet Wire Corp Fort Wayne .... Ind
Philips Elmet Corp Lewiston .... Me
Rea Magnet Wire Co Inc Fort Wayne .... Ind
Siemens America Inc New York .... N Y
Slepian & Co, Arthur Bridgeport .... Conn
United Mineral & Chemical Corp New York .... N Y
Viking Wire Co Inc Danbury .... Conn

WIRE, MAGNET—SQUARE OR RECTANGULAR

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DAINICHI-NIPPON CABLES, LTD TOKYO .... JAPAN
DEARBORN WIRE & CABLE CO CHICAGO ILL
Anaconda Wire and Cable Co New York .... N Y

A size, a material and an adhesive to match the job. Exactly!

BRADY WIRE MARKERS

No compromise—you get the right marker for wires size 28 and smaller to 1-inch O.D. cables. And a choice of materials for oil resistance, elevated temperatures, abrasion resistance, baking cycles. Plus a Brady job-engineered adhesive that sticks tight at a touch and stays stuck.

More, Brady has an application technique for high speed production marking, bench applications, portable on-the-job identification. Whatever you need to mark wires and cables, you'll find it in Brady's wide and versatile line. For application data, ordering information and prices, write for Bulletin No. 100-B.

11223

W. H. BRADY CO., 768 W. Glendale Ave., Milw., Wis. 53201
EST. 1914
Manufacturers of Quality Pressure-Sensitive Industrial Tape Products; Self-Bonding Nameplates; Automatic Machines for Dispensing Labels, Nameplates, Masks and Tape

a nameplate should do more than identify your product.

It should reflect the quality and pride you put into it. A distinctive nameplate adds eye-appeal and directly influences sales. That's why it should be an integral part of your product design.

As nameplate specialists, Brady can help you meet mechanical, application and aesthetic objectives. First, with a wide choice of materials. Second, with job-engineered adhesives that stick tight under all environmental conditions. Third, with attractive metallic, embossed or full color finishes. More, Brady self-bonding nameplates apply fast and stick tight at a touch—save time and costs.

Write for free testing samples and catalog.

W. H. BRADY CO.
EST. 1914
768 West Glendale Ave., Milwaukee, Wis. 53201
Manufacturers of Quality Pressure-Sensitive Industrial Tape Products; Self-Bonding Nameplates; Automatic Machines for Dispensing Labels, Nameplates, Masks and Tape

25263

Belden Mfg Co Chicago Ill
Birnbach Co Inc Freeport .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
California Fine Wire Co Grover City .... Cal
Consolidated Reactive Metals Inc Mamaroneck .... N Y
Consolidated Wire & Associated Corps Chicago Ill
Dainichi-Nippon Cables, Ltd Tokyo .... Japan
Dearborn Wire & Cable Co Chicago Ill
Essex Intl Inc, Magnet Wire Div Fort Wayne .... Ind
General Cable Corp New York .... N Y
Phelps Dodge Magnet Wire Corp Fort Wayne .... Ind
Prestolite Wire & Cable Div Eltra Corp Port Huron .... Mich
Rainbow Wire Corp Madison .... N J
Steel Heddle Mfg Co Philadelphia .... Pa
Tatsuta Electric Wire & Cable Co Ltd Osaka .... Japan

WIRE, MAGNET—TEFLON

ATLAS WIRE & CABLE CO. INC. YONKERS .... NY
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DABURN ELECTRONICS & CABLE CORP BRONX .... N Y
DAINICHI-NIPPON CABLES, LTD TOKYO .... JAPAN
DEARBORN WIRE & CABLE CO CHICAGO ILL
Anaconda Wire and Cable Co New York .... N Y
Atlas Wire & Cable Co. Inc. Yonkers .... NY
Birnbach Co Inc Freeport .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
Consolidated Wire & Associated Corps Chicago Ill
Daburn Electronics & Cable Corp Bronx .... N Y
Dainichi-Nippon Cables, Ltd Tokyo .... Japan
Dearborn Wire & Cable Co Chicago Ill
General Cable Corp New York .... N Y
Gordon Co Claud S Richmond Ill
Gore & Assoc Inc, W L Newark .... Del
Haveg Industries Inc, Super Temp Wire Div Winooski .... Vt
Hitemp Div Simplex Wire & Cable Co Westbury .... N Y
Rainbow Wire Corp Madison .... N J
Thermal Wire & Electronics Corp South Hero .... Vt

WIRE—MAGNETIC RECORDING

DEARBORN WIRE & CABLE CO CHICAGO ILL
Dearborn Wire & Cable Co Chicago Ill
Molecu-Wire Corp Farmingdale .... N J

WIRE MARKERS

BRADY CO, W H MILWAUKEE WIS .... ADV PG 725
KCC SHOKAI LTD NADA-KU KOBE .... JAPAN
Actioncraft Products Inc Port Washington .... N Y
Brady Co, W H Milwaukee .... Wis
Conrac Corp New York .... N Y
Formulabs Industrial Inks Inc Escondido .... Cal
KCC Shokai Ltd Nada-ku Kobe .... Japan
Manger Electric Co Inc Stamford .... Conn
Wharton Unitools Moosup .... Conn

WIRE-MARKING MACHINES

***See* Machines—Wire-Marking**

WIRE MARKING SERVICES

ATLAS WIRE & CABLE CO. INC. YONKERS .... NY
DEARBORN WIRE & CABLE CO CHICAGO ILL
Ackerman Gould Co, Inc Oceanside .... N Y
Acromark Co Berkeley Heights .... N J
Actioncraft Products Inc Port Washington .... N Y
Alpha Wire Elizabeth .... N J
Atlas Wire & Cable Co. Inc. Yonkers .... NY
BeMan Mfg, Inc New Cumberland .... Pa
Birnbach Co Inc Freeport .... N Y
Carol Electronics Div Weeco Inc Martinsburg .... W Va
Dearborn Wire & Cable Co Chicago Ill
DuCom Inc Salem .... Mass
ECP Corp Cleveland .... Ohio
Executive Electronics Inc. Denver .... Colo
Flow Electronic Cable Corp Cambridge .... Mass
General Plastics Corp Bloomfield .... N J
Gillies Co Inc, Duncan M West Boylston .... Mass
Ideal-Hellerman Canada Ltd Ajax .... Ontario
Jetronics Co Div J L Hall Co Inc Redwood City .... Cal
Kingsley Machine Co Hollywood .... Cal
Manger Electric Co Inc Stamford .... Conn
Mercury Electronics Corp York .... Pa
Omega Leads Inc Culver City .... Cal
Panduit Corp Tinley Park Ill
Paraplegics Mfg Co Inc Bensenville Ill
Seton Name Plate Corp New Haven .... Conn
Stafford Mfg Co Inc Brooklyn .... N Y
Stratocon Corp Newark .... N J
Swift & Sons Inc, M Hartford .... Conn
Swiss Industries Costa Mesa .... Cal
Teletronics Labs Inc El Segundo .... Cal
Tyton Corp of America Metuchen .... N J
Welco Electric Corp South Bend .... Ind
Western Int'l Inc., Connector Div. Yonkers .... NY
Wirecraft Products Inc West Brookfield .... Mass

WIRE-MEASURING MACHINES

***See* Machines—Wire-Processing**

WIRE PARTS—FORMED

ART WIRE & STAMPING CO NEWARK N J .... ADV PG 727
DEARBORN WIRE & CABLE CO CHICAGO ILL
FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS CEDAR GROVE .... N J
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Accurate Spring Mfg Co Div United Greenfield Corp River Grove Ill
Acme Model Engineering Co Ridgefield .... N J
Alpha Metals Inc Jersey City .... NJ
Anchor Alloys Inc Brooklyn .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Art Wire & Stamping Co Newark .... N J
Associated Engineering & Mfg Corp Glen Ridge .... N J
Auto-Swage Products, Inc Shelton .... Conn
Bead Chain Mfg Co Bridgeport .... Conn
BeMan Mfg, Inc New Cumberland .... Pa
Columbia Wire Products Co Chicago Ill
Connor Spring Mfg Co Div Sloss & Britain San Jose .... Cal
Dearborn Wire & Cable Co Chicago Ill
Demby Rod & Fastener Mfg Inc Berea .... Ohio
Dudek & Bock Spring Mfg Co Chicago Ill
Electronic Parts Mfg Co Inc Union City .... N J
Emporium Specialties Co Inc Chagrin Falls .... Ohio
Emtec Inc, Empire Spring Div Elyria .... Ohio
Erie Artisan Corp Cleveland .... Ohio
Federal Tool Engineering Co Div Arvin Inds Cedar Grove .... N J
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
General Findings Co Industrial Div Attleboro .... Mass
Haydu Products Inc Opa Locka .... Fla
Helix Spring Corp Long Island City .... NY
Hunter Spring Div Ametek Inc Hatfield .... Pa
Indium Corp of America Utica .... N Y
Industrial Winding Machinery Corp River Edge .... N J
Kentucky Electronics Inc Owensboro .... Ky
King Laboratories Inc Syracuse .... N Y
Manger Electric Co Inc Stamford .... Conn
Micro Contacts, Inc Hicksville .... N Y
Microdot Inc. Troy .... Mich
O'Hara Metal Products Co San Francisco .... Cal
Paraplegics Mfg Co Inc Bensenville Ill
Parker Metal Goods Co Worcester .... Mass
Pix Mfg Co Murray Hill .... N J
Premium Allied Tool Inc Owensboro .... Ky
Radio Corp of America, Electronic Components Harrison .... N J
Reliable Spring & Wire Forms Co Cleveland .... Ohio
Ring, Inc, Bernard New York .... N Y
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Sylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
Sylvania Electric Prods Inc, Parts Div Warren .... Pa
Torrington Co, Specialties Div Torrington .... Conn
United American Metals Div Brooklyn .... N Y
Upson Tools Inc Rochester .... N Y
Victor Metal Products Corp Harrisonburg .... Va
Westinghouse Electric Corp, Lamp Div Bloomfield .... N J
Wilkinson Co Westlake Village .... Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo . N Y
Wire Cloth Manufacturers Inc Parsippany .... N J
Workman Electronic Products Inc Sarasota .... Fla
Zims Mfg Co Irvington .... N J

WIRE-PROCESSING MACHINES

***See* Machines—Wire-Processing**

WIRE RECORDERS

***See* Recorders—Wire**

WIRE REELS—RETRACTILE

***See* Reels**

WIRE, RESISTANCE—FILAMENT & HEATER

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
SUMITOMO SPECIAL METALS CO LTD OSAKA .... JAPAN
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Associated Engineering & Mfg Corp Glen Ridge .... N J
Brookfield Wire Co Inc Brookfield .... Mass
California Fine Wire Co Grover City .... Cal
Cerro Corp New York .... NY
Cerro Sales Corp New York .... NY
Columbia Wire Products Co Chicago Ill
Consolidated Wire & Associated Corps Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
General Electric Co Lamp Metals & Components Dept Cleveland .... Ohio
Hoskins Mfg Co Detroit .... Mich
Hudson Wire Co Ossining .... N Y
Jelliff Corp, C O Southport .... Conn
Kanthal Corp Bethel .... Conn
Matthey Bishop Inc Malvern .... Pa
Molecu-Wire Corp Farmingdale .... N J
Montgomery Co Windsor Locks .... Conn
Nesor Alloy Corp West Caldwell .... N J
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Secon Wire Div White Plains .... N Y
Spectra-Mat Inc Watsonville .... Cal
Sumitomo Special Metals Co Ltd Osaka .... Japan
Sylvania Elec Prods Inc, Chem & Met Div Towanda .... Pa
Thermax Wire Corp Flushing .... N Y
Wilkinson Co Westlake Village .... Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo . N Y

WIRE, RESISTANCE—FUSE

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
California Fine Wire Co Grover City .... Cal
Consolidated Wire & Associated Corps Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Driver-Harris Co Harrison .... N J
IRC Div TRW Inc Los Angeles .... Cal
Jelliff Corp, C O Southport .... Conn
Kanthal Corp Bethel .... Conn
Molecu-Wire Corp Farmingdale .... N J
Montgomery Co Windsor Locks .... Conn
National Standard Co Niles .... Mich
Nesor Alloy Corp West Caldwell .... N J
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Secon Wire Div White Plains .... N Y
Workman Electronic Products Inc Sarasota .... Fla

WIRE, RESISTANCE—POTENTIOMETER (PRECISION)

DEARBORN WIRE & CABLE CO CHICAGO ILL
NEY CO, J M BLOOMFIELD .... CONN
SUMITOMO SPECIAL METALS CO LTD OSAKA .... JAPAN
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
California Fine Wire Co Grover City .... Cal
Canadian Research Institute Don Mills .... Ont
Consolidated Reactive Metals Inc Mamaroneck .... N Y
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Driver-Harris Co Harrison .... N J
Ferranti, Ltd Lancashire .... England
Jelliff Corp, C O Southport .... Conn
Kanthal Corp Bethel .... Conn
Molecu-Wire Corp Farmingdale .... N J
Nesor Alloy Corp West Caldwell .... N J
Ney Co, J M Bloomfield .... Conn
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Secon Wire Div White Plains .... N Y
Sumitomo Special Metals Co Ltd Osaka .... Japan
Williams Gold Refining Co Inc Precious Metals Div Buffalo . N Y

WIRE, RESISTANCE—RESISTOR, BARE

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
California Fine Wire Co Grover City .... Cal
Canadian Research Institute Don Mills .... Ont
Carpenter Technology Corp Reading .... Pa
Consolidated Wire & Associated Corps Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Driver-Harris Co Harrison .... N J
Hoskins Mfg Co Detroit .... Mich
Jelliff Corp, C O Southport .... Conn
Kanthal Corp Bethel .... Conn
Kentucky Electronics Inc Owensboro .... Ky
Matthey Bishop Inc Malvern .... Pa
Molecu-Wire Corp Farmingdale .... N J
Montgomery Co Windsor Locks .... Conn
Nesor Alloy Corp West Caldwell .... N J
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Precision Resistor Co Inc Hillside .... N J
Wilkinson Co Westlake Village .... Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo . N Y

WIRE, RESISTANCE—RESISTOR, INSULATED

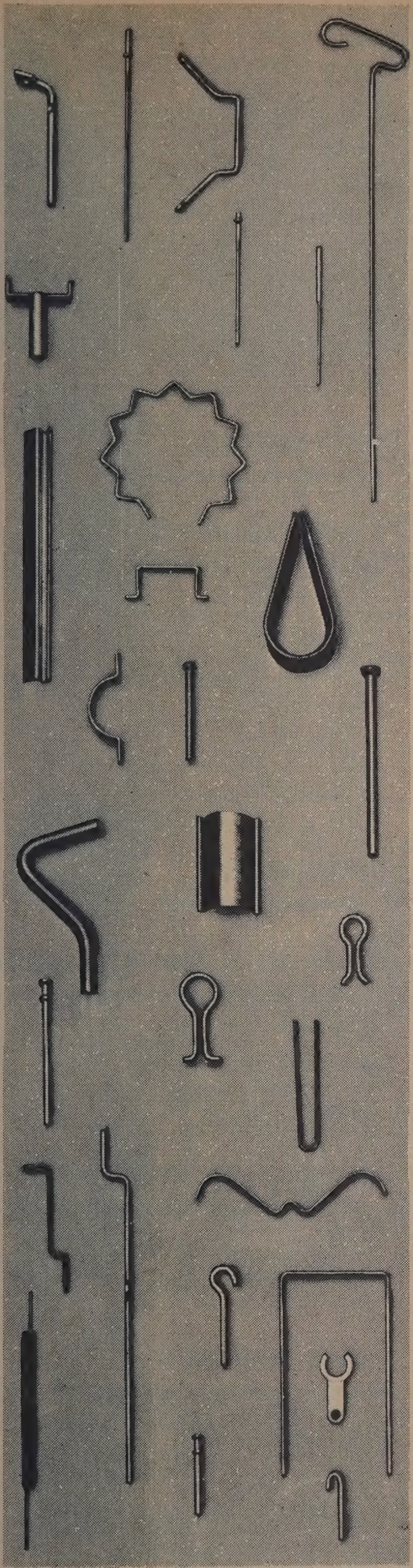
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO . ILL
DEARBORN WIRE & CABLE CO CHICAGO ILL
California Fine Wire Co Grover City .... Cal
Consolidated Wire & Associated Corps Chicago Ill
Dearborn Wire & Cable Co Chicago Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark .... N J
Holyoke Wire & Cable Corp Holyoke .... Mass
Jelliff Corp, C O Southport .... Conn
Kanthal Corp Bethel .... Conn
Lewis Engineering Co Naugatuck .... Conn
Molecu-Wire Corp Farmingdale .... N J
Phalo Corp Shrewsbury .... Mass
Porter H K Co, Fabricated Metals Div Pittsburgh .... Pa
Precision Resistor Co Inc Hillside .... N J
Tensolite Div Carlisle Corp Tarrytown .... N Y
Thermax Wire Corp Flushing .... N Y

WIRE STRIPPERS

***See* Strippers—Wire**

WIRE—SUPERCONDUCTIVE

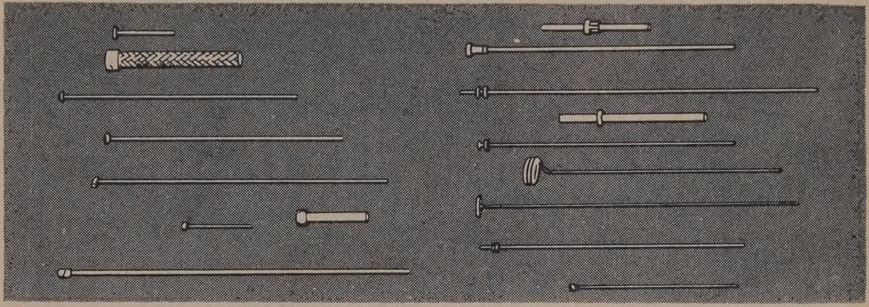
DEARBORN WIRE & CABLE CO CHICAGO ILL
Active Alloys, Inc Elizabeth .... N J
California Fine Wire Co Grover City .... Cal
Dearborn Wire & Cable Co Chicago Ill



Get more precise wire forms and small metal stampings . . . more economically.

ARTWIRE KNOWS HOW!

Art Wire's automatic equipment is geared for high-speed production, precision and economy . . . three big reasons why we can produce wire forms and small metal stampings at big savings to you.

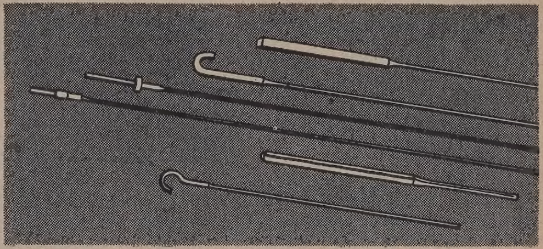


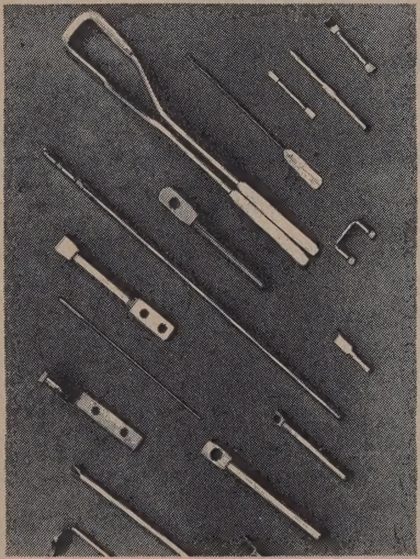
TERMINAL LEADS

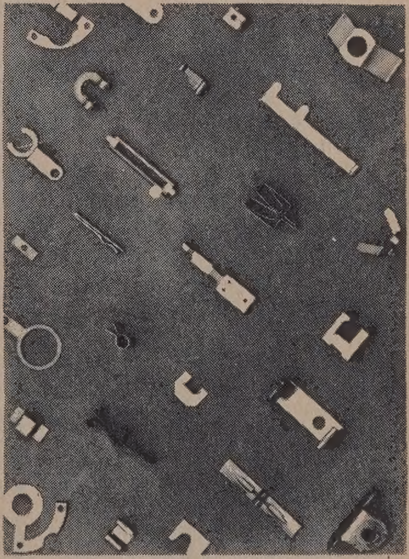
For use in resistors, transistors, relays, etc. Wire diameters from .008 to .125. Perfectly concentric heads in diameters up to 4 times the wire diameter.

SWAGED LEADS

One-piece construction eliminates welded joint failures and resistance, increases rating output. In diameters from .015 to .080, necked down to as much as 50% original diameter.







WIRE FORMS

Shape and design limited only by the imagination. Available in round wire from .005 to .125 diameter, flat stock and ribbon.

FLATTENED, NOTCHED AND PIERCED PINS

In great variety to meet all needs for improved sealing, connections, etc., in wire as fine as .015 to .125. Rounded or square cut ends. Shaped to your specifications.

SMALL METAL STAMPINGS

Produced to specifications from all the basic metals and precious metals. Processes include stamping, blanking, forming and piercing.

Send blueprints or sample for estimate or write for catalog.

ART WIRE & STAMPING COMPANY 18-A Boyden Place, Newark, New Jersey 07102

ITT Wire & Cable Div Surprenant Products Clinton	Mass
Kawecki Berylco Industries Inc New York	N Y
Laboratoires De Marcoussis Ctr De Rsch De La CGE 91 Marcoussis	France
Norton Co Supercon Div Natick	Mass
Semi-Alloys Inc Mt Vernon	N Y
Thermax Wire Corp Flushing	N Y

WIRE—THERMOCOUPLE

CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
WILLIAMS GOLD REFINING CO INC PRECIOUS METALS DIV BUFFALO	**N Y**
Advanced Dynamics Inc Div Alco Std Corp Cleveland	Ohio
Advanced Products Co North Haven	Conn
Aero Research Instrument Dept American Standard Franklin Park	Ill
Alnor Instrument Co Div Ill Testing Labs Chicago	Ill
Amperex Electronic Corp, Professional Tube Div Hicksville	NY
Bristol Div, American Chain & Cable Co Waterbury	Conn
California Fine Wire Co Grover City	Cal
C M Mfg Co Bloomfield	N J
Columbia Wire Products Co Chicago	Ill
Conax Corp Buffalo	N Y
Consolidated Controls Corp Bethel	Conn
Consolidated Wire & Associated Corps Chicago	Ill
Control Products Corp Chicago	Ill
Dearborn Wire & Cable Co Chicago	Ill
Driver, Wilbur B Div Sylvania Elec Prods Inc Newark	N J
Driver-Harris Co Harrison	N J
Dynatech Products Co Div Dynatech Corp Burlington	Mass
Electric Thermometers, Inc Norwalk	Conn
Engelhard Minerals & Chemicals Corp, Engelhard Indus Div Newark	N J
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
Glesco Electronics Inc Rockford	Ill
Gordon Co Claud S Richmond	Ill
Honeywell Industrial Div Fort Washington	Pa
Hoskins Mfg Co Detroit	Mich
Inso Electronic Products Inc Nutley	N J
ITT Wire & Cable Div Surprenant Products Clinton	Mass
Johnson Matthey & Mallory Ltd Toronto 15	Ont
Kanthal Corp Bethel	Conn
Leeds & Northrup Co North Wales	Pa
Lewis Engineering Co Naugatuck	Conn
Marlin Mfg Corp Cleveland	Ohio
Matthey Bishop Inc Malvern	Pa
McHugh Thermodynamics Div CGS Scientific Corp Trevose	Pa
Moore & Co, Samuel Mantua	Ohio
Nanmac Corp Framingham Centre	Mass
Omega Engineering Inc Stamford	Conn
Pall Trinity Micro Corp Cortland	N Y
Pyco Inc Penndel	Pa
Pyro Electric Inc Walkerton	Ind
Revere Electronic Div Wallingford	Conn
Saxton Products Inc Congers	N Y

Fast

acting.

The Electronics Buyers' Guide can get you on the right frequency in a hurry. For example, there are 14 different kinds of oscillators listed. Everything from AF oscillators to voltage controlled crystal oscillators. There are three sections in your EBG, devoted to products, manufacturers and trade names. So see your fast-acting EBG.

Electronics Buyers' Guide

Scientific Engrg Mfg Co Div Gen Devices Inc North Hollywood	Cal
Semi-Alloys Inc Mt Vernon	N Y
Standard Wire & Cable Co Los Angeles	Cal
Tatsuta Electric Wire & Cable Co Ltd Osaka	Japan
Techni-Tool Inc Philadelphia	Pa
Thermax Wire Corp Flushing	N Y
Thermo Electric Co Inc Saddle Brook	N J
Thermotronic Devices Conshohocken	Pa
TPC Div Webb Press Eng Cedarburg	Wisc
United Sensor & Control Corp Watertown	Mass
Var-Lac-Oid Chemical Co Elizabeth	N J
West Instrument Div Gulton Ind Inc Schiller Park	Ill
Wilkinson Co Westlake Village	Cal
Williams Gold Refining Co Inc Precious Metals Div Buffalo	N Y

WIRE—TINSEL

ATLAS WIRE & CABLE CO. INC. YONKERS	**NY**
CONSOLIDATED WIRE & ASSOCIATED CORPS CHICAGO	**ILL**
DEARBORN WIRE & CABLE CO CHICAGO	**ILL**
Atlas Wire & Cable Co. Inc. Yonkers	NY
Carol Cable Co Pawtucket	R I
Columbia Wire Products Co Chicago	Ill
Consolidated Wire & Associated Corps Chicago	Ill
Dearborn Wire & Cable Co Chicago	Ill
Gavitt Wire & Cable Div Amerace-Esna Corp. Brookfield	Mass
General Cable Corp New York	N Y
Hudson Wire Co Ossining	N Y
Montgomery Co Windsor Locks	Conn
Plastic Wire & Cable Corp Sub Triangle Indus Inc Jewett City	Conn
Saxton Products Inc Congers	N Y
Semi-Alloys Inc Mt Vernon	N Y
Tape Cable Div Burndy Corp Rochester	N Y
Thermax Wire Corp Flushing	N Y

WIRE TWISTERS

Aircraft Components Inc Benton Harbor	Mich
Carpenter Mfg Co Inc Manlius	NY
Compton Industries, Inc Vestal	N Y
Emporium Specialties Co Inc Chagrin Falls	Ohio
Eraser Co Inc Syracuse	NY
Formulabs Industrial Inks Inc Escondido	Cal
General Cable Corp New York	N Y
Jonard Industries Corp Bronx	N Y
MacDonald & Co Glendale	Cal
Mann Co, Henry Cornwell Heights	Pa
Swiss Industries Costa Mesa	Cal

WIRE-WOUND RESISTORS

***See* Resistors—Fixed; Variable**

WIRE—WOVEN

***See* Fabric Parts; Fabrics**

WIRE WOVEN CIRCUITS

***See* Circuits—Woven Wire**

WIRE-WRAPPING TOOLS

***See* Tools—Wire-Wrapping**

WRAPPINGS—CABLE

DABURN ELECTRONICS & CABLE CORP BRONX	**N Y**
Aluminum Co of America Pittsburgh	Pa
AMP Incorporated Harrisburg	Pa
Birnbach Co Inc Freeport	N Y
Chase & Sons Inc Randolph	Mass
Daburn Electronics & Cable Corp Bronx	N Y
Dilectrix Corp Farmingdale	N Y
Dodge Industries Sub Oak Electro/Netics Corp Hoosick Falls	N Y
Electrovert Inc Mt Vernon	N Y
Force Electronics Inglewood	Cal
Ideal-Hellerman Canada Ltd Ajax	Ontario
IRC Div TRW Inc Los Angeles	Cal
Jetronics Co Div J L Hall Co Inc Redwood City	Cal
Mann Co, Henry Cornwell Heights	Pa
3M Company St Paul	Minn
Panduit Corp Tinley Park	Ill
Port Plastics Inc Montebello	Cal
Schjeldahl Co, G T Northfield	Minn
Steel Heddle Mfg Co Philadelphia	Pa
Thermax Wire Corp Flushing	N Y
United States Machinery, Sub Geartronics Corp North Billerica	Mass
Westinghouse Electric Corp, Industrial Plastics Div West Mifflin	Pa
Zeus Industrial Products Inc Princeton	N J
Zippertubing Co Los Angeles	Cal

X-RAY CAMERAS

***See* Cameras**

X-RAY DIFFRACTION EQUIPMENT

SIEMENS AMERICA INC NEW YORK	**N Y**
Beckman Instruments Inc Fullerton,	Cal
Canberra Industries Meriden	Conn
Digital Automation Co Pennington	N J
Dunlee Corp Bellwood	Ill
Electronics & Alloys Inc Englewood	N J
E & L Instruments Inc Derby	Conn
Engis Equipment Co Morton Grove	Ill
Hayakawa Electric Co Ltd Osaka	Japan
Humphrey Electronics Inc Raleigh	N C
Isomet Corp Palisades Park	N J
Jarrell-Ash Co Waltham	Mass
Materials Research Corp Orangeburg	N Y
Nuclear Enterprises Ltd Edinburgh	Scotland
Picker Nuclear White Plains	N Y
Polaroid Corp Cambridge	Mass
St John X-Ray Laboratory Califon	N J
Siemens America Inc New York	N Y
Technical Operations Inc Burlington	Mass
Ultek Div Perkin-Elmer Palo Alto	Cal
Varian Palo Alto	Cal

X-RAY EQUIPMENT

***See* Radiographic Equipment**

X-RAY IMAGE INTENSIFIERS

AMERICANA X-RAY CO ENGLEWOOD	**N J**
Abtronics, Inc Livermore	Cal
Admiral Systems Corp Chicago	Ill
Americana X-Ray Co Englewood	N J
Bendix Corp Electro Optics Div Ann Arbor	Mich
Continental X-Ray Corp Chicago	Ill
Ercona Corp Bellmore	NY
Heimann GMBH 62 Wiesbaden-Dotzheim	Germany
Keleket-CGR Corp Waltham	Mass
K Square Corp Pittsburgh	Pa
Machlett Labs Inc, The Stamford	Conn
3M Company St Paul	Minn
Picker Nuclear White Plains	N Y
Rauland Div Zenith Radio Corp Melrose Park	Ill
Sigmatron Inc Goleta	Cal
Varian Palo Alto	Cal
Westinghouse Electric Corp, Tube Div Elmira	NY
Zenith Radio Co Govt & Special Prod Div Chicago	Ill

X-Y RECORDERS

***See* Recorders—Graphic**

YOKES, DEFLECTION—OSCILLOSCOPE

SYNTRONIC INSTRUMENTS INC ADDISON ILL	**ADV PG 729**
Atlas Coil Corp Ansonia	Conn
CELCO Mahwah	N J
ITT Aerospace Optical Div Aerospace Oper San Fernando	Cal
Matsushita Electric Industrial Co Ltd Osaka	Japan
Merit Coil & Transformer Corp Hollywood	Fla
Penn Transformer Co Bellefonte	PA
Syntronic Instruments Inc Addison	Ill
Tele Coil Co Inc Camden	N J

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Atlas Coil Corp Ansonia	Conn
CELCO Mahwah	N J
ITT Aerospace Optical Div Aerospace Oper San Fernando	Cal
Matsushita Electric Industrial Co Ltd Osaka	Japan
Syntronic Instruments Inc Addison	Ill
Tele Coil Co Inc Camden	N J

YOKES, DEFLECTION—TV

SYNTRONIC INSTRUMENTS INC ADDISON ILL	**ADV PG 729**
Advance Ross Electronics Corp Chicago	Ill
Amperex Electronic Corp, Component Div Hauppauge	N Y
Arco S P A Milano	Italy
CELCO Mahwah	N J
Cleveland Electronics Inc Deflection Components Div Twinsburg	Ohio
Controlomag Labs Roslyn	Pa
Fivre Dept Fabbrica Ital Mag Marelli Pavia	Italy
General Instrument Corp F W Sickles Div Chicopee	Mass
General Instrument Europe SPA Milano	Italy
General Instrument of Canada Ltd Waterloo	Ont
Hayakawa Electric Co Ltd Osaka	Japan
Inelco S p A Tavernerio	Italy
ITT Aerospace Optical Div Aerospace Oper San Fernando	Cal
Lynn Electronics Corp Philadelphia	Pa
Matsushita Electric Industrial Co Ltd Osaka	Japan
Merit Coil & Transformer Corp Hollywood	Fla
Penn Transformer Co Bellefonte	PA
Plessey Co Ltd Ilford Essex	England
Research Industrolectronics Roslyn	Pa
Rola Div The Muter Co Cleveland	Ohio
Syntronic Instruments Inc Addison	Ill
Tele Coil Co Inc Camden	N J
Telectron Co Fort Lauderdale	Fla
Telefunken Sales Corp Garden City	N Y
Telvision Labs Inc Wauconda	Ill
Triad Distributor Div Litton Industries Huntington	Ind
Utrad Corp Huntington	Ind
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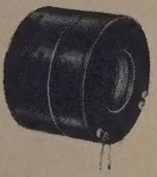

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SHIELDED DYNAMIC FOCUS COIL

For sharp focus applications up to 25kv accelerating potential, such as scan converter storage tubes and flat faced high resolution CRT's. Static and dynamic coils combined into a single gap to ease alignment and position. Gap in forward position for superior focus and best image-to-object ratio.

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Stator Design for standard 1½ inch neck diameter scan converter storage tubes. High resolution, geometrical accuracy and sensitivity are combined to offer power savings, plus ultimate performance. A desirable short precision magnetic field is achieved by combining short overall length and small ears with the proper distribution, insertion and extreme care in construction. Magnetically shielded designs also available. Request catalog sheet for full details.

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TYPES Y58-Y60-Y62-Y64 for 42°, 52°, 70°, & 90° Deflection Angles

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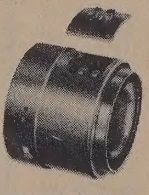
High efficiency and accuracy achieved by stator type core which also provides exceptionally low astigmatism and residual magnetism. Push-pull or single-ended coils for time shared sweep displays, character displays and others. Request catalog sheet for full details.



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For Radar Plan Position Indicator and all other rotating coil applications. Versions available with dc off-centering coils. Complete in aluminum housing containing deflection coil, slip rings and brush assembly, drive gear and bearing for easy installation into any equipment design. Only 3¾" OD x $2\frac{11}{16}$" long. For technical details request catalog page.

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TYPE P8

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TYPE Y66 Up to 60° Deflection Angle

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Push-pull and single-ended coils available in a wide range of inpedances for transistor drivers or vacuum tube circuits. Features electrically balanced windings with equal deflection sensitivities. Close angular tolerances of the display are achieved by precise construction. Epoxy encapsulated to withstand extreme environments. For full technical details, request catalog page.

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See **Crystals—Garnet**

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Alpha Metals Inc Jersey City .... NJ
American Metal Climax Inc New York .... N Y
American Silver Co Div Flushing .... N Y
American Smelting & Refining Co New York .... N Y
Anchor Metal Co, Inc Div Brooklyn .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Baker Chemical Co, J T Phillipsburg .... N J
Belmont Smelting & Refng Wks Inc Sales Eng Ctr Roslyn Heights .... NY
Cerac Inc Butler .... Wis
Cerro Corp New York .... NY
Cerro Sales Corp New York .... NY
Cominco American Inc Electronic Matls Div Spokane ... Wash
Hi-Grade Alloy Corp East Hazelcrest Ill
Kester Solder Co Chicago Ill
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
Materials Research Corp Orangeburg .... N Y
National Lead Co New York .... N Y
Roosevelt Metal Co Inc Brooklyn .... N Y
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
United American Metals Div Brooklyn .... N Y
United Mineral & Chemical Corp New York .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Ventron Electronics Corp, Controls/Matls Div Bradford ... Pa

ZINC PLATING

See **Plating Services**

ZIRCONATES

See **Crystals**

ZIRCONIUM OXIDE

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American Metal Climax Inc New York .... N Y
Atomergic Chemetals Co Div Gallard-Schlesinger Chemical Mfg Corp Carle Place .... N Y
Bio-Rad Laboratories Richmond .... Cal
Cerac Inc Butler .... Wis
City Chemical Corp New York .... N Y
Electronic Space Products Inc Los Angeles .... Cal
Geoscience Instruments Corp Mt Vernon .... N Y
Koch Light Labs Ltd Colnbrook, Bucks .... England
Mackay Inc, A D New York .... N Y
National Beryllia Corp Haskell .... N J
Norton Co Worcester .... Mass
Phoenix Materials Corp Forbes Road .... Pa
Ronson Metals Corp Newark .... N J
Semi-Elements Inc Saxonburg .... Pa
Sylvania Elec Prods Inc, Chem & Met Div Towanda ...... Pa
Thermal American Fused Quartz Co Montville .... N J
Tizon Chemical Corp Flemington .... N J
United Mineral & Chemical Corp New York .... N Y
Universal Shellac & Supply Co Inc Brooklyn .... N Y
Var-Lac-Oid Chemical Co Elizabeth .... N J
Vitro Labs Div Vitro Corp of America W Orange .... N J
Zirconium Corp of America Solon .... Ohio

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Active Alloys, Inc Elizabeth .... N J
American Metal Climax Inc New York .... N Y
Bram Metallurgical Chemical Co Philadelphia .... Pa
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Hamilton Precision Metals Div Hamilton Watch Co Lancaster .... Pa
Koch Light Labs Ltd Colnbrook, Bucks .... England
Nuclear Materials & Equipment Corp Apollo .... Pa
Ryerson & Son Inc, J T Chicago Ill
Semi-Alloys Inc Mt Vernon .... N Y
Semi-Elements Inc Saxonburg .... Pa
Texas Instruments Incorporated Dallas .... Tex
Thermal American Fused Quartz Co Montville .... N J
United Mineral & Chemical Corp New York .... N Y
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ZIRCONIUM TUBING

See **Tubing—Metalic**

ZIRCONIUM WIRE

See **Wire Bare**

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AN/APN-126
AN APM-11
AN APM-12
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AN/APQ-35B
AN/APS-4A
AN/APS-10
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AN/APS-21
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AN/APS-45
AN/APS-64
AN/APT-5
AN/APT-9
AN/APW-11
AN/APW-11A
AN/APX-6
AN/ARQ-8
AN/ASB-1
AN/ASB -12
AN/BPS-4
AN/CPN-2
AN/CPN-2A
AN/CPN-6
AN/CPN-8
AN/CPN-18
AN/CPS-6B
AN/CPS-9
AN/DJM-4
AN/DPN-1
AN/DPN-19
AN/DPN-32
AN/FPN-13
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AN/FQS-1
AN/FPS-6
AN/FRC-23
AN/FRC-39
AN/FRC-56
AN/FRT-15
AN/GMD-1A
AN/GMD-2
AN/GNS-1
AN/GNS-2
AN/GPG-1
AN/GPQ-3
AN/GRA-47
AN/GRC-59
AN/GRQ-3
AN/MPA-4
AN/MPG-1
AN/MPG-2
AN/MPQ-4
AN/MPQ-7
AN/MPQ-9
AN/MPQ-18
AN/MPQ-29
AN/MPS-9
AN/MPS-19
AN/MRQ-7
AN/MSA-2
AN/MSA-6
AN/MSQ-1
AN/MSQ-1A
AN/MSQ-2
AN/MSQ-37
AN/MSW-1
AN/PPN-13
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AN/SPA-4A
AN/SPA-8
AN/SPN-5
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AN/SPN-11
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AN/SPS-6B
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MEDIUM RANGE HEIGHT FINDER AN/FPS-4, AN/MPS-8, AN/TPS-10D

The AN/FPS-4 is a medium range height finder. This set operates in X-band and is completely portable. Complete sets can be supplied • Freq.: 9230-9404 MC • Power Output 250 KW • Range: 120 MI • Accuracy: .7 MI. range 2.3° Azimuth 0.8° elevation • Beam width: 2.05 deg. horiz. 0.775 vert. • Input: 120-208 V 60 CYC. This system makes a fine weather radar. 115 V 400 CYC. Input. Mfg. by RCA.

LONG RANGE HEIGHT FINDER AN/FPS-6, 6A, 6B, 89, 90 - AN/MPS-14

The AN/FPS-6 and its modifications are long range height finder radars. This system operates in S-band. We can supply complete systems and full support facilities as well as control room and plotting systems. The AN/FPS-6A uses the OA-929 indicator as well as modification to up-date performance. The AN/FPS-89 incorporates a ferrite isolator as well as other modifications. We maintain large stocks of this fine system, and spares to maintain these systems for many years • Freq.: 2700-2900 MC • Power: 5 megawatts • Pulse width: 2 micro-secs • Range: 200 MI • Rep. rate: 300-400 pps • Vert coverage: 60,000 ft. or 75,000 ft. to 32° angular • Ant. rotation speed: 180° point scan at a slewing rate of 7½ RPM • Ant. vert. scanning: 20-30 CPM • Range resolution: ⅜ MI • Range accuracy: 0.5° • 50 MI. sector scan • Ranges: —5,000 ft. to +60,000 ft., —5,000 ft. to +20,000 ft., +15,000 ft. to +35,000 ft., +35,000 ft. to +60,000 ft. • Input: 120/208 V 60 CYC 3 PH 4 W 60 KVA. The mobile version is the AN/MPS-14. Mfg. by G.E.

3-DIMENSIONAL RADAR AN/FPS-7

The AN/FPS-7 is a very high power L-Band 1250-1350 MC monopulse 3-dimensional search/GCI radar. This system utilizes 7 stacked beams to provide simultaneous intelligence in range, azimuth and height. The ant. pattern is cosecant-squared. The search range is 300 miles. The height coverage is up to 150,000 ft. A klystron is used with a power output of 10 megawatts. Full M.T.I. is provided, as well as anti-jam features. Up to 10 pre-set transmitter frequencies are provided. Pulse width is 6 usec. Rep. rate is 244 P.P.S. Azimuth resolution is .5°, height resolution is .04°. Ant. tilt adjustment is —5° +0 + 3°. Scan rates are 3.3, 5, 6.6, 10 R.P.M. Systems as well as spares are avail. Mfg. G.E.

LONG RANGE SEARCH RADAR AN/FPS-8 & AN/FPS-88 - AN/MPS-11

The AN/FPS-8 is a long range search radar. This system operates in L-band, and provides full M.T.I. facilities. Complete systems can be supplied as well as mod groups to convert to the AN/FPS-88. We maintain large stocks of this set. Full plotting and intercept room facilities can be furnished • Freq.: 1280-1350 MC • Power: 1 megawatt • Pulse width: 3 microsec • 360 pps rep. rate • Ant. rotation: 0-10 RPM • Resolution in Azimuth: ½° • Range Accuracy: 0.5 MI • Azimuth 0.5° • Beam width: 2.5° horiz., 9° vert • Ranges: 50, 100, 160 MI • Input: 120/208 V 60 CYC 3 PH. 20 KW. Mfg. by G.E.

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We stock huge quantities of P, L, S, C, X, K, V, band wave guides in all configurations. We stock guides for AN/FPS, 3, 6, 7, 8, 10, 14, 18, 19, 20, 23, 24, 26, 30, 67, 88, 89, 90, 100. AN/CPS-6B, SCR-584, CPN-4, etc., etc.

MEDIUM RANGE SEARCH RADAR AN/FPS-14 & 18

The AN/FPS-14 and 18 are medium range search radars. The AN/FPS-14 has an output of 400 KW in S-Band. The range covered is 70 miles. The system provides full M.T.I. The ant. beam width is 1.4° horiz. and 30° vert. for wide coverage. Either vertical or horizontal polarization may be selected at will. Pulse width is 1 microsec. rep rate is 891-909 PPS. PPI. presentation is used. Resolution is 1/9 MI in range and 1.4° in AZIM. Range accuracy is 1%. The AN/FPS-18 has a power output of 1-2 megawatts in S-Band. The search range is 50 MI. Full M.T.I. is provided. The ant. is 1.4° Horizontal. A klystron is used in the transmitter. Rec. sens. is 105 DBM. ACC. is 1° azimuth. Pulse width is 1 microsec. rep. rate is 1200 PPS. Power inputs for the FPS-14 is 120/208V 60CYC 3PH 4W 40AMPS. The FPS-18 input is 120/208 60CYC 3PH 4W 86AMPS. Mfg. Bendix.

ANTI-INFILTRATION SEA COAST RADARS

The FPS-14 and 18 make excellent sea coast search radars modified with another antenna. We can supply them configured this way. This system in use by various nations to prevent infiltration of subversive elements by sea. We can also supply them with dual antennas for use as both sea and air search systems.

LONG RANGE SEARCH & G.C.I. RADAR FPS-20 & 20A, 66, 67, 100 - 508-GPS-4

The AN/FPS-20 is a very long range dual channel search and G.C.I. radar in wide use by the U.S.A.F. F.A.A. and in many countries under the map program. This very fine system operates in L-Band and provides full M.T.I.. Anti-Jam and data transmitting facilities. A search range of 220 miles is provided. A klystron is used in the transmitting system. Power output is 2 megawatts. Pulse width is 6 microsec. rep rate is 360 PPS. Noise fig. is 9 decibels. Ant. gain is 35 DB. The ant. can be tilted. A very large ant. is used for a sharp beam with high resolution. Full anti-jam provisions are provided including anti-chaff rec. systems. Provisions are included for remote transmitting of data. The FPS-66, 67, 100 are modification with diff. antennas and parametric amps. We maintain large stocks of systems, groups, antennas and parts for the FPS-20. The AN/GPS-4 is a mobile version. Mfg. Bendix.

DOPPLER PENETRATION WARNING RADAR FPS-23

The AN/FPS-23 is a C.W. doppler radar alarm system utilizing a transmitting and rec. system. Separated by approx. 50 miles. The purpose of the system is to form a fence thru which no aircraft can pass without sounding an alarm. Any airborne target in motion will trigger the alarm. Additional stations may be tied into the system as repeaters to lengthen the screen. This system is used to protect a radar or other site against an aircraft that manages to pierce the search radar screen. Automatic target and fault alarms are provided, as well as recordings of penetrations. The coverage in elevation is approx. 200 ft. or less to 30,000 ft. operating freq. is 475-525 MC. output is 1,000 W C.W. power input is 120/208V 60CY 3P 4W. Mfg. by Motorola.

LONG RANGE SEARCH & G.C.I. RADAR FPS-24

The AN/FPS-24 is a VHF dual channel freq. agile. Hi-Power tuneable search, G.C.I. and Sage radar system. This set is a primary radar for the SAGE system. Full M.T.I. SDSDV, ant-jam, video mapping facilities are provided. The search range is approx. 400 MI. Power output is approx. 20 MW. A very large ant. is used. Input is 1814 KVA 480V 3PH. and 584 KVA 120/208V 3PH 4W 60CYC. Systems, groups, parts can be supplied. Mfg. by G.E.

MOBILE LONG RANGE SEARCH RADAR AN/TPS 1D, 1E, 1F, 1G & AN/TPS-15 & 36

The AN/TPS-1D, 1E, 1F, 1G and AN/TPS-15, AN/FPS-36 are portable field radars with a range of 200 miles. These radars are in wide use throughout the world. The system operates in L-Band with a power output of 500 KW. The pulse width is 2 microsec and the rep. rate is 360-400PPS. Ranges of 20, 40, 80, 160 miles are provided. One P.P.I. 7" and one "A" scope 5" are utilized. Full M.T.I. is provided. Anti-jam groups for this set are avail. Ant. rotation is 0-15RPM. Range resolution is .33MI, Azimuth is 4°. Accuracy is 3% range, and 10 in azimuth. Beam width is 4° horiz., vert. is 12°. Power input is 115V 400CYC. 7.5KW. The various models of this system incorporate modifications to upgrade performance or mobility. The FPS-36 uses another antenna for increased range and resolution. We maintain large stock of this set as well as spares. Mfg. by Raytheon.

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The AN/MPQ-10 is a S-band counter mortar radar used to track mortar shells and provide counter battery fire. We can supply complete systems and spare parts. • Freq.: 2900 MC • Range: 20,000 yds • Range accuracy: 20 yds. • Input: 115 V 60 CYC 3 PH 5 KW. Mfg. G.E.

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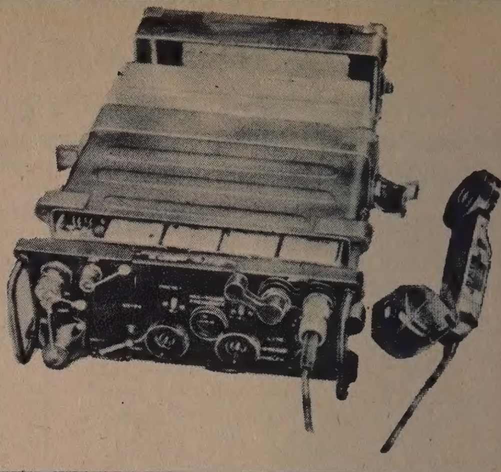

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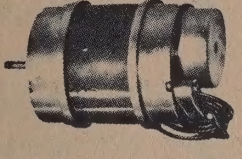

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1 DG diff. gen. 90/90V 60 cy	**24.50**
1F syn. mtr. 115/90V 60 cy	**24.50**
1G gen. 115V 60 cy	**24.50**
1 HCT	**27.50**
1 HDG	**27.50**
1 HG	**34.50**
1 SF syn. mtr. 115/90V 400 cy	**12.50**
11CX4A control transmitter	**20.00**
15CDX4A diff.	**17.50**
15CX4A control transmitter	**17.50**
15TR4A torque rec.	**17.50**
18CX4A control transmitter	**27.50**
18TC6	**37 50**
18TR4A torque rec.	**27.50**
18TR6	**37.50**
23CT4 control transmitter	**27.50**
23CT6 control transmitter	**37.50**
23CX4 control transmitter	**32.50**
23CX6 control transmitter	**37.50**
23RS4 resolver	**33.50**
23RS6A resolver	**37.50**
23TDX4A diff. transmitter	**32.50**
23TR4A torque rec.	**32.50**
23TR6 torque rec.	**37.50**
23TX6 torque transmitter	**37.50**
2J1F1 gen. 115/57.5V 400 cy	**7.50**
2J1F3 gen. 115/57.5V 400 cy	**10.00**
2J1FA1 gen. 115/57.5V 400 cy	**7.50**
2J1G1 57.5/57.5V 400 cy	**5.00**
2J1H1 diff. gen. 57.5V 400 cy	**7.50**
2J5D1 cont. transmitter 105/55V 60 cy	**17.50**
2J5F1 cont. transmitter 105/55V 60 cy	**17.50**
2J5H1 gen. 115/105V 60 cy	**17.50**
2J15M1 gen. 115/57.5V 400 cy	**17.50**
3F syn. motor 115/90V 60 cy	**34.50**
31TDX6 diff.	**42.50**
31TR4A torque rec.	**37.50**
31TX4A torque trans.	**37.50**
5CT cont. transmitter 90/55V 60 cy	**34.50**
5D diff. mtr. 90/90V 60 cy	**34.50**
5DG diff. gen. 90/90V 60 cy	**34.50**
5F syn. mtr. 115/90 VAC 60 cy	**34.50**
5G syn. gen. 115/90 VAC 60 cy	**34.50**
5HCT cont. transmitter 90/55V 60 cy	**37.50**
5HG gen. 115/90V 60 cy	**42.50**
5SDG diff. gen. 90/90V 400 cy	**12.50**
6DG diff. gen. 90/90V 60 cy	**25.00**
6G syn. gen. 115/90 VAC 60 cy	**34.50**
6HG gen. 115/90V 60 cy	**42.50**
7DG differential generator	**37.50**
7G syn. gen. 115/90 VAC 60 cy	**42.50**
7HG gen. 115/90V 60 cy	**65.00**
C69405-2 type 1-1 transm. 115V 60 cy	**20.00**
C69406 syn. transmitter 115V 60 cy	**20.00**
C78248 syn. transmitter 115V 60 cy	**17.50**
C78410 repeater 115V 60 cy	**20.00**
FPE 49-7 Diehl servo motor, 115 volts, 60 cycle, 10 watts	**30.00**

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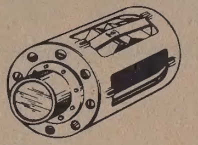
10 or more, **$35.00 each**

IMAGE ROTATOR



Three large coated prisms rotate in ball-bearing mount to provide extraordinary effects for motion pictures or TV. Image can be made to whirl rapidly or rotate slowly a full 360°. Like Dove prism in operation. Working aperture 66 mm. Unit has large 5-element coated lens, 70-mm. clear aperture. Does not magnify. Over-all dimensions: 6¼" diam., 10½" long. Weighs 26 lbs. Originally cost Government approx. $1,000. Excellent condition. Price $95.00.

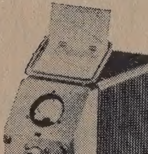
NICKEL-CADMIUM BATTERY 1.2 VOLTS

Rechargeable thousands of times. Alkaline storage battery with sintered plates. Flat voltage curve during discharge. Will hold charge for long period of time. High discharge rate—up to 50 amperes. Spill-proof, may be used in any position. Approximately 6-ampere-hour capacity. Dimensions: 6" high, 2" wide, ½" thick; approximate weight 6 ozs. Uses potassium hydroxide (30% electrolyte). Price $2.50 each, postpaid. Similar battery, approximately 10-ampere-hour capacity. 4½" high, 2⅝" wide, ¾" thick. Approximate weight 9 ozs. Price $3.50 each, postpaid.

9KVA 400-CYCLE GENERATOR

120/208 volts, 3-phase power factor 1.0 CCW rotation. Approx. 13½" x 8" dia. 4000 rpm, mfg. Bendix Aviation P/N 1633-1A. ... **$150.00**

TS-118A/AP RADIO FREQUENCY WATTMETER

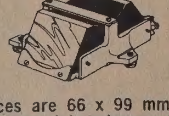


The rf wattmeter is a portable, load-resistor-type absorption wattmeter for measuring radio-frequency (rf) power within the frequency range of 20 to 1,400 megacycles per second (mcs). The wattmeter is used with a selected thermocouple to make power measurements; to aid in the tuning of transmitters; or, when used without a thermocouple, as a dummy antenna. In all these uses, the radio transmitter is operated without radiating energy into space.

Frequency range	20 to 1,400 mcs
Power	20 to 100 mcs, 2 to 300 w; 100 to 300 mcs, 2 to 500 w; 300 to 750 mcs, 2 to 250 w; 750 to 1,400 mcs, 2 to 125 w.
Circuit impedance	coaxial (50 ohms nominal).
Type of modulation	cw, am, or fm; measures average power.
Accuracy	±15% of absolute.

Price: $195.00

EXTRA-LARGE MOUNTED PRISM



Coated Dove-type Gov't. surplus prism, ideal for creating unusual photo effects. Image rotates at twice rotational speed of prism. Surfaces exceed half-wave precision. Faces are 66 x 99 mm. and 78 x 99 mm. The unsilvered hypotenuse is 144 mm. Can be cut into two 60° prisms. In metal mount. Weight 5 lbs. Price $50.00.

SMALL DC MOTORS

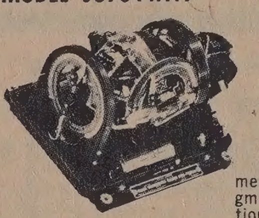
(approx. size over 3¾" x 1¼" dia.):

5067043 Delco 12 VDC PM 1" x 1" x 2", 10,000 rpm	**$7.50**
5067126 Delco PM, 27 VDC, 125 RPM, Governor Controlled	**15.00 ea.**
5069600 Delco PM 27.5 VDC 250 rpm	**12.50**
#5069625 120 rpm, mfr. Delco 27 VDC Governor Controlled	**15.00**
5069230 Delco PM 27.5 VDC 145 rpm	**15.00**
5068750 Delco 27.5 VDC 160 rpm w. brake	**6.50**
5068571 Delco PM 27.5 VDC 10,000 rpm (1x1x2")	**5.00**
5069790 Delco PM, 27 VDC, 100 RPM, Governor Controlled	**15.00 ea.**
#5069800 575 rpm, mfr. Delco, 27 VDC, PM reversible governor controlled, equipped with 27 VDC clutch	**17.50**
5072735 Delco 27 VDC 200 rpm Governor Controlled	**15.00**
5BA10A118 GE 24 VDC 110 rpm	**10.00**
5BA10AJ37 GE 27 VDC 250 rpm reversible	**10.00**
5BA10AJ52 27 VDC 145 rpm reversible	**12.50**
5BA10AJ50, G.E., 12 VDC, 140 rpm	**15.00**
5BA10FJ401B, G.E. 28 VDC, 215 rpm, 10 oz. in., 7 amp. contains brake	**15.00**
5BA10FJ421, G.E. 26 VDC, 4 rpm, reversible 6 oz. in., .65 amp	**15.00**

SPERRY VERTICAL GYRO

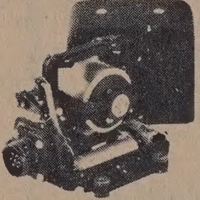
Part #673073, Motor 115 volts, 3 phase, 400 cycle, 8 watts, 20,000 RPM. 3-minute runup, synchro pickoffs, roll 360°, pitch 85°. Synchro excitation 26 volts, 400 cycle, 150 m.a. Vertical accuracy ±½° Weight 3½ lbs. Approx. dim. 5¾" L., 4½" W., 4½" H. .... **Price $35.00**

HONEYWELL VERTICAL GYRO MODEL JG7044A17



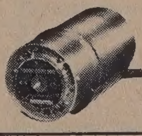
115 volts, 400 cycles, single phase, 35 watts. Pitch and roll potentiometer pickoffs 890 ohms, 40 volts max. AC or DC. Speed 20,000 rpm, ang. momentum 12,500,000 gm-cm 2/sec. Erection system 27 VAC, 400 cycles, time 5 min. to ½°; caging mechanism operates on 24 VDC **$49.50**

MINNEAPOLIS-HONEYWELL RATE GYRO (Control Flight)



Part no. JG7005A, 115 volts A.C., 400 cycle single phase potentiometer take off resistance 530 ohms. Speed 21,000 r.p.m. Angular momentum 2½ million, CM^2/sec. Weight 2 lbs. Dimensions 4-7/32 x 3-29/32 x 3-31/64.
Price $22.50

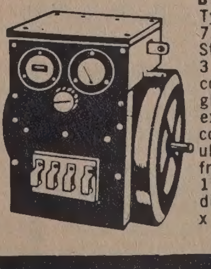
SENSITIVE INTEGRATING GYROS



This is the famous HIG Gyro which is being used in missile guidance systems, radar stabilization and fine control systems. Government cost approximately $1500.
PRICE **$50.00**

400 CYCLE, 3 PHASE GENERATOR

BY MASTER ELECTRIC



Type AG, frame 364Y, 7.5 kw, 3428 rpm, pf .95 Star connected 120/208 3 phase, 22 amps. Delta connected 120 volt single phase 6 amps. Self excited. Complete with control box, voltage regulator, AC voltmeter and frequency meter. Shaft 1" dia., 2" long; overall dim. of unit: 21"x18" x 20".
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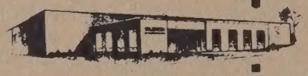

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MICROWAVE/WAVEGUIDE Components & Equipment — Bogart, DeMornay-Bonardi, Douglas, FXR, Hewlett-Packard, Microlab, Microwave Assoc., Narda, PRD, Military Types, etc.

POWER SUPPLIES — Comm. Meas. Lab. Dressen-Barnes, Electronic Measurements, Kepco, Lambda, NJE, Oregon, Power Designs, Sola, Sorensen, Tel Instrument, and many others.

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NOTES

NOTES

Electronics '70 Buyers' Guide

Directory of Manufacturers & Sales Offices

An alphabetical listing of over 6,000 manufacturers of Electronic Equipment, Components, Related Materials and Service Organizations.

The following information is supplied for each company:

1. Company name, address, telephone number with area code.
2. Name and title of individual to be contacted for sales information.
3. Number of engineers.
4. Number of employees.
5. Annual dollar volume of sales.
6. Local sales offices and/or manufacturers representatives listed geographically by state (Alabama through Wyoming) and then outside U.S. Addresses and telephone numbers are given for each sales office and/or manufacturers representative.
7. All advertisers listings are in boldface type for quick referral plus page numbers of advertisements.

All information displayed in the 1970 Electronics Buyers' Guide is supplied by manufacturers.

A A A CAPACITOR, INC BOX F CHERRY TREE
PA 15724 ....814 743-6601
J PREINER EMP 25 ENG 2 $100-$250M

AA GAGE DIV U S INDUSTRIES 350 FAIR ST
DETROIT MICH 48220 TWX KTQ 313 548-3810
L CHENOWITH EMP 175 ENG 75 $2,500-$5,000M
Ariz L Wharton 4813 N 62nd Ave Phoenix ..602 934-6883
Cal John Stuart & Assoc Box 1664
Glendale ....213 CH 5-5600
Colo Measuring Devices Inc Box 385
Broomfield 303 466-2321
Conn Wetzel Tool Corp Box 97 Bloomfield ...203 242-8535
Ill Central Tool Co 6270 W North Ave
Chicago 312-637-8580
Ind Eaker Gage Corp 4014 Stratford Ct
Indianapolis......................317 787-6111
Mich Burton Precision Co Inc 900 Monroe NW
Grand Rapids......................616 454-3321
NJ Pelham Machinery Co 34 W Madison Ave
Dumont ....201 DU 5-6800
NY Don Grant Box 296 Northport ....516 AN 1-7381
Ohio Tooling Sales Assoc 2178 Lee Rd
Cleveland......................216 YE 2-3882
Pa James A Noll Box 11693 Pittsburgh ...412-531-8071
Tex Southwestern Precision Sales Inc 5819 Denton Dr
Dallas ....214 FL 7-0837
Utah T E Sweet & Co 852 E 9th S
Salt Lake City......................801 EM 4-0331
Wis D R Manecke 18165 Chevy Chase
Brookfield......................414 782-2525
Can Williams & Wilson Ltd 544 Inspector St
Montreal......................514 866-2851
GB Coventry Gauge & Tool Co Ltd
Box 39, Flechamstead Hwy Coventry 75521
Jap Iwai-Takachiho Trading Co
6-7, 1-chome, Yushima, Bunkyo-ku
Tokyo 812 1151-7

AAI CORP BOX 6767 BALTIMORE MD 21204
TWX 710-232-1800 ....301 666-1400
R GLUCKSMAN EMP 1370 ENG 320
OVER $10,000M
Ala AAI 3322 S Memorial Pkwy Huntsville 881-1662
Cal AAI 13720 Riverside Dr Sherman Oaks.....783-2764
Colo AAI Box 2138 Colo Springs 632-6920
Fla AAI 999 Woodcock Rd Orlando 841-4873
Ohio AAI 4130 Linden Ave Dayton 253-8891

AAVID ENGINEERING INC 28 ARCH ST LACONIA
N H 03246 ....603 524-4443
R DAVIS EMP 50 ENG 2 $250-$500M
Cal H K Foraber Co Box 1325 Fremont 657-2213
Fla Duay Enterprises Inc 1515 Ensenada Dr
Orlando 277-3296
Ill J R Sales Engineering 7132 N Harlem Ave
Chicago......................889-6662
Iowa J R Sales Engineering 3316 Rosewood Ct NE
Cedar Rapids 365-5259
NY W Jay Assoc 23-25 Bell Blvd Bayside ..212 229-0150
Ohio Frank E Kahsar Sales 5229-A Glenway Ave
Cincinnati ....GR 1-9017

ABACUS ELECTRONICS CORP 10 HUDSON TERR
DOBBS FERRY N Y 10522 ....914 693-1450
M MEOLA EMP 25 ENG 2 $250-$500M
Ill Senescu Weisz Associates 2927 Touhy Ave
Chicago
Md Barnhill Assoc 1931 Greenspring Dr Timonium
NJ Barnhill Assoc$ 1306 Cooper St Beverly
Va Barnhill Assoc Box 1104 Lynchburg

ABALON PRECISION MFG CORP 540 CASANOVA ST
BRONX N Y 10474......................212 LU 9-5682
L ORENT EMP 25 ENG 2

ABAR CORP 905 PENNSYLVANIA BLVD
FEASTERVILLE PA 19048 ....215 355-4900
W HOKE EMP 60 ENG 10 $2,500-$5,000M
Cal J S Hetherington Co 81 Encina Ave Palo Alto
Ill Vico Assoc 775 N Bank La Lake Forest
Ind Tech Sales & Mktg 1121 N Arlington Ave
Indianapolis
Mass Technall Assoc Box 2146 Montello Sta Brockton
Can Finnan Engineered Prods 60-8 Barbados Blvd
Scarsborough, Ont
Swit Cryophysics SA(022) 39 rue Rothschild 1202
Geneva

ABBOTT & CO 217 S ELM ST PROSPECT OHIO 43342
TWX 810-339-2210......................614-494-2612
C SISLER EMP 175 ENG 2 $2,500-$5,000M
Ohio Buckeye Industrial Sales 43 N 3rd St Newark
Ohio W A Hepner & Assoc 4400 Heatherdowns Blvd
Toledo
Wis Wm P Clark Inc 1145 S Main St Racine

ABBOTT PRODUCTS, INC 14-10 123RD ST
COLLEGE POINT N Y 11356 212-358-1400
B JACOBSON EMP 74 ENG 1 $1,000-$2,500M

ABBOTT TRANSISTOR LABS, INC
5200 W JEFFERSON BLVD LOS ANGELES
CAL 90016 ....213 WE 6-8185
R BALDARRAMA EMP 90 ENG 5 $1,000-$2,500M

ABESTO CORP 56 ACKERMAN ST BLOOMFIELD
N J 07003......................201 338-6814
R KRUMSCHEID EMP 50 UP TO $100M

ABILITIES INC IU WILLETS BLVD ALBERTSON
N Y 11507 ....516 PI 75400
A GAFARIAN EMP 450 ENG 7 $2,500-$5,000M
Ala Newcomb Assoc Box 3244 Huntsville...205-852-0204
Fla GPI Instruments Inc Box 536
Winter Park 305-647-5722
Md Durkin Assoc 2708 Bartlett La Bowie ..301-779-6665
Mass Entis Assoc 11 Babcock St Brookline ..617-267-2322
NJ A Budde 12 S Orange Ave So Orange ..201-763-7727
NY J DeGennaro 9 Damyon St Bayshore ...516-666-4073
Ohio L D Bruno Co Kettering Box 2044
Dayton 513-434-1847

ABLESTIK ADHESIVE CO 833 W 182ND ST
GARDENA CAL 90247 ....213 FA 1-6252
N OLSON EMP 26 ENG 3
Ind Delta Sales Inc 1407 N Illinois St
Indianapolis......................317 631-4136
Mass L J Maroni Assoc 15 Arbetten Dr
Framingham 617 875-5414
Mo Thos B Moore Co, Inc 32 Progress Pkwy
Maryland Heights..............314 HE 2-6650
NY Herbert Shprentz Co 126 Deertrack La
Irvington ....914 LY 1-7970

ABLETECH DIV ABLESTICK LABS 544 W 182ND ST
GARDENA CAL 90247
N OLSON
Ind Delta Sales Inc 1407 N Illinois St
Indpls 317-ME1-4136
Mass L J Maroni Assoc Box 99 Sudbury 617-443-2170
Mo Thomas B Moore Co 32 Progress Pkwy
Maryland Hgts 314-HE2-6650
NY Herbert Shprentz Co 126 Deertrack La
Irvington 914-LY1-7970

ABRAMS CO, H B 5404 ALHAMBRA AVE
LOS ANGELES CAL 90032 ....213 223-2874
H ABRAMS EMP 1 ENG 1 UP TO $100M

ABRAMS INSTRUMENT CORP 606 E SHIAWASSEE
LANSING MICH 48901
TWX 810-251-0785 ....517 484-9441
G MICHAEL EMP 75 ENG 10 $1,000-$2,500M
Ariz J A Swanson Assoc 132 E Stetson Dr
Scottsdale 947-4379
Cal Jewett Co 13111 Ventura Blvd N Hollywood .789-8103
Conn R P Mahan Co. Inc Hopkins Rd Watertown ..274-2363
Kan Thunderbird Eng Sales & Serv 7707 E Osie
Wichita 684-3941
Md McCourt Co Inc 610 Washington Ave
Towson 823-3455
Mass R P Hahan Co Inc 572 Washington St
Wellesley 237-1040
Mo Thunderbird Eng Sales & Serv 400 Brookes Dr
Hazelwood 731-4343
NJ Abrams Inst 569 River Rd Fair Haven 747-0600
NY Abrams Inst 165 Orinoco Dr Bright Waters ..666-6500

ABRAX INSTRUMENT CORP 179-15 JAMAICA AVE
JAMAICA N Y 11432..................212 AX 7-5600
W MCCOOL EMP 100 ENG 12 $500-$1,000M

ABSCOA INDUSTRIES 1071 W ARBOR VITAE ST
INGLEWOOD CAL 90301
TWX 910-328-6180 ....213 678-3931
J LONG EMP 50 ENG 2 $5,000-$10,000M
Cal Abscoa Industries 880 Hurlingame St
Redwood City......................369-4897
Fla Abscoa Industries 280 NW Le Juene Rd Miami
Mo Abscoa Industries 308 E 18th Ave
N Kansas City 421-338
NY Abscoa Industries 25 W Hartsdale Ave
Hartsdale......................761-0210

ABTRONICS, INC BOX 712 LIVERMORE
CAL 94550 ....415 447-4785
J OWREN EMP 15 ENG 6 $250-$500M

ACCEL ELECTRONIC PRODUCTS CO
3040 N SAN GABRIEL BLVD ROSEMEAD
CAL 91770 ....213 288-5448
H HERMANN EMP 4 ENG 1 UP TO $100M
Cal D & L Sales Co 1430 Callecita San Jose 269-9300

ACCESS SYSTEMS INC 615 WINTERS AVE
PARAMUS NJ 07652 201-262-8200
D LEMIEUX EMP 35 ENG 5
DC Access Systems Inc 910-17th St
Washington 202-223-3022
NY Access Systems Corp 663 Fifth Ave
New York 212-594-3853

ACCRATRONICS SEALS CORP 2121 KENMERE AVE
BURBANK CAL 91504 ....213 TH 3-1500
W FISCH EMP 18 ENG 3 $250-$500M

ACCURATE ELECTRONICS CORP BOX 935G ELYRIA
OHIO 44035 ....216 365-1211
J SEYBOLD EMP 30 ENG 4 $500-$1,000M
ADV PGS 354,625
Ill Chas H Shannon & Assoc 328 Olmstead Rd
Riverside 447-4139
Ind Menze Sales Inc 6010 Lower Huntington Rd
Ft Wayne......................747-5616
NY T H Marden, Inc 15 Old East Dyke Way
Fayetteville 637-9836
NY F Taylor Box 101 Cazenovia
Ohio Jos H Clark 3570 Warrensville Center Rd
Cleveland 991-2000
Ohio J E Hasbrouck 1100 Cherington Ave Galion..468-8154
Pa H W Fairbanks 420 Chichester La
Wynnewood 642-5816

ACCURATE SPRING MFG CO DIV UNITED
GREENFIELD CORP 8747 W PALMER
RIVER GROVE ILL 60171 ....312 456-2700
R MADDEN EMP 250 ENG 2 $2,500-$5,000M
Cal Pacific Component Sales 2500 W 6th St
Los Angeles......................213 384-1193
Colo H P Daigle Co Inc 1971 W 12th Ave
Denver 303-623-6106
Ind D G Teeling Co Box 20111 Indpls 317-251-9571
Kan Koenig-Myers Assoc 5500 Buena Vista Dr
Shawnee Mission..................913-432-8300
Mich C J Bauer Jr 4745 Pinehaven Dr
Saginaw 517 793-2215
Minn O R Kreutziger & Co 6524 Walker St
Mnpls......................612-929-1744
NY Precision Sales, Inc 270 Crosby Blvd
Buffalo......................716-838-1933
Ohio D Williams & Assoc Professional Bldg
Medina......................216-725-4088
Tenn Melloy Sls Inc 407 Forest Park Blvd
Knoxville 615-584-4124
Wis John V Gidley Jr 4893 N Green Bay Ave
Milwaukee 414-374-7020
Can J R Fraser & Assoc Ltd 3010 Longfellow Ave
Windsor 519-969-1842

ACCUTRONICS, INC 628 NORTH ST GENEVA
ILL 60134......................312 232-2600
W BENSON EMP 25 ENG 7 $500-$1,000M
Cal Nor-Cal Assoc 999 Commercial St
Palo Alto 415-328-6616
Mass Addelco Corp 56 Pickering St Needham 444-4754
Minn De Beck Assoc 2119 Grand Ave St Paul 698-5531
NY RJC Assoc 219 Oakridge Terr Liverpool .315 457-3220
Pa Wm Dugger Co 412 E Spring Ave Ardmore .MI 9-0889
Tex W Pat Fralia Co Box 12625
Fort Worth ....817 PE 8-2394
Ger Litton Prec Prods Intl Newton Str 13
8 Munchen 27......................489395(0811)
GB Litton Prec Prods Intl 95 High St
Slough Bucks SLOUGH-28267
Neth Litton Prec Prods Intl Steenloperstr 26
Capelle a/d Ijssel
Ital Litton Prec Prods Intl Via Areo 4
120121 Milano 893362
Swed Litton Prec Prods Intl Box 7277 S-103 85
Stockholm, 7......................114390
Swit Litton Prec Prods Intl Schwamendingenstr 5
8050 Zurich 483544
Belg Litton Prec Prods Intl 16, rue du Musee
Brussels......................02/12 55 52
Isrl S T G Intl Ltd 52 Nachlat Benyamin St
B 1276 ....Tel Aviv

ACDC ELECTRONICS, INC 2979 N ONTARIO ST
BURBANK CAL 91504
TWX 910-498-2201 ....213 849-2414
J HULL EMP 325 ENG 18 $2,500-$5,000M
Cal Wm J Purdy Co 770 Airport Blvd
Burlingame......................415-347-7701
Colo Waugaman Assoc 2785 N Speer Blvd
Denver 303-255-5000
Conn New England Mktg Assoc Box 151 Branford
Fla Beacon Electronic Assoc 540 S Maitland Ave
Maitland 305-647-3498
Fla Beacon Electronic Assoc 651 NE 45 St
Ft Lauderdale......................305-564-4298
Ga Beacon Electronic Assoc Inc
2285 Peachtree Rd NE Atlanta 404-351-3654
Ill Cain & Co 1203 Ironwood Dr
Mt Prospect 312-253-3578
Md Sel-Tronics Inc 721 Ellsworth Dr
Silver Spring 301-589-3391
Mass New England Mktg Assoc 55 Salem St
Lynnfield 617-245-9530
Minn Electro-Products Assoc 1636 Randolph Ave
St Paul
NY Harvey J Krasner Assoc 33 Great Neck Rd
Great Neck 487-0690
NY Cain & Co 324 First St Liverpool 315-457-4871
NC Beacon Electronic Assoc 305 Greenway St
Jamestown......................919-454-1010
Ohio Ridgway East Inc 27733 Lorain Rd
North Olmsted 216-777-6600
Ohio Ridgway East Inc 723 Greenlawn Ave
Columbus 614-443-7827
Ohio Ridgway East Inc Box 68 Loveland 513-683-4350
Pa Cain & Co One Bala Ave Bldg
Bala Cynwyd......................215-664-3797
Tex Roger Martin Assoc Box 1002 Bellaire .713-468-3877
Tex Roger Martin Assoc Box 64513 Dallas ..214 358-3704
Wash Jas J Backer Box 9327 Seattle 206-283-6470

ACE COIL & ELECTRONICS CORP.
912 LINCOLN HWY METUCHEN
N J 08840......................201 548-3580
F SAMPSON EMP 34 ENG 4 $100-$250M

ACE ELECTRONICS ASSOCIATES, INC 99 DOVER ST
SOMERVILLE MASS 02144
TWX 710-348-0107 ....617 623-3800
N CURTIS EMP 250 ENG 7 $1,000-$2,500M
Cal King-Way Assoc 17100 Ventura Blvd
Encino 213-788-4124
Ohio R G Siff Assoc 22 Oxford Ave Dayton ..513-278-4779
Pa Elcom, Inc 130 S Easton Rd Glenside 885-1325

AC ELECTRONICS CO BOX 25916 LOS ANGELES
CAL 90025 ....213 478-4288
E ALMO EMP 11 ENG 2

A C ELECTRONICS DIV GM 7929 S HOWELL AVE
MILWAUKEE WIS 53201
TWX 910 262-1112 ....414 762-7000
A WASSERMAN EMP 7500 ENG 1500
Cal W E Weinberg 950 N Sepulveda Blvd
Los Angeles......................213 322-5750
DC R H Wilkie 1625 I St NW Washington ..202 393-1133
Tex P K Swackhamer 1730 FM 528
Houston 713 591-2415
Wash R L Hodgson 220 S Mead St Seattle...206-763-8512

ACE PLASTIC CO 91-54 VAN WYCK EXPWY
JAMAICA N Y 11435 ....212 523-5500
S SEIDMAN EMP 75 $500-$1,000M

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60 TOMLINSON RD HUNTINGDON VALLEY
PA 19006......................215-947-1900
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Huntsville 205-881-3294
Ariz Allen Assoc 120 E Sixth Ave
Scottsdale 602-946-4903
Cal Walter Assoc Box AN Los Altos 415-941-3141

Colo E O Sales 1423 S Lipan St Denver 303-744-7081
Fla J L Highsmith & Co Box 7835 Orlando .305-293-5202
Haw Victor Kim Elects 625 South St
Honolulu 808-507-132
Ill Universal Sales & Supply Inc 5144 Main St
Skokie 312-676-3650
Iowa Thomas & Modrcin Assoc 890 17th Ave
Marion 319-377-6261
Kan Thomas & Modrcin Assoc 5450 Buena Vista Dr
Shawnee Mission................913-432-2131
Md Engineering Assoc 1406 Shoemaker Rd
Baltimore 301-825-2385
Mass Wm Connors Co 100 Everett St
Westwood 617-769-2570
Minn Hasse & Assoc Box 7707 Minneapolis ..612-588-0551
Mo Thomas & Modrcin Assoc 47 Village Sq
Hazelwood 913-432-2131
Neb Electric Specialties Co Box 14042
Omaha 402-393-5535
NJ Bressler Assoc 4808 Bergenline Ave
Union City 201-864-9577
NY R J Davis Assoc 107 James St Utica ...315-724-5773
NC J L Highsmith & Co Box 9367
Charlotte 704-333-7743
Ohio Deo Volente & Assoc 4240 Eaglehurst Rd
Toledo 419-882-2830
Pa Massey Assoc 1325 W Chester Pike
Havertown 215-789-2320
Tex P J Scanlon Co 724 S Sherman St
Richardson.....................214-AD1-4661
Va J L Highsmith & Co 5003 Brook Rd
Richmond 703-266-2060
Can Ben Manis Assoc 2690 Pitfield Blvd
Montreal Que 514-336-4500
Can Canadian Dynamics 8264 St George
Vancouver BC...................604-325-6014
Neth Instrumentenhandel Utrecht Bus 513 Alb Perkstr
Hilversum
Ital Motordiesel La Spezia Casella PO N 11 Minzoni
Gr K Karayannis Klaftmonos Sq Athens 124

ACE SPRING MFG CO, INC 144 32ND ST BROOKLYN
N Y 11232 212-788-0100
L EDWARDS EMP 25

ACE-SYCAMORE INC 448 DEKALB AVE SYCAMORE
ILL 60178.........................815 895-4573
K TIFFANY EMP 11 ENG 1

ACETO CHEMICAL CO, INC
126-02 NORTHERN BLVD FLUSHING
NY 11368 ....212 TW 8-2300
H BRODKOWITZ EMP 25 ENG 10 $2,500-$5,000M

ACHESON COLLOIDS CO 1635 WASHINGTON AVE
PORT HURON MICH 48060
TWX 982-4314 ....313 984-4171
R HARTNETT EMP 120 ENG 11 $1,000-$2,500M
Cal P M Barnes 4600 Sheila St Los Angeles 261-8471
Ga R L Parsons 3224 Peachtree Rd N E
Atlanta 233-0505
Ill J Ondras, E Egloff 510 N Dearborn St
Chicago ....MO 4-2032
Ind R Misk 106 W Monroe South Bend 288-1011
Mass Murray B Baker 6 Eastman Pl Melrose.....662-6787
Mich G Rzeppa 18023 Jas Couzens Detroit 341-4431
NY R Mattern 1143 E Jersey St Elizabeth, N J .353-0414
Ohio T Ritter A-6 Roselawn Ctr Bldg Cincinatti ...631-6750
Okla D M Conroy 14600 Detroit Ave Cleveland ...521-1900
Pa J F Murray Box 64 Swarthmore ....LO 7-7113
Tex C C Horton 600 Ave H E Arlington 275-4264

ACKERMAN ENGRAVERS, INC 43-22 36TH ST
LONG ISLAND CITY N Y 11101 ....212 EM 1-2266
H RETZLAFF EMP 175 ENG 9 $1,000-$2,500M
Cal Pacific Scientific Co 6280 Chalet Dr
City of Commerce 213 773-2020

ACKERMAN GOULD CO, INC 10 NEIL CT
OCEANSIDE N Y 11572 ....516 678-4110
A FIOREY EMP 20 ENG 3
Cal OEM Sales Co 3820 E Colorado Blvd
Pasadena 213 796-9937
Ill Marsland Distr Corp 801 Skokie Hway
Northbrook......................312-498-0227
Md Oakmount Engr Co 99 Eldrid Rd
Silver Spring 301-622-2100
Mass Production Devices Corp 489 Main St
Stoneham 617 438-2772
NY Salit Assoc Box 176 Spring Valley 914 352-4443
NY Maloney Sales Co 115 Sunnybrook Dr
Syracuse........................315 488-3440
Ohio Electro Enterprises Co 2621 Mardon Dr
Dayton 513 426-6071
Ore Van Voorhees Assoc 4415 NE Sandy Dr
Portland 503 287-6633
Tex Sivright Co 10028 Monroe Blvd Dallas .214 FL 7-6681
Can Rob Neill Co 5200A Yonge St
Willowdale, Ont 416 225-5200

ACME BATTERY CORP 700 CANAL ST STAMFORD
CONN 06902 203-324-4125
L SCHUB EMP 40 ENG 4 $500-$1,000M

ACME CHEMICALS & INSULATION 166 CHAPEL ST
NEW HAVEN CONN 06513 ....203 562-2171
R HEDBERG EMP 100 ENG 12 $2,500-$5,000M
Ill P Brunswick 135 S LaSalle Chicago ...312 263-2667
Mich R A Staff Co 9141 E Jefferson Ave Detroit .821-4223
Minn C R Bergquist 5324 W 60th St Minneapolis .929-6082
Mo R Klorer 7500 Natural Bridge St Louis .314 381-6530
NJ E J Penberthy 16 S Main St Medford 654-8209
NY G Mills 8838 69th Ave Forest Hills 212 268-6820
Ohio R A Staff Co 19684 Center Ridge Rd
Rocky River 216 351-5100
Wis J J Glenn & Co Box 553 Elm Grove

ACME DIVAC INDUSTRIES INC 13025 CERISE
HAWTHORNE CAL 90252
TWX 910-325-6209.................213-772-5445
A BOTTENFIELD EMP 50 ENG 3 $1,000-$2,500M

ACME ELECTRIC CORP WATER ST CUBA
N Y 14727 ....716 968-2400
F VAN ALSTYNE EMP 1200 ENG 35
OVER $10,000M
Ariz Abbott Sales Co 2030 W McDowell Rd
Phoenix 252-6171
Ariz R Poister 3922 N 30th Ave Phoenix 602 266-0043
Cal Baxter Co 2024 Oakdale Ave San Francisco .826-8636
Colo Ben T Clark 211 Wazee Mkt Denver 222-4893
Conn W Frey Wynding Hills Rd East Granby ..203 658-0196
Fla Glenn Assoc 4711 SW 8th St Miami 446-6406
Ga Hopper & McCoy 870 Northside Dr NW
Atlanta 872-5802
Ill Weinstein & White 2211 W Grand Ave
Chicago 243-1155
Ind Electric Sales Inc 25 N Pine St Indianapolis .635-0144
Kan R E Gooley Co 8101 Granada St
Prairie Village 642-3233
La United Sales Assoc Box 73144 Metarie .504-721-9042
Mass Roger Chambers 29 Bromfield St Wollaston .472-3086
Mich Marshall Davis & Assoc 3925 Barton Rd
Lansing 517-372-0398
Mich J Kinnear & Co 14514 Harper St Detroit ...821-1100
Minn Howard A Cullen & Assoc 1595 Selby Ave
St Paul 646-7371
Mo Arnold Haumesser Co 6378 Delmar
St Louis 314 727-4955
NJ V J Benham Box 245 Cherry Hill 429-1212
NY G N Mergel 130 Lysander Dr Rochester .716-334-6909
NY Richard J Milne Box 1149 Poughkeepsie 462-0616
NY Edward D Sweeney 4583 Brookhill Manlius ..682-6915
NY Robert L Varley Box 100 Olean 372-8272
NC Barber-Ayers & Assoc 826 Goldsboro St
Greensboro.......................273-3629
NC R Stelmack 3304 Sandburg Dr
Greensboro 919 275-7937
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Cleveland 216-621-6900
Ohio Baehr-Greenleaf & Assoc 14700 Detroit Ave
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Tenn C J Roderick & Co 212 N Lauderdale St
Memphis 523-1434
Tex Burrus & Matthews 1116 Nagle St
Houston 713 227-4251
Wash H M Denny Co 3410 16th Ave W Seattle ...282-7200
WVa Lilly Electl Sales Agency 1218 Charleston Ave
Huntington 304-525-2593

ACME MODEL ENGINEERING CO 654 BERGEN BLVD
RIDGEFIELD N J 07657 ....201 943-7650
L PARKS EMP 16 ENG 1

ACME RESIN CO DIV CORN PRODUCTS CO BOX 89
FOREST PARK ILL 60130.............312 261-2804
R WRIGHT EMP 80 ENG 5 $2,500-$5,000M
Cal W P Bennett 10343 Dempsey Ave
Granada Hills 363-8600
NY W D O'Hagan 111 Willowbrook Rd
Staten Island 447-5646
Pa F H Puls 4 Tom's Circle Malvern 647-0780

ACOPIAN CORP BOX 585 EASTON PA 18042
TWX 510-6514919..................215 258-5441
J WHITAKER EMP 23 ENG 1
Ala Gentry Assoc, Inc 2109 W Clinton Ave
Huntsville 534-9771
Ark Compar Rocky Mountain Box 1607
Scottsdale 947-4336
Cal Wieler & Co 10842 S Paramount Blvd
Downey 861-9223
Colo Compar Rocky Mtn 300 E Hampden Ave
Englewood 781-0912
Fla Gentry Assoc, Inc 550 Bumby Ave Orlando ..841-7740
Ga Gentry Assoc, Inc Box 13513 Sta K Atlanta .233-3816
Ill Potter-Mac Co 6778 Northwest Hwy
Chicago 775-6626
Minn Kirkeby & Assoc 821 Second Ave, N
Minneapolis....................FR 7-3239
NY L-Tron Box 147 Skaneateles 685-6172
NC J Rudisill Assoc 2009 N Tryon St Charlotte ..377-6901
Ohio J C Hofstetter Co 3300 S Dixie Dr Dayton ..298-0662
Ore Jud LeBrun Co 1123 SW Yamhill St
Portland 224-7710
Pa Martin Electric Co 118 Valley Rd Ardmore ..649-6332
Tex Texelec Inc 2500 Little Creek Richardson ...235-3821
Can Ahearn & Soper Ltd 844 Caledonia Rd
Toronto 19, Ont ....RU 9-4325

ACOUSTECH DIV KOSS ELECTRONICS INC
2227 N 31ST ST MILWAUKEE
WIS 53208 ....414 444-9442
G CORNEHLS EMP 94 ENG 2 $250-$500M
Ala John Russell 3040 Whispering Pines Cir
Birmingham 822-2196
Cal J Berman Co Inc Box 6003 9000 Bellanca Sta
Inglewood 671-6111
Colo John A Rowe Assoc 3100 W 71 Ave
Westminster......................429-4595
Fla John Thompson 322 Riverside Dr
Ormond Beach 677-2298
Mass C A Berube Co 30 White St Westfield 562-6690
Mich L F Zaffina Co 18806 Hayes Ave Detroit ...DR 2-3030
Mo Carmine A Vignola 2611 Schellridge Rd
Jefferson City 635-1023
NY Bach Sales Corp 78 Wellington Rd
Garden City 687-1240
Ohio McFadden Sales Co 150 E Broad St
Columbus 221-3363
Pa Brendan O'Hara 4952 Wynnefield Phila 473-3654
SC Hal Norman Box 5185, Sta B Greenville 244-6254
Tex Leboeuf Nelson Sales 2920 Weslayan
Houston 621-1421
Wis Koss Electronics Inc 2227 N 31st St
Milwaukee 444-9442

Can R C Kahnert Sls Ltd 359 Enford Rd
Richmond Hill, Ont 884-8185
For Radio People, Ltd 25, Chatham Rd
Kowloon, Hong Kong
Ital Koss Electronics S r l Via Bellini 7
Nova Milinese 0362-40-674
Jap Imai & Co 6 Ichigaya-Tomihisacho
Shinjuku, Tokyo
Aust Encel Electronics Pty, Ltd 431 Bridge Rd
Richmond Vic

ACOUSTICA ASSOCIATES INC 5331 W 104TH ST
LOS ANGELES CAL 90045 213-776-2610
F CHASE EMP 50 ENG 15 $1,000-$2,500M

ACOUSTIC RESEARCH INC 24 THORNDIKE ST
CAMBRIDGE MASS 02141 ....617 UN 4-7310
S BENNETT
Cal Damark Indus Inc 15036 Oxnard St
Van Nuys 213-786-9300
Fla Paul & Assoc Box 36613 Houston 713-782-0697

ACOUSTONE CORP 80 WYTHE AVE BROOKLYN
N Y 11211 ....212 ST 2-5560
G BACKER EMP 50 ENG 1
Cal Meyer, Ross & Fleming, Inc 113-10th St
San Francisco 431-0652
Colo A-E-S Inc 12891 E Nevada Cir Aurora 366-0208
Fla J F Thompson 322 Riverside Dr
Ormond Beach ....PL 1-5566
Ga Guyer & Assoc 110 Robin Rd Marietta 636-3023
Haw Dougherty Enterprises 1164 Waimanu St
Honolulu.........................253-666
Ill C E M/S Inc 5940 W Montrose Ave
Chicago 921-1200
Ind Fishman Assoc 2070 E 54th St Indnpls ....CL 1-2401
Md AB&T Sales Corp 3620 Queen Mary Dr
Olney 924-4976
Mass R Smith Co 59 Verndale St Brookline .....AS 7-0017
Mich Burcaw Co & Assoc 18236 W Mc Nichols Detroit
Minn R Ripley 6838 Pillsbury Ave S Minneapolis ..UN 6-8682
Miss LeRoy Massey Co 304 E Jefferson St
Greenwood ....GL 3-3038
Mo C A Vignola Assoc 21 Schellridge Rd
Jefferson City 635-1023
NY J Brown Electronic Sls 207 Rosedale Rd Yonkers
Ohio H Miller Sls Co 4087 Meadowbrook Blvd
Cleveland 321-3900
Ore R Minthorne Co 6565 SW Macadam Ave
Portland ....AL 3-0010
Tex Bushnell Sales Co Box 20714 Dallas CH7-9094
Can W Cohen Ltd 8900 Park Ave Montreal ....DU 8-9201
For E D Magnus & Assoc 5715 N Lincoln Ave
Chicago, Ill 334-1503
BC Electro Tec Marketers 1624 W Third Ave
Vancouver B C RE6-6377

ACOUSTRONICS INC 156 OLIVE ST HUNTINGTON
N Y 11746 ....516 421-1331
M COPEL EMP 5 ENG 3 UP TO $100M

ACRA ELECTRIC CORP 3801 N 25TH AVE
SCHILLER PARK ILL 60176 ....312 678-8870
E JOHNSON EMP 80 ENG 4

ACR ELECTRONICS CORP 160 FIFTH AVE
NEW YORK N Y 10010 TWX GEV ......212 OR 5-5520
N BATES EMP 300 ENG 8 $2,500-$5,000M

ACROMAG INC 30765 WIXOM RD WIXOM
MICH 48096 ....313 624-1541
R HENNINGS EMP 35 ENG 6 $500-$1,000M
Cal Fetty/Schoenduve, Inc 7407 Melrose Ave
Los Angeles....................213 651-4050
Fla Leroy E Rogers Co 110 Sea Island La
Boca Raton 395-7922
Ga Roy Freeman Assoc 305 Buckhead Ave N E
Atlanta 233-2800
Ill Dave Hausten Co 614 Arbor Ave Wheaton ..668-7312
La Petro-Chem Equip Co Box 358
Baton Rouge 504 348-0593
Mass Bordewieck Eng & Sales Co 221 Grove St
S Braintree 843-0845
Mich Hal C Heym & Assoc 1688 Buckingham Rd
Birmingham 644-9166
Minn Electro Products Co 1636 Randolph Ave
St Paul 690-1146
Mo Russ D Sebright & Co 7120 W Florissant Ave
St Louis.........................261-0055
NJ E C Smith & Assoc 797 Springfield Ave
Summit 273-8881
NY Doolittle Electronics Corp Box 97
Fayetteville 637-3222
NC W K Hile & Co, Inc Box 325 Matthews 847-9125
Ohio Jerry Kilroy Corp Box 365 Chagrin Falls 247-8997
Okla IBL Eng & Sales Inc 5149 E 31st St Tulsa ..936-6305
Pa B & A Assoc 237 Lancaster Ave Devon .215 687-0535
Tex Gay Engrg & Sales 5425 Blossom St
Houston ....UN 9-3306
Utah Specialty Sales Co 328 W 2nd S
Salt Lake City..................801 322-5553
Wash Gordon McLaren & Assoc Inc 2255 N Mercer Way
Mercer Island.....................232-5164
WVa Instrument Services Inc Box 1146
Charleston 925-3873
Can Willer Engineering & Sales 1800 Avenue Rd
Toronto 783-3373
Fr Le Regulateur Francais 12, Rue des Ardennes
Paris 19 ....NOR 15-05
GB Ether Ltd Caxton Way Stevenage
Neth Radikor Electronics VD Helstann 16 Hilversum
Ital Ether, Italiana, SpA Via A, Magni, 2
Inverigo Como

ACROMARK CO 60 LOCUST AVE DPT 650
BERKELEY HEIGHTS N J 07922 201-464-6474
W SCHMIDT EMP 50 ENG 2 $500-$1,000M
Cal Decorative Engrg & Supply Inc
17000 S Western Ave Gardena 321-6633

Ill Midwest Technical Service Box 61
Downers Grove 968-4343
Ky Turner Engrg Box 7051 Louisville 896-0502
Neb Fuchs Machy & Supply, Inc 2401 N 11th St
Omaha 341-7050
Ore W E Korber Co Box 02005 Portland 775-3535
Pa C W Thomas Inc 134 Tyson Ave Glenside ...224-5677
Tex Harry Jarrett Box 275 Dallas
Ger D J Keil KG
6101 Gross-Bieberau/ueber Darmstadt
Bahnhofstr 21 06162-760
Jap Marusho Industrial Co Ltd
1, 4-Chome Ginza Higashi
Chuo-Ku, Tokyo 542-2151-80
Swed Maskinaktiebolaget Karlebo Kungsgatan 33
Stockholm 23 1430

ACRO PRODUCTS CORP 1410 S ABERDEEN ST
CHICAGO ILL 60608 ....312 226-1818
I LETKE EMP 25 ENG 1
Cal RDP Instr Inc 999 Commercial St Palo Alto .328-6666
Colo O'Brien Sales Agency 2785 N Speer Blvd
Denver 477-4713
Fla Bill Henry Assoc 1515 Ensenada Dr Orlando .277-3296
Ga
Ill Branum Sales Co Box 516 Lake Zurich 438-2356
Md Quality Components Inc Box 711 Rockville ..922-1623
Mass Production Dev Corp 489 Main St
Stoneham 438-2772
NJ Quality Components Co Box 586 Cherry Hill .428-6266
NY Manufacturers Reps Inc 55 Central Ave
Farmingdale 293-9696
Pa Essay Sales Assoc 201 Penn Ctr Blvd
Pittsburgh 242-5151
Tex P J Scanlon Co 724 S Sherman St
Richardson 231-4661
Can Quality Components Can Reg
4685 Earnscliffe Ave Montreal Que 489-3037

ACROSCOPE ENGINEERING INC 12700 S MAIN ST
LOS ANGELES CAL 90061 ....213 757-1821
H ZINKOW EMP 120 ENG 2 $1,000-$2,500M

ACTIONCRAFT PRODUCTS INC 2 YENNICOCK AVE
PORT WASHINGTON N Y 11050 ....516 883-7444
H LAMKIN EMP 35 ENG 1 $500-$1,000M

ACTION SYSTEMS CO DIV CONN CONSOLIDATED
INDS INC 34 CAMBRIDGE ST MERIDEN
CONN 06450 ....203 237-8941
D BLAKESLEE EMP 200 ENG 7 $1,000-$2,500M

ACTIVE ALLOYS, INC 1089 E GRAND ST ELIZABETH
N J 07201
S ROBBINS EMP 8 $250-$500M

ACTON ASSOCIATES 100 THOMPSON ST PITTSTON
PA 18640 717-654-0612
J MAZUR EMP 3 ENG 1 UP TO $100M

ACTON LABORATORIES INC 531 MAIN ST ACTON
MASS 01720 TWX 710-347-1441 ......617 263-7756
J MAHONEY EMP 117 ENG 43 $2,500-$5,000M
Ariz Gramer & Co 110 W Camelback Rd Phoenix .279-1231
Cal CDH Assoc 18075 Ventura Blvd Encino 345-1644
Fla NBS, Inc Box 2147 Winter Haven 293-5003
Ga Bowmar Inst Corp 2551 Dresden Dr N E
Atlanta 457-1686
Ill M Q and Assoc 6713 Oliphant Ave Chicago ..774-8844
Ind Bowmar Inst Corp 8000 Bluffton Rd
Ft Wayne 747-3121
Minn H A Cullen & Assoc 1595 Selby Ave St Paul .646-7371
Mo Technical Mktg Assoc 2050 Woodson Rd
St Louis 427-3600
NJ T J Reilly 13 Incline Pl Matawan 566-5909
NY R J C Assoc 219 Oakridge Terr Liverpool ...457-3220
Ohio Frank J Campisano 3985 Race Rd
Cincinnati 662-1616
Tex Space Electronics, Inc Irving Bank Tower
Irving 631-0905
Va Philip Lewert 1801 Sheridan Rd McLean ...356-3915
Wash Testco, Inc Boeing Fld, Adm Bldg Seattle ...762-8220
Can Bowmar Canada Ltc Rideau River Rd
Ottawa Ont 822-0463
GB Bowmar Instrument, Ltd 1 Ormond Ave
Hampton Mdsx 01-979-2349
Jap Toyo Trading Co, Ltd Box 999 Central, Tokyo
Gr B Beis Co Box 114 Athens T-8
Isrl R D T Electronics Engrg, Ltd Box 21082
Tel-Aviv 229-293

A C TRANSFORMER CORP 89 MADISON ST NEWARK
N J 07105 ....201 MI2-7574
G GIANGRANDE EMP 14 ENG 1 $250-$500M

ACUSHNET CO BELLEVILLE AVE NEW BEDFORD
MASS 02742 ....617 997-2811
H DYER EMP 2400 ENG 60 OVER $10,000M

ADAGE INC 1079 COMMONWEALTH AVE BOSTON
MASS 02215 TWX 710-330-0141 ......617 783-1100
I SCHWARTZ EMP 300 ENG 50 $2,500-$5,000M
Cal Adage Inc 6151 W Century Blvd
Los Angeles 213-776-6610
Cal Adage, Inc 680 Beach St
San Francisco 415 771-3577
Md Adage Inc 818 Roeder Rd Silver Spring .301-589-1221
Mich Adage, Inc 17500 Northland Pk Ct
Southfield 313 358-3393
NJ Adage Inc 1300 Rt 46 Parsippany 201-335-0900
Tex Adage Inc Braniff Airways Bldg Dallas .214-358-3161

ADAMATIC INC 6169 INDUSTRIAL CT GREENDALE
WIS 53129 414-421-0100
R PICKETT EMP 35 ENG 4 $1,000-$2,500M

ADAM SPENCE CORP 3856 PARK AVE EDISON
NJ 08817 ....201 494-1900
A SANFORD EMP 18 ENG 1 $500-$1,000M

ADAMS RITE MFG CO 540 W CHEVY CHASE DR
GLENDALE CAL 91204 ....203 241-5121
J RANDALL EMP 350 ENG 14 $2,500-$5,000M
Conn Magna Eng Sales Co 24 Apple Orchard La
Trumbull 203 375-8022
Fla Magna Eng Sales Co, Inc 536 St Dunstan Way
Winter Park 305-671-8716
Ga Magna Eng Sales Co 933 Crestline Rd
Atlanta 404-255-7382
Ill Clarkson Eng Co 5518 W Lawrence
Chicago 312-286-2314
Kan Magna Eng Sales Co 248 S Parkwood La
Wichita 316 591-1136
Mass Magna Eng Sales Co 166 Prescott St
Reading 617-944-3145
Mich Reed Bearing & Equip Co 21031 Mack Ave
Grosse Pte Woods 313-884-1820
Minn R E Carlson Co PO Box 3480 St Paul ..612-633-9136
NJ Magna Eng Sales Co Inc 412 Passaic St
Hackensack 201-343-5571
NY Magna Eng Sales Co, Inc 15 Huckleberry La
Liverpool 315-652-2270
Ohio Magna Eng Sales Co Box 3482
Columbus 614-268-6588
Pa Magna Eng Sales Co 59 Iron Hill Rd
New Britain 215-345-1697
Tex Magna Eng Sales Co 7232 Oakbluff Dr
Dallas 214-239-2110
Can Railway & Power Eng Corp Ltd 197 Eastern Ave
Toronto, Ont 366-9691
Neth T Maarleveld Box 12 Huister Heide Holl

ADAMS & WESTLAKE CO 1025 N MICHIGAN ST
ELKHART IND 46514
TWX 219-522-3102 ....219 CO 4-1141
A JOHNSON EMP 672 ENG 37 OVER $10,000M
Cal Pacific Coast Instr Co 1310-65th St
Emeryville 654-8290
Colo B E Russell Co 8112 Grant St Denver 288-2994
Conn White Sales Co Inc Box 122 Berlin 224-0423
Fla W Ben Wimberly Co 532 S Ft Harrison
Clearwater 446-7072
Ill Adams & Westlake Co 135 S LaSalle St
Chicago 346-6232
Mass White Sales Co Inc 20 Chestnut St
Needham 444-3676
Mich R H Jackson Co 200 S Washington Ave
Royal Oak 542-5059
Minn F B Hill Co 6110 Excelsior Blvd Minneapolis .929-6727
Miss Wells-White Co 1965 Colony La
Independence ....Sy 6-4333
Mo Wells-White Co, Inc 7607 Page Blvd
St Louis 726-2511
NJ Adams & Westlake Co 744 Broad St
Newark 623-6532
NY M P Andrews, Inc 319 Mott Rd
Fayetteville ....NE 7-3144
Ohio Beedle Equipment Co 6900 Silverton Ave
Cincinnati 793-0140
Pa W H Cordray Sales Co One Radnor Sta
Radnor 687-1366
Tex Southland Engrg & Sales 1040 W Mockingbird La
Dallas 638-6264
Wash Eicher-Richards Co 2727 NE Blakeley St
Seattle ....LA 3-7888
Can Lisle Instr Sys Ltd 85 Coville Rd Toronto 249-9151
For Mevag Engrg, Trad & Ind Corp Box Istanbul 143
Istanbul, Turkey
Den Paul Lovhoj Meinungsgade Copenhagen
Fr Euromega 11 bis rue de Maubevge Paris 9e
Ger Souriau Electric, GmbH Rathausufer 16-17
4 Dusseldorf
GB B&R Relays, Ltd Temple Fields Harlow Essex
Neth Uni-Office N V Box 1122 Rotterdam
Ital Giuseppe de Mico 1-20121 Milano
Via Manzoni 31
Jap Sankyo Intl Corp 4-1, 2-chome Nishi-Kanda
Chiyoda-ku Tokyo
Nor Skandinavisk Elektronikk A/S Ebbellsgt 1 PO 129
Oslo
Swed Aktiebolaget Bromanco Eriksbergsgatan 32
Stockholm O
Ind United Engineering Enterprizes
Sir Pherozeshah Mehta Rd Bombay
Isrl Technical Development Co, Ltd 8, Tayassim Rd
Tel-Aviv
Mex Agustin Suarez Peredo Av 5 DeMayo 43 Desp 306
Mexico
Aust Craftsman Glass Pty, Ltd 460 Bexley Rd
Bexley, N S W

ADAR ASSOCIATES INC 85 BOLTON CAMBRIDGE
MASS 02140 617-492-7110
H LYNDES EMP 20 ENG 4 $500-$1,000M
Cal Western Sales Box 96 Mt View 415-967-5913
Cal Mitronics 18039 Crenshaw Torrance ...213 323-7934
Ill Mebatek 1915 N Harlem Ave Chicago ..312-889-1277
Ind Mebatek Rt 1 Freetown 317-988-7002
Mass W E Weeton Co Box 77 Needham 617 444-1012
NJ K & J Assoc Wayne 201 694-3334
Wash Rush Drake Assoc 6133 Maynard Ave S
Seattle 206 763-2755

ADC ELECTRONICS, INC 1227 W 254TH ST
HARBOR CITY CAL 90710 ....213 325-8686
N DOSSEY EMP 40 ENG 4
Ala Holcombe Sales Agency Box 1343 Huntsville
Cal Don Allen Co 7969 Engineer Rd San Diego
Ga Holcombe Sales Agency 3098 Piedmont Rd NE
Atlanta 233-1317

ADCOLE CORP 330 BEAR HILL RD WALTHAM
MASS 02154 ....617 899-3450
H LOWELL EMP 75 ENG 20 $1,000-$2,500M
Cal ADCOle Corp 999 Commercial St
Palo Alto 415-328-8611
Md D J Bailey 5841 Tanglewood Dr
Bethesda 301 654-6272

ADCOR ELECTRONICS INC
349 PEACHTREE HILLS AVE ATLANTA
GA 30305 ....404 261-0245
J JOHNSON EMP 7 ENG 2 $1,000-$2,500M

ADC PRODUCTS 6405 CAMBRIDGE ST
MINNEAPOLIS MINN 55426
TWX 910 576-2832 ....612 929-7881
J CORBETT EMP 525 ENG 12
Cal ADC Products 99 E Magnolia Blvd
Burbank 213 849-5821
Colo Williams Assoc 4971 Jackson St
Denver 303 388-4391
Fla CES Assoc Box 1152 Melbourne 305 254-2183
Ill Jay C Angel & Co 2743 Peterson Ave W
Chicago 312 878-0653
Mass V J Huntoon & Assoc Inc 908 Belmont Ave
Springfield 413 788-8516
Minn R G Ragon Inc 1136 W Larpenteur Ave
St Paul 612 488-6634
Mo R R Burton Sales Co 1016 Baltimore Ave
Kansas City 816-471-2850
NM Williams Assoc 420 Washington St SE
Albuquerque 505 255-9632
NY J F Wulfetange Div Box 126 DeWitt ...315-446-1218
Ohio C A Robinson Co Inc 5010 Mayfield Rd
Cleveland 216 381-9049
Okla T J Ray & Co 8514 E 31st Pl Tulsa 918 627-1515
Pa Danco Corp Quarry Hall Rd Box 245
Fairview Village 215 275-2600
Tex ADC Products 11422 Harry Hines Blvd
Dallas 214-241-3143
Utah Williams Assoc 2461 S Main St
Salt Lake City 801 466-8709
Wash Jon B Jolly Pier 59 Seattle 206 624-2152
Can Willer Eng & Sales Co 1800 Avenue Rd
Toronto 416 783-3373

A D DATA SYSTEMS INC 830 LINDEN AVE
ROCHESTER N Y 14625 ....716 381-2370
J CROWLEY EMP 60 ENG 8 $1,000-$2,500M
Ala Technical Assoc box 1443 Huntsville ...205 881-8494
Cal Pi Instruments 12139 Chandler Blvd
N Hollywood 213-984-0826
Conn Datech Assoc 955 Dixwell Ave New Haven ...865-1365
Fla Technical Assoc 2319 South St E
Orlando 305 424-5681
La Technical Assoc Box 731 Slidell 504 288-7122
Md Eastronics 2401 Blueridge Ave
Wheaton 301 942-2363
Mass Datech Assoc 815 Washington St
Newtonville 527-5304
Mich C M & P 23995 Freeway Park Dr
Farmington 313-477-7700
Minn Engineering Prods Assoc 2119 Grand Ave
St Paul 612-698-5531
NY A & D Devices, Inc Box 365 Lyons Falls 348-6631
Ore Northwest Inst 460 N Wadon St
Beaverton 503-644-8285
Pa J J S Assoc Box 241 King of Prussia ...201-233-4562
SC Technical Assoc Box 5583 Spartanburg .803 585-3864
Wash Peninsula Assoc 215 112th St NE
Bellevue ....206 GL 4-8155
Can BRH Assoc Ltd 184 Finch Ave
Willodale, Ont 416 223-4008

ADDINGTON LABS INC 1043 DI GIULIO AVE
SANTA CLARA CAL 95050
TWX 910-338-0138 ....408 248 5511
M JAGGARS EMP 50 ENG 10 $1,000-$2,500M
Ariz Electronic Enterprises Box 116 La Cruces ..524-0126
Cal C W Swift & Assoc 15236 Burbank Blvd
Van Nuys 989-1133
Fla Theal Corp 245 Maitland Ave Maitland 647-4469
Ill Midwest Microwave 6416 W Belmont Ave
Chicago 283-1059
Mass Micronic Assoc Box 162 Cochituate 653-8229
NM Electronic Enterprises 1900 Washington St NE
Albuquerque 256-1585
NY Gray & Reed Assoc 9 Dunford St
Huntington Sta ....AR 1-6677
Pa Holdsworth & Co 8 Smedley La
Newton Square 356-8550
Tex Texas Avionics 4515 Prentice St Dallas 363-6324
Va Jay Co Inc 2914 Annandale Rd Falls Church .534-7800

ADEC INC 86 FRELINGHUYSEN AVE NEWARK
N J 07114 201-248-1330
D WIESEN EMP 40 ENG 2 $500-$1,000M

ADEL DIV DE LAVAL TURBINE CALIF INC
10777 VANOWEN ST BURBANK CAL 91502
TWX 910 499 2176 213-762-1131
W ZIMMERMAN EMP 600 ENG 39
OVER $10,000M
Kan H Crandall 2049 Brentwood Dr Wichita .316-683-1290
NY R Capazzi 425 Broad Hollow Rd
Melville 516-249-2095
Ohio H Marx 4223 Monticello Blvd
Cleveland 216-382-5500
Tex H M Austin 4503 Bluffview Blvd Dallas .214 352-7226
Wash P Froehlingsdorf 535 First Ave Seattle .206-282-4480
WVa G Shy 1444 Washington Ave
Huntington 304-522-7345
Can De Laval Turbine Can, Ltd 24 Brisbane Rd
Downsview, Ont 416-636-8502
Jap Jupiter Corp Box 66557 Burien Br Seattle, Wash
Swit De Laval Turbine, Inc 8, Rue De La Madeleine
Geneva

ADHESIVE ENGINEERING CO 1411 INDUSTRIAL RD
SAN CARLOS CAL 94070 ....415 591-2686
J MACIEL EMP 75 ENG 6

ADJUSTABLE BUSHING CORP 11905 VOSE ST
NORTH HOLLYWOOD CAL 91605 ....213 875-2316
J BAHR EMP 27 ENG 3
Cal F M Sales Co Box 224 Menlo Park ....DA 5-6258
Colo A E Werner & Assoc 2348 S Broadway
Denver 303 722-1258

Conn B-Gray Inc 32 Carriage Rd Wilton 203 227-3708
Fla Spartak Inc Box 915 Winter Park 644-3023
Ga Magna Engrg Sales Co Box 28677
Atlanta 404-255-7382
Mich Tec-Netics 724 N Rochester Rd Clawson ...588-0852
Minn R E Carlson Co Box 3480 St Paul ....612 MI 4-5197
Mo Industrial Metal Working Box 6236, Lambeat St
St Louis 426-4060
NJ B-Gray Inc 2204 New Albany Rd Riverton ...829-5237
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 752-5444
Pa John O Olsen Co 104 Elatan Dr Pittsburgh ..279-2550
Tex Standard Parts & Equip Corp 904 N Main
Fort Worth........ED 6-2521
Wash Norwest Co 1818 Westlake Ave N Seattle ..AT 2-3707
Can Abercorn Aero 2240 Beaconsfield
Montreal, Que ....HU 9-4978

ADJUSTO EQUIPMENT CO 515 CONNEAUT ST
BOWLING GREEN OHIO 43402 ....419 353-8555
H HURSH EMP 115 ENG 2 $1,000-$2,500M

ADMIRAL SYSTEMS CORP 2060 N KOLMAR AVE
CHICAGO ILL 60639 TWX 25-4592 .....312 292-2600
J YASHON EMP 800 ENG 100 OVER $10,000M
DC Aeromaritime Inc 1156 15th St N W
Washington 659-8140
NJ Raymond Gilbarte 35 Maryland Ave
W Long Branch........SH 7-2662

ADRONICS INC, ELROB MFG CORP 271 GROVE AVE
VERONA N J 07044 ....201 746-6060
R ROBINSON EMP 180 ENG 2 $2,500-$5,000M
Ill Rozner Sales Co 4720 N Central Ave
Chicago ....AV 3-0022
NJ H G Richter Inc 608 Sherwood Pkwy
Mountainside 201-AD3-4615

ADTECH INC BOX 10415 HONOLULU
HAW 96816 941-0708
E WELDON JR EMP 12 ENG 6 UP TO $100M

ADTROL ELECTRONICS INC 116 N 7TH ST
PHILADELPHIA PA 19106 ....215 922-4231
B ADAMS

ADVANCE CARBON PRODUCTS, INC
2505 MARIPOSA ST SAN FRANCISCO
CAL 94110........415-431-4034
H HYDE EMP 27 ENG 2
Ore Advance Carbon Prods 8055 SE Bybee Blvd
Portland........503-771-1291

ADVANCED COMMUNICATIONS INC SUB
CONDUCTRON CORP 9257 INDEPENDENCE AVE
CHATSWORTH CAL 91311
TWX 910-494-1219........213-341-3000
R LOTHERS EMP 200 ENG 42 $2,500-$5,000M
DC Advanced Communications 1145 19th St NW
Washington 202-333-0660

ADVANCED DEVELOPMENT CORP
2014 W 139TH ST GARDENA CAL 90249 . 213 770-1143
K OLSON EMP 30 ENG 5 $500-$1,000M

ADVANCED DEVICES LAB 701 KINGS ROW
SAN JOSE CAL 95112 ....408 287-2600
J PALMER EMP 20 ENG 3

ADVANCED DYNAMICS INC DIV ALCO STD CORP
17506 MILES AVE CLEVELAND
OHIO 44128 ....216 752-8700
G HOLMES EMP 30 ENG 3 $250-$500M
Cal Hafstrom Assoc 7460 Girard Ave LaJolla ..GL 4-4271
Ill Primelines Co 8047 Kilpatrick Skokie 677-7770
Ind Law Instrument Co, Inc Box 95 Angola 665-6016
Mass Moisan Assoc Box 393 Lowell........452-5003
Mich H E Ardahl Box 55, Kensington Sta Detroit . TU 5-6547
Mo Industrial Service Labs 1474 S Vandeventer
St Louis ....JE 5-5761
NJ Alvin M Stock, Inc 2801-03 Central Ave
Union City ....UN 4-2140
NY R P Smith Co, Inc 6443 Ridings Rd
Syracuse 463-6641
NC A D Penn Co 1043-C Providence Rd
Charlotte........332-8644
Pa Wistex 1 Belmont Ave Bala-Cynwyd ......TE 9-7086
Va Virginia Technical Assoc, Inc 15 S Belmont Ave
Richmond........353-6411
Wis Process Measurement & Control Co Box 7292
Milwaukee 774-3290
Can Baker Instr Ltd 185 Davenport Rd
Toronto Ont 924-9708
Can Northwest Industries Ltd Industrial Airport
Edmonton, Alb

ADVANCED ENERGY CONVERSION
1918 MENALTO AVE MENLO PARK
CAL 94025 ....415 325-9255
R KAYLOR EMP 30 ENG 5

ADVANCED HIGH VOLTAGE CO INC.
8635 YOLANDA AVE NORTHRIDGE
CAL 91324 213-886-3334
J COLLINS EMP 7 ENG 3

ADVANCED KINETICS, INC 1231 VICTORIA ST
COSTA MESA CAL 92627........714 646-7165
R GRADISHAR EMP 35 ENG 17 $250-$500M

ADVANCED MEASUREMENT INSTRUMENTS, INC
109 DOVER ST SOMERVILLE MASS 02144
TWX 710-348-0107 ....617 623-2008
I KADESH EMP 63 ENG 3 $250-$500M
Ariz Hyer Assoc 3300 S Mill Rd Tempe 967-8786
Cal RDP Instruments Inc 1338 So Atlantic Blvd
Los Angeles 263-9441
Colo Hyer Assoc 7895 E Prentice Ave Englewood . 771-5235
Conn Instrument Dynamics 345 N Main St
West Hartford 233-5503
Fla Telementry Sales Corp P O Box 6453
Orland 241-1282
Md Gary L Brown Assoc 5801 Annapolis Rd
Bladensburg........779-1500
Mass Instrument Dynamics Wakefield Industrial Ctr
Wakefield 245-5100
NJ G Curtis Engel & Assoc P O Box 569
Ridgewood 444-1400
NM Hyer Assoc 130 Alvarado Dr NE
Albuquerque........265-5961
Tex Space Sys Sales & Engrg 8383 Stemmons Frwy
Dallas 631-1740
Utah Hyer Assoc 1425 S 2nd St SW
Salt Lake City 487-7747
Can Technitron Assoc 8 Glanlynn Rd
Pointe Claire, Que 695-2579

ADVANCED MICROWAVE LABS 611 VAQUEROS AVE
SUNNYVALE CAL 94086
TWX 910-339-9219 ....408 245-5770
F BORGHETTE EMP 45 ENG 5
Cal RF Assoc 1621 Pontius Ave
Los Angeles........213 478-1586
Colo Kelley Enterprises 336 E 4th St
Loveland 303 667-1376
Kan Poly Onics, Inc 4434 W 90th Terr
Leawood 913 648-4173
Md Doss Electronics Inc 6660 Security Blvd
Baltimore 301 944-1900
Mich Micro Sales Corp 650 Greenlawn
Ypsilanti 313 482-1229
Mo Poly Onics Inc 47 Vlg Sq Shop Cen
Hazelwood........314 921-3848
NJ Maloy, Stagnitti & Co 4 Horizon Rd
Fort Lee 201 224-6911
NY B D Hummel Co 2224 Maynard Ave
Utica 315 736-7821
Ohio Micro Sales Corp 1250 W Dorothy La
Dayton 513 298-3033
Pa Sonco 107 Town Ctr Rd King of Prussia . 215 247-8266
Tex Vidal Electronics Inc 3403 High Bluff Dr
Dallas 214 247-4522
Fr Micro Gamma 70 Rue de la Paroisse 78 Versailles
Swed Thure F Forsberg AB Forshagagatan 58 Box 79
Farsta

ADVANCED PRODUCTS CO 33 DEFCO PARK RD
NORTH HAVEN CONN 06473 ....203 239-3341
A HOSTAGE EMP 85 ENG 4
Ala Roy G Evans Co 371 Pioneer Cir
Birmingham 822-5381
Ariz D MacRobbie 4356 N 36th Pl Phoenix 955-8256
Cal Advanced Products Co 8921 S Sepulveda Blvd
Los Angeles 776-3787
Colo O Brien Sales Agency 2785 N Speer Blvd
Denver........477-4713
Conn Godfrey & Assoc Box 189 W Hartford 521-0838
Ga Go-Air Inc 3562 Elm St Hapeville.........767-7522
Ill Central States Ind Cont Corp
4324 S Western Ave Chicago 254-0900
Ind Dick Bigler Assoc 500 Carter Ave Goshen ...533-6740
Iowa Charles Richardson Co 310 Putnam Bldg
Davenport 326-0527
La R H Creager Inc 1224 Richards Bldg
New Orleans........523-6316
Minn Cogburn Sales Co 1154 E 7th St St Paul ...774-9659
Mo King Equip Inc 2277 Administration Dr
St Louis........432-8441
NY C F Russell Co 50 Park Ave Bayshore 665-2623
NC Carolina Mec-Tric Controls Box 17527
Charlotte 376-8551
Pa Control Instrument Sales Co 2727 Phelmont Ave
Bethayres 676-1808
Tenn L L Bogle & Assoc 873-3 S Yates Rd
Memphis 683-2626
Tex M Daggett, Jr & Assoc 5934 Royal Lane
Dallas 357-1256
Va Tate Engineering Inc 900 S Jefferson St
Roanoke........343-4033
Wash Amtec Products Co 1518 54th Ave E
Tacoma 922-8749
Can Anthony Foster & Sons Ltd 294 Church St
Toronto ....EM 6-3081
Den Gunnar Haagensen Ltd Svanemoellevej 100
Hellerup ....EVA 9725
Fr Ste Nelle J F Shendon 10, Rue Montcalm
Paris ....ORN 34-68
Ger Pampvs K/G 4151 Schiefbahn Bei Dusseldorf
Postfach 80
GB R H Symonds Ltd 47 Victoria St London ....ABB 2771
Neth Eriks N V Voormeer 33 Alkmaar
Ital Mercantile Condor SpA 30 Via G B Pirelli
Milano........63 59 18
Jap Yashima Exp & Imp Co 1 - 1 Akasada - Tamachi
Minato-Ku, Tokyo
Nor NORFAX Jernbanetorvet 11 Oslo 42 72 71
SAfr Bowcliffe Ltd Box 313 Johannesburg 838-3051
Swed Bergman A/B Kungsholms Kyrkoplan 6
Stockholm K
Belg Advanced Products N V Pierstr 5
Aartselaar 0377-4294
Aust Basil V R Greatrex Pty Ltd 9-13 Campbell St
Artarmon, N S W

ADVANCED PURIFICATION SYSTEM CO INC
260 NORTHERN BLVD GREAT NECK
N Y 11021 ....516 487-5545
G GREENE EMP 6 ENG 2 $100-$250M

ADVANCED SPACE AGE PRODUCTS INC
4308 WHEELER AVE ALEXANDRIA VA 22304
TWX FAXRBJ 703-751-3320
R BERGER EMP 55 ENG 5 $1,000-$2,500M
Minn DeBeck Assoc 2119 Grand Ave St Paul . 612-690-1557
NY H S Heffernan 111 Old Country Rd
Hicksville 516-433-5418
NC H S Heffernan Box 11005 Greensboro . . 919-299-2294
Pa DENCO 500A E Godfrey Ave
Philadelphia 215-725-9000
Va H S Heffernan 1123 N Irving Arlington . 703-522-6666

ADVANCED TECHNOLOGY CORP
1495 LINCOLN WAY E CHAMBERSBURG
PA 17201........717-263-9257
EMP 50 ENG 6 $500-$1,000M

ADVANCED TECHNOLOGY & SYSTEMS CORP
1143 POST RD RIVERSIDE CONN 06878
TWX 965979 ....203 637-4337
M STERNLICHT EMP 19 ENG 4 $1,000-$2,500M
Cal Carl Hermann Assoc Box 1179
Palo Alto 415-322-4561
Conn Technical Instr Inc 575 Broad St
Bridgeport 203-368-4582
Md Globe Assoc 8121 Georgia Ave 301-587-0060
Mass Technical Instr Inc 122 West St
Wilmington........617-944-3930
NJ Bob Most Assoc Box 231 Saddle River . 201-825-0033
Ohio Tiby Co 2245 Warrensville Ctr Rd
Cleveland 216-371-5335
Tex Scelton Techn Prods 1321 Lindenhurst
Irving........214-BL4-7237
Wash J K Pooley Co 4110 Stoneway N
Seattle 206-ME2-1618

ADVANCE ELECTRONICS LTD
ROEBUCK RD HAINAULT ILFORD ESSEX
ENGLAND
D HATFIELD EMP 1000 ENG 50
$5,000-$10,000M
NJ Alban Electronics 111 Cedar La Englewood
Den S C Metric A/S Rund Forbivej 186
2850 Naerum 0180-4200
Fr Seina 16 Rue d Aguesseau 92 Boulogne
Ger Dressler Elektronik 2804 Lilienthal
Bremen Klosterweide
Neth Heijnen N V Box 10 Steendalerstr 56 Gennep
Ital Vgo De Lorenzo & Co S R L Via Bellarmino 29
Milano
Jap Toyo Trading Co Ltd Box 999 Tokyo
Nor Metrix A S Box 80 Bekkelagshgd Oslo
SAfr Dowson & Dobson Ltd 29 Webber St
Joahnnesburg
Swed Scandia Metric A B Dalvagen 12 Fack Solna 3
Swit Digitana AG Gertrudestr 24 8003 Zurich

ADVANCE GEAR & MACHINE CORP
5851 HOLMES AVE LOS ANGELES
CAL 90001 ....213 587-8103
R SEITZ EMP 130 ENG 6 $1,000-$2,500M

ADVANCE INDUSTRIES INC 2002 FRENCH RD
APPLETON WIS 54911 414-739-6121
M GESKE EMP 35 ENG 4 $500-$1,000M

ADVANCE INSTRUMENT CORP 1707 F ST BELMAR
N J 07719 201-681-2700
M BURKE EMP 12 ENG 2 $500-$1,000M

ADVANCE ROSS ELECTRONICS CORP
135 S LASALLE CHICAGO ILL 60603....312 346-9126
H CAMPBELL EMP 625 ENG 15 OVER $10,000M
Cal W S Harmon Co 6118 Venice Blvd
Los Angeles ....WE 7-1460
Ill Proctor Sales Co 2538 Peterson Ave
Chicago 973-5300
NY G J Gay, Inc 2 Main St Brockport........NE 7-3776
Tex G V Peck Co 210 Casa Linda Plaza Dallas ..DA 8-3511

ADVANCE STAMPING CO 12025 DIXIE AVE
DETROIT MICH 48239
TWX 313-538-4533........313 KE7-3500
E NOLAN EMP 260 ENG 2 $5,000-$10,000M
Ariz E J Foley & Assoc 441 N Winfield Scott Plaza
Scottsdale........WH 5-2666
Cal Nat Nesbitt Co 730 N Euclid Ave Anaheim ..535-2814
Ill Advance Stamping Co 1673 S Mt Prospect Rd
Des Plaines 296-4840
Mass L K Ingber Co 842 Commonwealth Ave
Newton Centre........332-3856
Mo T J Fitzsimmons Co 1839 Candlewick Dr
St Louis ....FL 3-2257
Ohio Lee & Storrs Box 115 Terrace Park ......CH 1-1844
Pa H J Nugent 547 Swede St Norristown BR2-1955
Pa Commonwealth Sales 5310 Perry Hwy
Pittsburgh 931-1610

AEI SEMICONDUCTORS LTD CARHOLME RD
LINCOLN U K........LIN-26435
K SUMNER
NY Calvert Electronics Inc 220 E 23rd St New York
Can E E Valve Co Canada Ltd 24 Ronson Dr
Rexdale Ont
Den Tage Olsen Ronnegard 1 Copenhagen
Fr Seiem 8 Rue Polonceau Paris 18
GB AE1 Semicon Ouilns Ltd 132 Long Ave
London WC2........01-836-5544
Ital Sisram 1021 Turin Covso Matteotti 55
Swed Specialmaskiner A B Box 336 40125 Goltenburg
Swit Woods Ag 8026 Zurich Ankerstr 53

AEMCO DIV, MIDTEX INC 10 STATE ST MANKATO
MINN 56001 TWX 910 565-2244 ....507 388-6286
R ELSE EMP 425 ENG 7 $5,000-$10,000M
ADV PGS 525,527,529,537,548,643
Cal Spectrum Sales Co 14106 Ventura Blvd
Sherman Oaks........213 788-9911
Cal Technical Mktg Assoc 1485 Bayshore Blvd
San Francisco 467-8700
Fla Beacon Electronics Box 1278 Maitland 647-3498
Ill Century Sales Co 720 61st St
Downers Grove 312 968-5608
Md David K Jones 2026 Maryland Ave
Baltimore........752-0577
Mich Ray Van Riper Sales 1842 Newton SE
Grand Rapids 616-452-0464
Mo Hill & Co 915 Buder Bldg St Louis 314-621-1818
NH Bell Controls 139 Peele Rd Nashua 603-888-2021
NJ Thomas Assoc 138 Haddon Ave Haddonfield . 854-3011
NY R Sundeen 31 Edgewood Dr
Baldwinsville 315-685-6969

NY Magneco Industries Inc 320 Cedar St
South Hempstead 516-538-0062
Ohio Frank E Kahsar Sales 5229 A Glenway Ave
Cincinnati. 471-9011
Tex Carter Assoc Box 87 Garland 276-7151

AEROCOM 3090 S W 37TH AVE MIAMI
FLA 33133 . . . . .305 448-6503
F STACY EMP 90 ENG 9 $1,000-$2,500M
Cal Aeronautical Elctns Sls Corp 3101 Pico Blvd
Santa Monica 293-7610
DC A W Beideman 3525 Napier St
Wheaton, Md 946-8666

AERODYNE CONTROLS CORP 90 GAZZA BLVD
FARMINGDALE N Y 11735. . . . . .516 694-3500
D NAPOLI EMP 40 ENG 6 $500-$1,000M
Ala Electro Pneumatic Control Co 2361 Farley Terr
Birmingham 822-5350
Md R A Cantwell 9321 Fresno Rd Bethesda . . . .OL 4-3698

AEROFLEX LABS, INC S SERVICE RD PLAINVIEW
N Y 11803 TWX 510-224-6417 . . . . .516 694-6700
R SANDERS EMP 175 ENG 35 $2,500-$5,000M
Ariz Bennewitz Assoc 532 N Brown Ave
Scottsdale 947-7379
Cal Aeroflex Western Div 1661 Tulane Rd
Claremont 621-1019
Colo Bennewitz Assoc 2801 E Colfax Ave Denver .399-1132
Ill Aerol Assoc Inc 466 Central Ave Northfield . .446-6486
Kan Aerol Assoc 6631 E Kellogg Wichita 683-7421
Md Aerol Assoc 2926 E Cold Spring La
Baltimore. 426-1665
Mass All Star Engrg Co Box 58 Woburn 935-3417
Minn Aerol Assoc Rt 2 Anoka 336-4240
Mo PEM Sales Co 9537 Lackland Rd St Louis . .427-7200
NJ Aerol Assoc Inc 730 Clifton Ave Clifton 779-6744
NM Bennewitz Assoc 8310 Cutler N E
Albuquerque. 299-8651
NY Aeroflex Laboratories South Serv Rd
Plainview 694-6700
Ohio Aerol Assoc Box 7, Centerville Branch
Dayton. 434-6504
Pa Bonn Assoc 7217 Rising Sun Ave
Philadelphia .215 725-2210
For Frathom Corp 202 E 44th St
New York, NY .MU 9-9390

AEROLITE ELECTRONICS CORP 2207 SUMMIT AVE
UNION CITY N J 07087 . . . . .201 863-2955
V MATTO EMP 80 ENG 3 $500-$1,000M

AEROLUX LIGHT CO INC DIV DURO TEST CORP
653 11TH AVE NEW YORK N Y 10036 . . .212 246-5324
P KAYATT EMP 25 ENG 2 $250-$500M

AEROMARINE ELECTRONICS, INC BOX 6377
SAN DIEGO CAL 92106 . . . . .714 224-8224
EMP 45 ENG 6 $500-$1,000M
Ala Space Engrg Sales 4306 Governors Dr Huntsville
Cal Westec Electronics 14125 Inglewood Ave
Hawthorne 213 322-1561
Fla Space Engrg Sales Orlando
NC Space Engrg Sales 2509 Lakeshore Dr
Greensboro
Wash Westec Electronics Box 66521 Seattle .206 243-7070

AERO MAYFLOWER TRANSIT CO, INC
863 MASS AVE INDIANAPOLIS
IND 46204 . . . . .317 639-2451
J SMITH EMP 750 OVER $10,000M

AERO MECHANISM, INC 7750 BURNET AVE
VAN NUYS CAL 91407
TWX 910 495-1730 . . . . .213 782-1952
L MERCATORIS EMP 92 ENG 8 $1,000-$2,500M
Md East Coast Liaison Inc Box 243
Lutherville. 301 252-1288
NY Aero Mechanism Inc 337 Clay Pitts Rd
E Northport 368-1561
Ohio Ashby Assoc 4130 Linden Ave Dayton . .513 252-5627
Pa W Reeves Assoc 2973 N Providence Rd
Media . . . . .215 LO 6-6709
Tex C Butt Box 18045 Houston . . . . .713 JA 6-3101
Wash D Lindsey 410 S 96th St Seattle 762-2332
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal Que 514-388-5914
Neth Aero Specialties Box 102 Amstelveen
Jap Ishimoto Trading Co 3-23-6 Nishi Shinbashi
Minato-Ku Tokyo

AEROMETRICS DIV AEROJET-GENERAL CORP
3300 CROW CANYON RD SAN RAMON CAL 94583
TWX 415-933-4230 . . . . .415 837-5343
C EDMONDS EMP 85 ENG 21 $2,500-$5,000M
Ala R C Mac Millan Co 703 Watts Dr S E
Huntsville 205-536-1969
Ariz Vinson Assoc 44 E Indian School Rd
Scottsdale .602-947-7371
Cal Charles Lowe Co 6340 Christil Ave
Emeryville .415-653-8236
Colo Vinson Assoc 3600 S Lincoln
Englewood .303-789-2203
Conn Snow & Pearsall Assoc 56 R Maple Hill Ave
Newington .203-247-2908
Haw Harkom Hawaii, Inc 630 Piikoi St Honolulu . . .587-178
Haw Thom Equipment Co 463 Nimitz Hwy
Honolulu. 502-827
Ill R Edward Stemm, Inc 17 W 480 Lake St
Addison 279-2440
Md S & S Assoc, Inc 7720 Wisconsin Ave
Bethesda 654-2420
Mass Snow & Pearsall Assoc 1 Highwood Rd
Manchester .617-927-3710
Mich Wayne Sales Corp 2211 Monroe Blvd
Dearborn 274-0890
Minn R Edward Stemm, Inc 2713 Lyndale Ave, S
Minneapolis 822-8404
NM Vinson Assoc 2329 Wisconsin N E
Albuquerque 505-298-7442

NY Aries Associated Prods Corp 96 Little Neck Rd
Centerport 261-4320
Ohio P E Phillips Co 4425 Glenheath Dr Dayton . .293-7940
Pa S & S Assoc, Inc Boro Line Rd
King of Prussia .265-3450
Tex Option Inc 5025 N Central Expwy
Dallas. 214-528-8153
Va Webster & Assoc 821 B Sunnyside Dr
Virginia Beach 703-420-4232
Can Electronic Marketing Co of Can, Ltd
3600 Barclay Ave Montreal 26 739-3206
BC Canadian Dynamics Ltd 8264 St George St
Vancouver 325-6014

AERONAUTICAL ELECTRIC CO
5656 NORTHWEST HWY CHICAGO
ILL 60646 . . . . .312 SP 4-5200
W YOUNGSTROM EMP 40 ENG 1 $500-$1,000M
Cal Jerry Gartner Sales Co 1312 Casiano Rd
Los Angeles . . . . .DU 7-7175
Ind McNabb/Brase & Assoc 4002 Meadows Dr
Indianapolis. 317 545-8167
Minn Northern State Sales Co 1109 W 78 1/2 St
Minneapolis .612 866-3468
NY R E Breuer Co 1 Barstow Rd
Great Neck 516 466-3030
Can A Deskin Sales Corp 1565 Louvain St W
Montreal, Que 514 384-1420

AERO RESEARCH INSTRUMENT DEPT AMERICAN
STANDARD 9000 KING ST FRANKLIN PARK
ILL 60131 TWX 910 227-0052 312-671-0511
M SCADRON EMP 100 ENG 10 OVER $10,000M
Ala Col-Ins-Co Box 4246 Huntsville 539-1771
Ariz BFA 4710 N 16th St Phoenix 264-6536
Cal Porter Co 17000 Ventura Blvd Encino 788-2350
Colo BFA 1309 S Inca St Denver 744-3301
Conn Forsberg Sales 22 Broadway North Haven . .239-5111
Fla Col-Ins Co Inc Box 13189 Orlando 423-7615
Ill Branum Sales Co Box 516 Lake Zurich 438-2356
Mass Forsberg Sales 646 Summer St Brockton . . .522-6300
Mich George Instrument Co 1024 W 14 Mile Rd
Clawson 564-5481
Mo Maise Equipment Co 10635 Clayton Rd
St Louis . . . . .CH 1-4351
NM BFA 1238 Ortiz SE Albuqu 268-4387
NY L-Tron Corp Box 147 Skaneateles 685-6172
Ohio Jerry Kilroy Corp 15517 Dale Rd
Chagrin Falls 247-8997
Pa Stein Instrumentation Co 413 Johnson St
Jenkintown. 885-2370
Tex Instrumatics Inc 916 Boundary Houston . . .CA 5-6626
Wash Cane-Topp Co Inc 13547 SE 26th St
Bellevue 746-5750
Neth H Drijfhout & Zoon's Post Bus 687 Amsterdam
Ital FAS Automazioni-Strumenti Via F Koristka 8/10
Milan
Jap Okazaki Mfg Co
3-1 Kaigandori 2-Chome Ikuta-Ku Kobe
SAfr Microtherm (PTY) Ltd 9 Lilian Rd
Fordsburg, Johannesburg

AEROSCIENCE DIV ELPAC INC 3800 OAKCLIFF RD
ATLANTA GA 30040 . . . . .404 451-6145
R PARR EMP 25 ENG 4 $500-$1,000M

AEROSPACE AVIONICS INC 1500 OCEAN AVE
BOHEMIA NY 11716 . . . . .516 LT 9-9200
R KITTEL EMP 150 ENG 20 $1,000-$2,500M
Ala Russell Assoc 2516 N Memorial Pkwy
Huntsville 205-539-7211
Cal Russell Assoc 3951 E Huntington Dr
Pasadena 213-795-9521
Fla Russell Assoc 211 W Fairbanks Ave
Winter Park 305-MI-7-2251
Ga Russell Assoc 6427 Roswell Rd Atlanta .404-225-8422
Ill Russell Assoc 1303 N Richmond Rd
McHenry 815-385-4220
Mich Russell Assoc 24634 Five Mile Rd
Detroit. 313-KE-2-5770
Ohio Russell Assoc 4 Eswin St Greenhills 513-825-0930
Wash Russell Assoc 6361 First Ave S
Seattle. 206-RO-2-1213

AEROSPACE CONTROLS CORP 215 W 131ST ST
LOS ANGELES CAL 90061 . . . . .213 532-6700
D MORRISON EMP 50 ENG 15 $500-$1,000M
Ohio J J Walker 50 W Gay St Columbus 614 221-4247
Fr Robert C Walker 44, Rue Paul Valery Paris

AEROSPACE KNOB CO DIV DUPREE INC
1710 POTRERO AVE SOUTH EL MONTE
CAL 91733 213-442-4700
J DUPREE EMP 40 ENG 2 $500-$1,000M
Cal Shannon Electronics 1 First St
Los Altos. 415 941-2217
Ind McDonald Sales Co 227 S Cornell Cir
Ft Wayne 219 745-9214
Kan Aviation Technical Reps 227 Ida Wichita
Mass Gilway Sls Co Box 584 Newburyport . . .617 465-7568
NY Harold B Heft Box 623 Lynbrook . . . . .LY 9-3351
Ore Arneson Assoc 200 NE Canyon Rd
Beaverton 503 646-3416
Tex Scott Technical Sales Box 30324 Dallas . . .FL 2-7698
Wash Arneson Assoc 59 S 6th Ave, S Seattle .206 762-7664

AEROSPACE RESEARCH, INC 130 LINCOLN ST
BOSTON MASS 02135 . . . . .617 254-7200
W YORK EMP 89 ENG 22 $1,000-$2,500M
Fla Jaeger Assoc 999 Woodcock Rd
Orlando 305-841-1511
Md K-G Electronics 11151 Viers Mill Rd
Wheaton 301-946-4055
Ger Wacker GMBH Stettenstr 9 6 Frankfurt AM
Jap Matsushita Elec Trading Co
15-17 6-Chome Shinbashi Tokyo
Nor Luftmateriell A/S Prinsensgate 2c Oslo
Swed M Stenhardt AB Grimstagatan 89
Stockholm (Vallingby)

Isrl R D T Electronics Engrg Ltd 13 Dov-Hos St
Tel-Aviv

AEROSPACE SYSTEMS A TELEDYNE CO
1007 E 10TH ST FAIRMONT MINN 56031
TWX 910-565-2120 . . . . .507 235-3355
D WELLCOME EMP 60 ENG 2 $1,000-$2,500M
Cal Aerol Assoc Inc 2920 Columdia St
Torrance 213-320-5658
Conn Aerol Assoc Inc 63 N Main St Essex . . .203-767-0156
Ill Aerol Assoc Inc 466 Central Ave
Northfield .312 446-6486
Kan Aerol Assoc Inc 6631 E Kellogg Wichita .316 683-7421
Md Aerol Assoc Inc 2926 E Cold Spring La
Baltimore 301 426-1665
Mass Aerol Assoc Inc 216 Burroughs Rd
Braintree 617-848-1477
Minn Aerol Assoc Inc Rt 1 Box 230 Anoka . . .612-421-0751
Mo Aerol Assoc Inc 34 N Brentwood Blvd
St Louis 314 725-5361
NJ Aerol Assoc Inc 730 Clifton Ave Clifton .201 779-6744
NY Aerol Assoc Inc 170 Great Neck Rd
Great Neck .516 487-9650
NY Aerol Assoc Inc 474 Thurston Rd
Rochester 716-436-7271
Ohio Aerol Assoc Inc 6010 Far Hills Ave
Dayton 513 298-5024
Pa Aerol Assoc Inc 80 Second St Pike
Southampton 215-355-6365
Tex Aerol Assoc Inc 6115 Denton Dr Dallas .214-358-4725
Va Aerol Assoc Inc 2400 Wilson Blvd
Arlington 703-528-5181

AEROTHERM CORP 485 CLYDE AVE
MOUNTAIN VIEW CAL 94040 415-964-3200
N FENTON EMP 75 ENG 35
Cal B J Wolfe Enterprises 10760 Burbank Blvd
N Hollywood 213-877-5518
Conn Andruss-Peskin Corp Box 179 Old Saybrook
Ill Laub Engineering Box 8 Northfield 312-446-4166
Mass Andruss-Peskin Corp Box 268 Natick . .617-653-3919
Mich Anderson Electronics 30785 Grand River Ave
Farmington .313-476-9161
NY E C Smith & Assoc 60 East 42 St
New York 212-682-6890
Ohio RDP Assoc 5877 Huberville Ave Dayton .513-253-6175
Pa PDC Corp The Benson-East
Jenkintown .215-887-9610
Tex Technical Products 10219 Hedgeway Dr
Dallas. 214-357-9606

AEROTRONIC ASSOCIATES, INC BOX 367
CONTOOCOOK N H 03229 . . . . .603 746-3141
M LONGLEY EMP 60 ENG 6 $500-$1,000M
Cal Mulvin & Co 3842 E Colorado Blvd
Pasadena 213 681-4591
Fla Beacon Electronics, Inc 540 S Maitland Ave
Maitland 647-3498
Mo G Fixman Engrg Co 8160 Stanford Ave
St Louis 725-5219
NM Electronic Enterprises 1900 Washington St, NE
Albuquerque. 256-1585

AERO VAC CORP BOX 448 TROY N Y 12181 .518 274-5850
R JOHNSON EMP 48 ENG 10 $1,000-$2,500M
Cal Fieldtec, Inc 4242 Campus Dr
Newport Beach .540-4000
Ill Nowack Sales Co Box 423 Palantine . . .312-258-1600
Md Aero Vac Corp Box 8673 Baltimore . . .301-277-4799
Mass Aero Vac Corp 25 Grant St Waltham 894-8399
NY Aero Vac Corp Box 448 Troy 518-274-4840
NC Radco 614 Nissen Bldg Winston-Salem .919-722-9671
Ohio Gray & Co 12429 Cedar Rd Cleveland . .216-462-2669
Can Applied Technology Box 272
Don Mills Ont 416-444-1264
Ger Klaus Schaefer Darmstadter Str 62
6079 Sprendlingen

AEROVOX CORP DISTR SALES
740 BELLEVILLE AVE NEW BEDFORD
MASS 02741 TWX 710-344-6985 . . . . . .617 994-9661
M SIMON
Ala Stanley K Wallace Assoc 1871 Grove Hill La
Montgomery 262-2011
Cal Rissi Sales Co 1817 S San Gabriel Blvd
San Gabriel
Colo Connors Inc 2241 Stacey Dr Denver 428-1575
Conn Gerber Sales Co 29 Walley Ave New Haven .SP 7-6279
Fla Stanley K Wallace Assoc Box 67 Lutz. 949-1817
Ga Stanley K Wallace Assoc 715 Flamingo Dr Sw
Atlanta . . . . .PL 3-8463
Ill Ellinger Sales Corp 6580 Northwest Hwy
Chicago 763-1570
Ind Robert Milsk Co 2511 E 46th St
Indianapolis 546-5468
Iowa Ellinger Sales Corp 309 4th Ave SE Clarion .532-3218
Mass Gerber Sales Co 176 Second Ave Waltham . .891-8040
Mich Robert Milsk Co 19375 James Couzens Hwy
Detroit. 342-6660
Minn Fred B Hill Co 6110 Excelsior Blvd Mnpls . . .929-6727
Mo Ellinger Sales Corp 4969 Bancroft St Louis .FL 2-2027
NJ Simberkoff Sales Co 71 Valley St S Orange .763-7900
NY Simberkoff Sales Co 35 Niagara St
Lockport 434-4426
NC Stanley K Wallace Assoc Rt 1, Box 423
Matthews 847-9262
Ohio Chas H Dolfuss Jr & Co 2108 Payne Ave
Cleveland . . . . .PR 1-1270
Pa Simberkoff Sales Co 1021 Levick St Phila . .PI 3-2512
Tenn Stanley K Wallace Assoc 5960 Brierdale Cove
Memphis 682-2281
Tex H Lieberman 2300 Richmond Houston 526-3431
Va Simberkoff Sales Co 420 W Arlington Twrs Apts
Arlington 525-5898
Wash Western Tech Sales Box 902 Bellevue . . . . .FA 5-4022
Can Aerovox Canada Ltd 1551 Barton St E
Hamilton, Ont .545-5893
For Ad Auriema Inc 85 Broad St
New York, NY . . . . .BO 9-7750

AEROVOX CORP NEW BEDFORD DIV
740 BELLEVILLE AVE NEW BEDFORD
MASS 02741 TWX 710-344-6985 ......617 994-9661
T CARY EMP 1400 ENG 100 OVER $10,000M
Ariz Hytronic Measurements 1017 N 3rd St
Phoenix 253-6104
Cal Aerovox Corp 554 N First St Burbank 849-5511
Cal Aerovox Corp 2680 Bayshore Frontage Rd
Mt View 415-096-2148
Colo Hytronic Measurements Inc 4940 E 39th Ave
Denver 388-4081
Conn Gerber Sales Corp 29 W Halley Ave
New Haven 777-6279
DC Aerovox Corp 2000 L St N W Washington 293-1941
Ill Aerovox Corp 7001 N Clark St Chicago 465-2112
Ill Ellinger Sales Corp 6580 N Northwest Hwy
Chicago 763-1570
Ill Eschner-Keranen Inc 20 N Wacker Dr
Chicago 236-1533
Iowa Ellinger Sales Corp 309 4th Ave SE Clarion .532-3218
Mass Gerber Sales Corp 176 Second Ave
Waltham 891-8040
Mich Carrier & Gable Inc 20755 Greenfield Rd
Southfield 444-8980
Minn Fred B Hill Co 6110 Excelsior Blvd
Minneapolis 929-6727
Mo J Beneke 576 Arcade Bldg St Louis ......CE 1-1677
Mo Ellinger Sales Corp 4969 Bancroft St Louis . FL 2-2027
NJ J N Barrett Assoc 140 Barclay Ctr
Cherry Hill 429-1551
NJ Simberkoff Sales Inc 71 Valley St
So Orange 763-7900
NY S H Baum 70-15 Fleet Forest Hills ......BO 3-8101
Ohio F J Campisano 3985 Race Rd Cincinnati 662-1616
Ohio Chas H Dolfuss Jr & Co 2108 Payne Ave
Cleveland 771-1270
Ohio E Schmidt 1419 Devereux Dr Dayton 293-6652
Ohio F J Campisano 3985 Race Rd Cincinnati 662
Okla Ammon & Champion Co Box 4682 Tulsa ...NA 7-7670
Pa Gene Root 809 Wainwright Dr Pittsburgh ...561-4125
Tex Ammon & Champion Co 3300 W Mockingbird La
Dallas 357-8441
Wash Western Technical Sales 10843 NE 8th
Bellevue ......GL 4-3906
For Ad Auriema Inc 85 Broad St
New York, NY ......BO 9-7750

AERTECH INDUSTRIES 815 STEWART DR
SUNNYVALE CAL 94086
TWX 910-339-9207 ......408 732-0880
H HARRISON EMP 185 ENG 25 $2,500-$5,000M
Cal J Stone & Assoc 330 2nd St Los Altos ..415 948-4563
Cal Allgood Assoc 1621 Centinela Ave
Inglewood 213 776-5820
Colo Kelley Enterprises 336 E 4th St
Loveland 303 667-1376
Fla Jaeger Assoc 999 Woodcock Rd
Orlando 305-841-1511
Ga SparTech Assoc Box 372 Tucker 404-469-8240
Ill Communications Engineers 7106 N Western Ave
Chicago 312 761-0548
Md Doss Electronics, Inc 6660 Security Blvd
Baltimore 301 944-1900
Mass Reptron, Inc 110 Great Rd Bedford 617 275-8585
Mich Micro-Saes 650 Greenlawn Ypsilanti ...313 482-1229
NJ Sonco Crystal Brook Pro Bldg
Eatontown 201 542-1441
NY B D Hummel 2224 Maynard Ave Utica ..315 736-7821
NY Gray & Reed Assoc 9 Dunford St
Huntington Sta 516 433-3333
Ohio Micro-Sales 1250 W Dorothy La
Dayton 513 298-3033
Ohio Micro-Sales 2000 Lee Rd Cleveland....216 371-0522
Pa Sonco Park Place Bldg Camp Hill......717 761-0577
Pa Sonco 107 Town Ctr Rd King of Prussia . 215 265-3250
Tex Airep Electronics, Inc 4901 Richmond Ave
Houston 713 621-0955
Tex Airep Electronics, Inc 6300 N Central Expwy
Dallas 214 363-5291
Can E G Lomas, Ld 227 Laurier Ave W
Ottawa, Ont 613 232-7106
Fr Cerel 14-16 Rue Des Lilas Paris 202-67-20
Ger Melabs SA 393 Chaussee de Stockel
Brussels Belg 71.00.32
GB Roberts Electronics Ltd 17 Hermitage Rd
Hitchin Herts HIT-50551
Swed Magnetic AB Box 11060 Bromma 11 Stockholm

AETNA ELECTRONICS CORP READINGTON RD
NORTH BRANCH N J 08876 ......201 725-1000
H BUSER EMP 10 ENG 3 $100-$250M
Ohio Custom Engineering Co 2975 Far Hills Blvd
Dayton ......513 AX 8-5246

AETNA MFG CO 245 PARK AVENUE BENSENVILLE
ILL 60106 ......312 766-3810
M SIMPSON EMP 55 ENG 2 $250-$500M

AFFILIATED MANUFACTURERS INC BOX 248
WHITEHOUSE N J 08888 ......201 534-2103
B AUSTIN EMP 33 ENG 3 $500-$1,000M
Ala Newcomb Assoc Box 3244 Huntsville 852-0304
Ariz Allen Assoc 55 W 1st Ave Scottsdale 945-5781
Cal Scrantom Engineering Assoc 2750 Bellflower Blvd
Long Beach 421-8951
Cal F J Toffey Assoc 312 Brokaw Rd
Santa Clara 247-1862
Fla GPI Inst Inc Box 536 Winter Park 647-5722
Ill R W Venn Co Rt 2 Box 660 Lake Villa......395-5353
Ind Keiter Electrical Insulation Co
18694 Berkshire Dr South Bend 264-5212
Minn D G Perry & Co 5010 France Ave S
Minneapolis 920-3212
Miss Newcomb Assoc Box 1871 Hattiesburg......583-1804
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis 647-4350
NY Upstate Technical Equip Co Box 202 Solvay . 458-5573
Tex Crockett Engrg Box 47287 Dallas 637-6120
Can Arbell Equip Co Box 21 J Burlington Ont....634-9408

AGAC-DERRITRON INC 1332 N HENRY ST
ALEXANDRIA VA 22314 ......703 836-4641
C VINCENTZ EMP 20 ENG 5 $250-$500M
Ala David H Wise Box 225 Huntsville 539-0871
Ariz Intermountain Scientific Co 8650 E Montebello
Scottsdale 946-2447
Cal I F M South 3455 Cahuenga Blvd
Los Angeles 469-1641
Conn E E Specialists Inc 281 Vera Rd Bristol 584-0077
Fla Ridge Instru Co 2227 Seely Dr Orlando......293-4711
Ga Ridge Instru Co 309 McCulley Dr NE
Atlanta 939-1554
Ill Anger Assoc Inc Box 229 Geneseo 944-2010
Md Ara Electronics Inc 4928 St Elmo Ave
Bethesda 657-2585
Mass E E Specialists Inc Box 956 Acton 259-9200
Mich Anger Assoc Inc 13126 Michigan Ave
Dearborn 584-9853
NM Dyma Engineering Rt 1, Box 51 Taos 758-2686
NY D B Assoc 3307 Erie Blvd E Dewitt 446-0220
NC Radco 614 Nissen Blvd Winston-Salem ..722-9671
Ohio Anger Assoc Inc 21139 Loraine Rd
Cleveland 333-4180
Pa Ara Electronics Inc 301 York Rd
Jenkintown ......TU 7-5250
Tex Merit Co 10044 Monroe St Dallas......FL 2-8040
Utah Cannon Engrg & Sls Co 2250 E 17th St S
Salt Lake City 485-9253
Wash Western Electro-Dynamics
584 Dexter Horton Blvd Seattle 682-8412
GB Derritron Ltd 24 Upper Brook St, Mayfair
London ......HYD 2291

AGA CORP 550 COUNTY AVE SECAUCUS NJ 07094
TWX 126469 ......212 866-3344
D BEAU EMP 35 ENG 9 $5,000-$10,000M
Cal AGA Corp 1499 Bayshore Ave
Burlingame 415 692-2045

AGARD ELECTRONICS CORP
40 NASSAU TERMINAL RD NEW HYDE PARK
N Y 11040 ......516 328-1905
D EASTON EMP 100 ENG 3 $1,000-$2,500M
NY Electro Rep, Inc 380 Broadway Hicksville......516
Pa Robert Graham Box 326 Narberth ....215 SU 9-2442

AGASTAT DIV, AMERACE ESNA CORP.
1027 NEWARK AVE ELIZABETH N J 07207
TWX 710-741-4788 ......201 EL 2-2900
W WARD EMP 375 ENG 14 $5,000-$10,000M
Cal John C Henberger 3661 Voltaire St
San Diego 223-7114
Cal Agastat Div 110 S Garfield Montebello 721-5115
Cal Agastat Div 165 University Ave Palo Alto ...325-4486
Colo Cliff Beabout Co 666 Sherman St Denver ...244-3151
Ga Agastat Timing Instruments 5367 N Peachtree Rd
Dunwoody 451-5176
Ill Newman-Krause Co 5451 W Lawrence Ave
Chicago 736-6800
Kan G H Pearson Box 8132 Praire Village ......MI 9-8409
Md Aeron Assoc 1110 Fidler La Silver Spring ...588-4047
Mass Agastat Div 886 Washington St Dedham ...326-8686
Mich Hilltronics Inc 13720 Puritan Ave Detroit ...342-3242
Minn Electrical Jobbers Equip Inc 1120 Glenwood Ave
Minneapolis 377-7904
Mo Technical Mktg Assoc 2050 Woodson Rd
St Louis 427-3600
Neb B Gurney & Assoc, Inc 1014 Douglas St
Omaha 342-8445
NY R F Lamb Co, Inc 1865 Kenmore Ave
Buffalo 874-4900
NY J F Wulfetange Div Box 126 Syracuse 446-3330
NC Agastat Timing Instruments 118 Scottsmoor Dr
Charlotte 399-3481
Ohio Jay Engineering Co 4712 W 130th
Cleveland ......CL 2-0486
Ohio Jay Engineering Co 1721 E Third St Dayton . 253-2151
Okla Harold Furtney Co Box 7081, S Side Sta
Tulsa ......RI 7-6490
Pa McDavitt Sales Corp Box 8, Pilgrim Gdns Sta
Drexel Hill ......KI 4-2588
Pa Foster-McClinton, Inc 1675 Washington Rd
Pittsburgh 561-4803
Tex Industrial Equip Co 6831 Navigation Blvd
Houston 928-3463
Tex P J Scanlon Co, Inc 724C S Sherman St
Richardson ......AD 1-4661
Wash Seatronics Inc 5931 4th Ave S Seattle......767-4330
WVa G H Zimmerman & Co Box 1306 Charleston . 342-2212
Can ESNA Ltd Box 250 Agincourt, Ont......291-6251
Belg Intair, SA Centre Intl Rogier Brussels 17-23-46

AGILE DIV, NALGE CO 75 PANORAMA CREEK DR
ROCHESTER N Y 14625 ......716 586-8800
F ALTEN EMP 25 ENG 5 OVER $10,000M
ADV PGS 118,340,619
Cal Insulation Components Assoc Olympic Blvd
Montebello 213 685-4078
Colo Fluid Systems, Inc 1550 S Pearl St
Denver 303 744-1781
Ga W J Kelly Box 9781 Atlanta 404 457-8828
Haw Woods Co Box 846 Kailua 254-3655
Ill H W Foege Box 188 Evanston 312 475-5708
Ind Campbell Industrial Sales Box 40115
Indianapolis 317 846-2885
Iowa C F Raines 4222 C Ave NE
Cedar Rapids 319 363-7221
La Bailey Engineering Co 126 Industrial Ave
New Orleans 504 895-8659
Mass O'Connor Assoc 60 Hickory Dr
Waltham 617 899-1644
Mich Dale L Prentice Co 16540 James Couzens Dr
Detroit ......313 DI 1-0040
Minn Seelye Plastics 9812 James Cir S
Mnpls 612-881-2658
Mo Nagel & Nax, Inc 10907 Manchester
St Louis ......314 YO 6-2747
NJ R L Faber Assoc 460 Colfax Ave Clifton . 201 773-8900
NY Korustone Assoc 1271 E Ferry St
Buffalo 716 892-3450
Ohio Dawson & Assoc 21877 Euclid Ave
Cleveland 216 531-3565
Pa W H Evans 304 Woods Rd Glenside 215 885-3445
Tex Productive Equip Assoc Box 880
Bellaire ......713 MO 8-2533
Wash J B Meyer Box 6664 Seattle......206 937-2722

AGNEW-HIGGINS INC 7532 ANTHONY AVE
GARDEN GROVE CAL 92641 ......714 893-1301
B AGNEW EMP 21 ENG 2 $500-$1,000M
Ala Curtin Scientific Co 1210 S 20th St
Birmingham ......205 AL 1-9339
Cal Howard & Co Box 506
S San Francisco ......415 JU 9-3050
Conn Tom Crawford & Son Box 264
Norwood, Mass 617 762-6878
Fla Curtin Scientific Co Box 606
Jacksonville ......904 EL 5-5426
Ga Curtin Scientific Co Box 2122 Atlanta ..404 355-6944
Iowa D C Regan Co 517 Main St Davenport ..319 322-7734
La Curtin Scientific Co Box 53387
New Orleans 504 524-0475
Md Curtin Scientific Co Box 2047 Rockville . 301-946-1015
Mass Tom Crawford & Son Box 264 Norwood . 617 762-6878
NJ Curtin Scientific Co 357 Hamburg Tpk
Wayne 201 278-3300
NM Curtin Scientific Co 311A Washington St, SE
Albuq 505 255-8210
NY J V Costello 2030 Erie Blvd E Syracuse . 315 472-0322
Ohio Rep/Corp 2077 Embury Park Rd
Dayton 513 278-5885
Okla Curtin Scientific Co Box 747 Tulsa ....918 LU 5-5757
Pa John F Scanlan Inc 1238 Belmont Ave
Philadelphia ......215 TR 8-4700
Tenn Curtin Scientific Co 826 1/2 Poplar Ave
Memphis 901 526-2769
Tex Curtin Scientific Co Box 1546
Houston ......713 WA 3-1661
Wash D J Moore Inc 1731 First Ave S
Seattle 206-Ma-4-6970
For Air Maintenance Intl 818 Starco Beirut, Leb
Swed Scan Agent Alviksvagen 110 Bromma 15 ....80 12 17
Swit Secfroid SA 1024 Ecublens Lausanne 80 12 17

AGRASHELL INC 640 N 13TH ST EASTON
PA 18042 215-253-6261
P JONES EMP 36 ENG 5
Ill C P Hall Co 7300 S Central Ave Chicago
Ind Wheelabrator Corp Mishawaka
Md Pangborn Corp Hagerstown
Mass Dawson-MacDonald Co 141 Pearl St Boston
Ohio C P Hall Co 414-418 S Broadway Akron

AIKOW SHOJI KAISHA LTD
106 SHIBATACHO KITAKU OSAKA JAPAN ...371-0095
Y TSUJI

AIM ASSOCIATES CAMBRIDGE LTD BAR HILL
CAMBRIDGE CB3 8EZ U K CAM6-2560
M STANLEY EMP 150 ENG 50 $500-$1,000M
Cal Ling Electronics 1515 S Manchester Ave Anaheim
BC Rutherford Electronics Pty Box 30, N Balwyn
Victoria

AINSLIE CORP 531 POND ST BRAINTREE
MASS 02185 TWX 710-394-0457 ......617 848-0850
S HASSAN EMP 130 ENG 5 $1,000-$2,500M
Ala Theall Engrg Sales Co Box 3122
Huntsville 205 852-1525
Fla Theall Engrg Sales Co Box 922
Maitland 305 647-4469
Can G E Zoehner Box 325 Burndyl BC 604-433-4114
Can Ainslie Antenna Co Ltd 8490 Lafrenaie St
Montreal Que 514-324-1780

AIRBORNE INSTRUMENTS LAB, DIV
CUTLER-HAMMER INC COMAC RD DEER PARK
N Y 11729 TWX 510 227-6073......516 595-3215
G MCCARTHY EMP 4000 ENG 1600
OVER $10,000M
Ala Lee Assoc Inc 5R Traylor Island
Huntsville 205 539-0761
Ariz Hytronic Msmts, Inc 1017 N 3rd St Phoenix . 253-6104
Cal Wright Engineering 175 S San Antonio Rd
Los Altos 941-4405
Colo Hytronic Msmts, Inc 4940 E 39th Ave
Denver 388-4081
Conn George Gregory Assoc 9 S Main St Cheshire . 272-5040
Fla Lee Assoc Inc 200 E Marks St Orlando......241-4445
Ill Loren F Green & Assoc 5218 W Diversey Ave
Chicago 286-6824
Kan Simpson Enterprises Box 18066, Southeast Sta
Wichita 943-0502
Md Lee Assoc Inc 12250 Wilkins Ave Rockville ..949-4800
Mass George Gregory Assoc 7 Erie Dr Natick......655-1330
Mich Tiby Co 380 Hilton Rd Ferndale 313 542-3550
Minn Loren F Green & Assoc 6225 University Ave N E
Minneapolis 781-1611
Mo Simpson Enterprises Box 3873 Kirkwood ...965-1115
NJ Louis A Garten & Assoc 375 Passaic Ave
Fairfield 226-7800
NM Hytronic Msmts, Inc 205 San Pablo SE
Albuquerque 268-3941
NY RJC Assoc 219 Oakridge Terr Liverpool 457-3220
NC Lee Assoc Inc 825 Burke St Winston-Salem . 724-2406
Ohio Tiby Co 1960 N Main St Dayton......277-3822
Pa Louis A Garten & Assoc 947 Old York Rd
Abington 927-1200
Tex Scientific Devices 312 N Cental Expwy
Richardson 231-8106
Wash Dewar & Assoc 6361 First Ave S Seattle ...763-2233
Can B R H Assoc Ltd 1300 Carling Ave Ottawa ..728-0113
For Altay Kollektif Ortakligi Sumer Sokak 16
Yenisehir-Ankara
For Intl Electronic Engrg Ltd Huerfanos 521
Santiago, Chile
Den Tage Olsen A/S Ronnegade 1 Copenhagen
Fr Fenwick 15, Rue Fenelon Paris X
Ger Omni Ray GmbH Nymphenburger Str 164 Munich

GB Ail-Uk Operations High House Barline
Beer Devon..........Sea 325
Neth I R C A Paradysstr 92 Voorburg
Ital Silver Star Ltd SSpA Via Dei Gracchi 20
I 20146 Milan
Jap Nippon Automatic Control Co
36-4, 1-Chome, Chofu-Minemachi
Ohta-Ku, Tokyo
Nor C Grindvold A/S Frogerveien 22 Oslo
SAfr Amuron Investment Corp (Pty) Ltd Box 1069
Pretoria
Swed Teleinstrument AB Harjedalsgatan 138
Stockholm-Vallingby
Swit Omni Ray AG Dufourstr 56 Zurich 8
Arg Mafelco Intl S R L Esmeralda 358, Piso 5
Buenos Aires
BC B R H Assoc Ltd Box 69 N Vancouver......985-6221
Gr E Devletogloy 20 Voukourestiou St Athens
Ind Motwane Pvt Ltd Box 1312 Bombay
Isrl Eastronics Ltd Box 21029 Tel Aviv
Spn Ataio, Ingenieros Enrique Larreta 12 Madrid 16
Fin Insinooritoimisto, Sahkotyo Oy Hameenkatu 28
Tampere 3

AIRBORN INC 2618 MANANA DR DALLAS
TEX 75220..........214 357-0274
W CLARK EMP 75 ENG 4 $500-$1,000M
Cal Melvin Sales Co 113 Camino Real Millbrae..697-6922
Cal R L Assoc 14401 Gilmore St Van Nuys.....780-1666
Fla Scott & Assoc, Inc 1010 Executive Ctr Dr
Orlando..........841-4840
Md Be-Mar Assoc 120 Derwood Cir Rockville...762-8880
Mass Lancer-Kneeland Inc 359 Main St Haverhill .373-1313
Minn Klass Co 814 S Ninth Minneapolis........338-8427
NJ GT Assoc Inc Box 1233 Wayne..........839-0444
NY Wilson H Zimmerman Co 112 Dewitt St
Syracuse..........474-4889
NY W H Zimmerman Co 3100 Monroe
Rochester..........586-4450
NY GT Assoc Inc Box 283 Levittown.........731-3449
Pa Be-Mar Assoc 7208 Rising Sun Ave Phila...728-6333
Wash Bill Waddell Co 10211 NE 31st Pl Bellevue..822-0211

AIRCOM INC MAIN ST UNION N H 03887...603 473-2323
R RIVERS EMP 15 ENG 2 $100-$250M
Kan Inland Assoc 6047 Howe Dr Mission
Mass Connaughton & Co 18 Bothwell Rd Brighton

AIR CONTROL INC 125 NOBLE ST NORRISTOWN
PA 19401..........215 279-0500
J WHEELER EMP 85 ENG 5 $2,500-$5,000M

AIRCO SPEER ELECTRONIC COMPONENTS
FOSTER BROOK RD BRADFORD PA 16701
TWX 510 695-5921..........814 362-5536
G WEHLER EMP 750 ENG 16 OVER $10,000M
Ala Component Sales Corp Box 3384 Huntsville .539-0876
Ariz Mercury Engr Sales Box 3130 Scottsdale...945-1927
Cal Straube Assoc 483 Willow Rd Menlo Park...323-2476
Colo William Byrne Box 1649 Boulder.........443-8600
Fla Components Sales Corp Box 9545
St Petersburg..........360-7460
Ill Greenslade Sales 5875 Lincoln Ave Chicago .561-0156
Ind J F Kilfoil Co 5225 New Haven Ave
Ft Wayne..........749-0113
Kan Impala, Inc 5424 N 95th St Kansas City...299-9622
Mich Jensen-Morrow Sales Co 26711 Woodward Ave
Huntington Woods..........544-3700
Minn Ed Melius & Assoc Inc 3758 N Dunlap St
St Paul..........488-7293
NJ Harold Gray Assoc 20 Foster St Bergenfield .279-3766
NY R W Jackson Co 4446 Main St Buffalo....TF 9-0200
NC Component Sales Corp Box 6401 Raleigh...832-1897
Ohio John F Kilfoil 9415 Montgomery Rd
Cincinnati..........791-6150
Pa R H Hilderbrand Box 166 Fairview Vlg.....CH 7-6225
Tex John F Rasco 2813-A Allen St Dallas......747-0108
Wash H S Thorpe Co Box 1117 Bellevue........454-0667

AIRCO SPEER ELECTRONIC COMPONENTS
HOOVER AVE DUBOIS PA 15801
TWX 510-693-3096..........814 371-2100
H WADDELL EMP 250 ENG 11 OVER $10,000M
Ariz Mercury Engrg Sales Box 3130 Scotsdale
945-1927
Cal Straube Assoc 483 Willow Rd Menlo Park...323-2476
Colo Straube Assoc Box 1649 Boulder.........443-8600
Fla Component Sales Corp Box 9545
St Petersburg..........360-7460
Ill Greenslade Sales 5875 Lincoln Ave Chicago .561-0156
Kan Impala Inc 5424 N 95th St Kansas City....299-9622
Mass Bahr Sales Co 91 Woodsley Rd Longmeadow .567-3488
Mich C B Jensen & Assoc 26711 Woodward Ave
Huntington Woods..........544-3700
Minn Ed Melius & Assoc 3758 N Dunlap St
St Paul..........484-8541
NJ Harold Gray Assoc 20 Foster St Bergenfield .384-3643
NY R W Jackson Co 4446 Main St Buffalo....TF 9-0200
Ohio J F Kilfoil 9415 Montgomery Rd Cincinnati..791-6150
Pa R H Hilderbrand Box 166 Fairview Village..CH 7-6225
Tex John F Rasco 2813-A Allen St Dallas......747-0108
Wash H S Thorpe & Sons Box 1117 Bellevue

AIRCRAFT COMPONENTS INC 755 WOODLAND
BENTON HARBOR MICH 49022........616 925-8861
C RAINES EMP 35 ENG 2 $1,000-$2,500M

AIRCRAFT & ELECTRONIC SPECIALTIES, INC
BOX 126 PLAINFIELD IND 46168......317 839-2551
N HIGBIE EMP 97 ENG 2 $500-$1,000M
Ariz Shefler-Kahn Co Box 1587 Phoenix

AIRCRAFT INSTRUMENTS CO COMMERCE DR
MONTGOMERYVILLE PA 18936........215 368-0175
J RYCHLAK EMP 48 ENG 4 $500-$1,000M
Cal P Sickles 11740 Wilshire Blvd Los Angeles..479-5817
Can Brian Eng Ltd 2445 Duncan Rd Montreal...735-1671
Den Technitron A/S 24 Klosterstr
Copenhagen K..........PAL 2632
Fr Technitron SA 55, Rue Pierre Charron
Paris..........ELY 30-58
Ger Technitron GmbH Sonnenstr 14 Munich......557832
Neth Technitron (Holland) Rottumerstr 15
Amstelveen..........31273

AIRCRAFT RADIO CORP ROCKAWAY VALLEY RD
BOONTON N J 07005
TWX 710-987-8301..........201 334-1800
J BUTLER EMP 715 ENG 50 OVER $10,000M

AIRFLOW CO MONTGOMERY COUNTY AIRPARK
GAITHERSBURG MD 20760
TWX 710-828-9707..........301-948-5000
W HANSEN EMP 55 ENG 5 $1,000-$2,500M
Cal R A Strassner Co 885 N San Antonio Rd
Los Altos..........948-3334
Cal R A Strassner Co Box 39601, Griffith Sta
Los Angeles..........666-4040
Fla H R Gross & Co Box 1427 Clearwater......446-6649
Mass Mardon Co 440 Lexington St Auburndale...332-9310
NJ Airflow Co Box 128 Woodbury Heights.....848-8125
Tex Carl Tinch Sales Co 1st Bank & Trust Co
Richardson..........231-1322

AIRFLYTE ELECTRONICS CO NEW HOOK RD BAYONNE
N J 07002..........201 HE 62230
M FEINMAN EMP 100 ENG 6 $1,000-$2,500M
ADV PG 573
Cal Repex 2015 Latham St Mountainview.....969-9200
Conn Kitchen & Kutchin 22 Broadway
North Haven..........239-0212
Fla Geartner Assoc 239 Lincoln Rd Miami Beach.538-8266
Ill M Q & Assoc 6713 N Oliphant Ave Chicago..774-8844
Ind D Flanagan 2512 East Dr Fort Wayne.....743-5371
Md R P Luce & Co Inc 19 E 21st St Baltimore..752-8200
Mass Kitchen & Kutchin 17 Waltham St
Lexington..........VO 2-8230
NY R P Kennedy Inc 39 Saginaw Dr Rochester..271-6322
Ohio Technical Assoc Box 388 Fairborn........333-0035
Pa R P Luce & Co, Inc 8717 Patton Rd
Philadelphia..........884-8365
Tex Aymond Co 4340 N Central Expwy Dallas...827-8043
Va R P Luce & Co 229 S Jenkins St Alexandria
Wash Seatronics Inc 5931 4th Ave, S Seattle...PA 5-2700
Can Aero Sales Eng Co 4 Racine Rd Rexdale, Ont.249-9139
GB Malcolm Cross Engrg Ltd Cross St
Beeston, Nottingham

AIRGUIDE INSTRUMENT CO 2210 WABANSIA AVE
CHICAGO ILL 60647..........312 486-3000
F ECKERT EMP 150 ENG 5 $2,500-$5,000M

AIRMEC-AEI LTD CORONATION RD HIGH WYCOMB
BUCKINGHAMSHIRE ENGLAND
TWX 83243..........WYC 21201
J ROBB EMP 300 ENG 20 OVER $10,000M

AIRMED LTD EDINBURGH WAY HARLOW ENGLAND
TWX 81338..........HAR-24331
P WHITE EMP 150

AIRPAX ELECTRONICS INC, CAMBRIDGE DIV
CAMBRIDGE MD 21613
TWX 710 865-9655..........301 228-4600
W KOUZOULAS EMP 475 ENG 20
$5,000-$10,000M
Ariz Vinson Assoc 44 E Indian School Rd
Scottsdale..........947-7371
Cal Airpax Electronics Inc 14436 Sherman Way
Van Nuys..........781-2821
Cal Airpax Electronics 885 N San Antonio Rd
Los Altos..........415-941-0893
Colo Vinson Assoc 3600 S Lincoln Englewood....789-2203
Conn Airpax Electronics 6 Newberry Rd
Bloomfield..........243-0775
Fla Airpax Electronics Inc Box 8488
Fort Lauderdale..........587-1100
Fla C B Metcalf Co 3601 Swan La Pensacola...476-7710
Ill Actronic Sales Engineering Inc
4750 N Milwaukee Ave Chicago........286-1037
Ind A D Moore Co 4020 W 80th St Indianapolis .291-6550
Iowa Reid Assoc Inc 526 Merch Natl Bk Bldg
Cedar Rapids..........362-6302
Kan Harris-Hanson Co 7916 Paseo St
Kansas City..........816-444-9494
La E E Brown Instr Co 3346 Greenway Dr
Baton Rouge..........926-2923
La E E Brown Instr Co 5100 Jewella Rd
Shreveport..........635-7697
Md Aeron Assoc 880 Bonifant St Silver Spring..588-4047
Mass Airpax Electronics 192 Worcester St
Wellesley Hills..........237-2600
Minn Fred Peterson Co Box 8409 Minneapolis....927-4453
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis..........314-647-4350
NJ Jack McCoy 300 Marlton Pike Cherry Hill...428-3444
NM Vinson Assoc 2329 F Wisconsin NE
Albuquerque..........298-7442
NY John DiBlasi Assoc Inc 14 Vanderventer Ave
Port Wash..........767-0470
NY C Floring & H Murray Inc 6585 Kinne Rd
Syracuse..........446-5555
NC L G White Co 1020 Brookstown Ave
Winston Salem..........725-3612
Ohio Airpax Electronics 6020 State Rd
Cleveland..........216-884-3777
Ohio C P Haskell Box 624, Far Hills Br Dayton...298-3331
Okla T J Ray Co Box 5417 Tulsa..........627-1515
Pa Friday Engrg Sls 666 Washington Rd
Pittsburgh..........341-1444
Tex Stevens Sales Box 34493 Dallas.........241-3645
Tex Haltom Co 5814 Schumacher Houston.....782-5625
Tex Barnco Co 1507 W 2nd St Odessa........332-0294
Wash John Plate 584 Dexter Horton Bldg Seattle .624-1673
Wis Airpax Electronics 633 W Wisconsin Ave
Milwaukee..........272-4398
Can Leonard Electric Ltd 1008 Rangeview Rd
Port Credit..........274-3454
Can Southwell Controls Ltd 1332 Powell St
Vancouver..........255-9141

AIRPAX ELECTRONICS INC SEMINOLE DIV BOX 8488
FORT LAUDERDALE FLA 33310
TWX 510-955-9866..........305 587-1100
N ECKHARDT EMP 475 ENG 25 $5,000-$10,000M
ADV PG 121
Ariz Vinson Assoc 44 E Indian School Rd
Scottsdale..........947-7371
Cal Airpax Electronics Inc 14436 Sherman Way
Van Nuys..........781-2821
Cal Airpax Electronics 885 N San Antonio Rd
Los Altos..........415-941-0893
Colo Vinson Assoc 3600 S Lincoln Englewood....789-2203
Conn Airpax Electronics 6 New Berry Rd
Bloomfield..........243-0775
Fla C B Metcalf Co 3601 Swan La
Pensacola..........904 476-7710
Ill Actronic Sales Engineering Inc
4750 N Milwaukee Ave Chicago........286-1037
Ind A D Moore Co 4020 W 80th St Indianapolis .291-6550
Iowa Reid Assoc Inc 526 Merch Natl Bk Bldg
Cedar Rapids..........362-6302
Kan Harris-Hanson Co 7916 Paseo St
Kansas City..........816-444-9494
La E E Brown Instr Co 3346 Greenway Dr
Baton Rouge..........926-2923
La E E Brown Instr 5100 Jewella Rd
Shreveport..........635-7697
Md Aeron Assoc 880 Bonifant St Silver Spring..588-4047
Mass Airpax Electronics 192 Worcester St
Wellesley Hills..........237-2600
Minn Fred Peterson Co Box 8409 Minneapolis....927-4453
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis..........314-647-4350
NJ Jack McCoy 300 Marlton Pike Cherry Hill...428-3444
NM Vinson Assoc 2329 F Wisconsin NE
Albuquerque..........298-7442
NY John DiBlasi Assoc Inc 14 Vanderventer Ave
Port Wash..........767-0470
NY C Floring & H Murray Inc 6585 Kinne Rd
Syracuse..........446-5555
NC L G White Co 1020 Brookstown Ave
Winston Salem..........725-3612
Ohio Airpax Electronics 6020 State Rd
Cleveland..........216-884-3777
Ohio C P Haskell Box 624, Far Hills Br Dayton...298-3331
Pa Friday Engrg Sls 666 Washington Rd
Pittsburgh..........341-1444
Tex Stevens Sales Box 34493 Dallas........241-3645
Tex Haltom Co 5814 Schumacher Houston.....782-5625
Tex Barnco Co 1507 W 2nd St Odessa........332-0294
Wash John Plate 584 Dexter Horton Bldg Seattle .624-1673
Wis Airpax Electronics 633 W Wisconsin Ave
Milwaukee..........272-4398
Can Leonard Electric Ltd 1008 Rangeview Rd
Port Credit..........274-3454
Can Southwell Controls Ltd 1332 Powell St
Vancouver..........255-9141

AIR PRODUCTS & CHEMICALS, INC BOX 538
ALLENTOWN PA 18105
TWX 510-651-3686..........215 395-4911
A DYER EMP 7000 ENG 1700 OVER $10,000M
Ala APCI Box 6387 Birmingham..........853-6023
Ark APCI 2600 E Roosevelt Rd Little Rock.....375-1256
Cal APCI 465 Whisman Rd Mountain View.....961-4560
Del APCI Box 261 Delaware City..........834-4504
Fla APCI Box 6874 Jacksonville..........388-3591
Ga APCI Box 1268 Albany..........432-0536
Ill APCI 12745 S Wentworth Ave Chicago....468-4100
Ind APCI Box 257 Chesterton..........762-3555
Iowa APCI 1915 E 4th St Sioux City..........5-7741
Ky APCI Box 13233 Louisville..........451-6340
La APCI 14700 Intracoastal Dr New Orleans...254-1590
Md APCI Box 4061 Baltimore..........477-2882
Mass APCI 13 Mercer Rd Natick..........237-9840
Mich APCI 24755 Five Mile Rd Detroit..........538-2044
Minn APCI Box 176 Shakopee..........332-8921
Miss APCI Highway 49S Clarksdale..........624-2547
Mo APCI 1621 Cherry St Kansas City........421-5495
Neb APCI 1201-07 California St Omaha......341-5500
NJ APCI Oak Tree Rd Iselin..........548-4600
NC APCI Box 3034 Greensboro..........299-1361
Ohio APCI 2820 Quigley Rd Cleveland..........781-2800
Okla APCI 1524 S May St Oklahoma City......232-3456
Pa APCI Rte 222 Trexlertown..........395-4911
SD APCI Hwy 75 & St Anne St Rapid City.....FI 2-4490
Tenn APCI Box 7266 Nashville..........255-0585
Tex APCI 1745 Levee St Dallas..........748-7451
Va APCI Box 657 Hopewell..........458-2024
WVa APCI 518 Camden St Parkersburg........485-7541
Wis APCI 4846 W Fond Du Lac Ave Milwaukee..871-5340
GB Air Products Ltd Noel St London W 1......GER 0616
Ital Air Products S p A Via Verziere Milano......702-920

AIRTEC INC 264 COLUMBUS AVE ROSELLE
N J 07203..........201 245-2990
R VANCE EMP 30 ENG 3 $250-$500M

AIRTRON, DIV OF LITTON INDUSTRIES, INC
200 E HANOVER AVE MORRIS PLAINS N J 07950
TWX 710-986-7473..........201 539-5500
E STRONG EMP 450 ENG 40
Cal Airtron For Calif 2991 Grace La
Costa Mesa..........213-623-1835
Ill Midwest Microwave 6414 W Belmont Ave
Chicago..........312-283-1051
Md Airtron 758 Fairmount Ave Towson......823-0923
Mass Wm Beaver 41 Indian Ridge Rd
South Natick..........655-1529
Wash D Smith Sales Co 2320 N 45th St Seattle..633-3160
Can A Deskin 1565 Louvain St Montreal, Que...384-1420
Ger Litton Prec Prods Intl Newtonstr 13 W Germany
Neth Litton Prec Prods Intl Steenloperstr 26 Capelle
A/D Ipsel..........010-33-69-1
Ital Litton Prec Prods Intl Via Arco 4 I-20121
Milano..........893-362

Swed Litton Prec Prods Intl Grev Turegatan 2
Stockholm 7 11-43-90
Swit E Spiess Gubelstr 28 Bauhof 8050 Zurich

AIR-VAC ENGINEERING CO 100 GULF ST MILFORD
CONN 06460 . . . . 203 874-2541
C LASTO EMP 14 ENG 3 $250-$500M
Cal Pat Dooley Co 18826 Devonshire St
Northridge 360-2231
Colo Coast Tool Co 5316 Wadsworth Blvd
Arvada 422-3413
Fla Ludlum Assoc Co 4471 N W 36th St
Miami Springs 885-3611
Ga Electro-Rep Assoc, Inc 2793-A Clairmont Rd, NE
Atlanta 633-7011
Ill Tipler Corp 4614 Elm St Downers Grove . . . WO 9-4343
Iowa M J Burke Sales Co 7301 Mission Rd
Prairie Village . . . . EN 2-4833
Ky McShane 114 Trails End Dr Medina 725-4283
Mass Tom Crawford & Son Box 264 Norwood 762-6878
Minn Air Engineering & Supply 2719 E Franklin
Minneapolis 335-4181
Mo M J Burke Sales Co 7301 Mission Rd
Prairie Village . . . . EN 2-4833
NJ J P Dearie Co 60 Midvale Rd
Mountain Lakes 334-4848
NY Anthony Starr 3980 White Plains Rd Bronx . 231-7760
NC Electro-Rep Assoc 128 W 30th St
Charlotte 333-0451
Ohio McShane 114 Trails End Dr Medina 725-4283
Ore Dale G Weber Co Weatherly Bldg Portland . . 234-0686
Tex PESO Box 30393 Dallas . . . . EM 9-3181
Wis Don R Manecke Assoc Box 7177
Wauwatosa . . . . GL 3-9393
Can Willer Engrg & Sales Co 1800 Avenue Rd
Toronto, Ont 783-3373
For Emec, Inc 160 Terminal Drive
Plainview, N Y . . . . WE 1-3700
Ger Klaus Becker KG
7300 Esslingen/N, Postfach 442

AIWA CO LTD
2-3 SOTOKANDA 5CHOME CHIYODA-KU TOKYO
JAPAN TWX TK-4562 833-1531
I TANAKA EMP 2258 ENG 153 $1,000-$2,500M
Ill Aiwa Intl Corp 1 E Wacker Dr Chicago 467-5165

AJAX MAGNETHERMIC CORP
1745 OVERLAND AVE NE WARREN
OHIO 44482 . . . . 216 372-2529
J MCLAUGHLN EMP 500 ENG 60 OVER $10,000M
Cal B J Campbell 1504 W Commonwealth
Fullerton . . . . LA 5-8914
Colo T C Jarrett Box 15397 Denver . . . . BE 3-2333
Conn J Cook 1187 Dixwell Ave New Haven . . . . . MA 4-2375
Ill P A Hassell 9950 W Lawrence Ave
Schiller Park 312 678-6010
Mich N O Wilcox 25255 Southfield
Southfield 313 353-4350
NJ J R Coley 286 Fifth Ave New York
Ohio J H Anning 822 Delta Ave Cincinnati 871-2520
Pa J Gallagher 9800 McKnight Rd Pittsburgh . . 931-3737
Tex Thermodyne Prods 3939 Hartsdale Houston . 781-3833
Can J D Strachan 333 Slough Rd Ajax, Ont . . . WH 2-4980

AKERS ELECTRONICS HORTEN NORWAY
TWX 6527 . . . . 42 651
O EVENSEN EMP 80 ENG 25 $500-$1,000M
Den E V Johanssen AS Scherfigsvej 1 Kobenhavn O
Ger Alfred Neye Enatechnik Schiilerstr 14
2085 Quickborn/Hamburg
GB Waycom Ltd Wokingham Rd Bracknell-Berks
Neth Arquatron N V Willemstraat 25 Breda
Swed TH s Elektronik Brunnsgatan 6 Sundbyberg 1

AKG NORTH AMERICAN PHILIPS CORP
100 E 42ND ST NEW YORK N Y 10017 . . 212 697-3600
A BRAKHAN

AKRO-MILS, INC BOX 989 AKRON
OHIO 44309 . . . . 216 253-5592
C DENNY EMP 125 ENG 2
Cal R Breur 2048 S Davie Ave Los Angeles 685-8558
Ill Tilkin-Cagen 6818 N Wayne Ave Chicago . . . 761-4417
Mo Clark-Weaver & Assoc 6416 Kingsway Dr
St Louis . . . . VE 2-4697
NJ T Watkins 888 N 7th St Newark 485-3763
Ohio F Fisher Box 989 Akron 253-5593
Ore R M Minthorne 6565 S W Macadam Ave
Portland 246-4556
Can ATR Armstrong 700 Weston Rd Toronto, Ont

ALADDIN CONTROLS DIV ALADDIN ELECTRONICS
703 MURFREESBORO RD NASHVILLE
TENN 37210 TWX 55-4466 . . . . 615 242-3411
J MARSHALL EMP 250 ENG 15 $1,000-$2,500M
Cal Millard D Shriver Co, Inc Box 517
Rosemead 283-7231
Colo E W Johnson & Co 10130 W Asbury Ave
Denver 985-4810
Del H E Beane & Assoc Marlboro Rd R D 1
Kennett Sq, Pa 793-1334
Ill AEC 6645 N Oliphant Ave Chicago 631-9673
Mass Applied Measurements Inc Box 316 Acton . . 263-2766
Mich Webtrol Inc 19951 James Couzens Hwy
Detroit 342-3434
Minn F C Cogburn Sales Co 1154 E Seventh St
St Paul 774-9659
Mo Cox Value Specialties Co 9567 Page Blvd
St Louis 423-0700
NY Podeyn & Schmidt 420 Northern Blvd
Great Neck 438-2780
NC J Sigmon 4425 Randolph Rd Charlotte 366-0766
Pa Research Appliance Co Rte 8 at Craighead Rd
Allison Park 961-0588
Tex Geo Weinreich & Assoc 11554 E Northwest Hwy
Dallas 321-2800
Wis AEC 12740 N River Rd 43W Mequon 242-1520
For Norcon Div Intrade Inc Box B
Thomaston, Conn 283-5563

GB Aladdin Components Greenford Middlesex

ALADDIN ELECTRONICS DIV ALADDIN
INDUSTRIES, INC 701 MURFREESBORO RD
NASHVILLE TENN 37210 . . . . 615 242-3411
F BASSLER EMP 200 ENG 15 $1,000-$2,500M
Ala Young & Lawrence Assoc 2907 Governors Dr SW
Huntsville 539-6575
Ariz J C Agee Assoc Box 7273 Phoenix 955-6383
Cal Aladdin Electronics 1936 Huntington Dr
South Pasadena 682-3814
Colo E W Johnson 10130 W Asbury Ave Denver . . 985-4810
Fla Young & Lawrence Assoc, Inc
601 N New York Ave Winter Park 647-6929
Ill Electro-Comp Sales Inc 5129 W Devon Ave
Chicago 763-3636
Ind Schroeder & Loomis Inc 714 E 65th St
Indianapolis 251-4571
Md Barnhill & Assoc, Inc 1931 Greenspring Dr
Timonium 252-5610
Mass DeVeer Sales Engineering Co 1492 Highland Ave
Needham 444-4200
Mich Luebbe Sales 20905 Greenfield Rd
Southfield 357-0355
Minn Fred B Hill Co 6110 Excelsior Blvd
Minneapolis 929-6727
Mo Automatic Gen Electronic Sls 6550 E Troost Ave
Kansas City 333-8206
NJ Podeyn-Schmidt 207 Hackensack St
Wood-Ridge 438-2780
NY Podeyn-Schmidt 420 Northern Blvd
Great Neck 487-1173
Ohio Luebbe Sales Co 2649 Erie Ave Cincinnati . . 871-4211
Tex George Weinreich & Assoc
11554 E Northwest Hwy Dallas 321-2800
Va Barnhill & Assoc Inc Box 1104 Lynchburg . . . 384-2062
Wash H S Thorpe Co Box 117 Bellevue 454-0667
Can Lake Engineering Co Ltd 123 Manville Rd
Scarborough 751-5980
For Norcon Div Box B Thomaston, Conn 283-5563

ALA INDUSTRIES INC 99 CALVERT ST HARRISON
NY 10528 . . . . 914 835-0400
P MERLIN EMP 60 ENG 3 $500-$1,000M
Mass Normell Assoc 10 Day St Newton 617 969-5478
NJ Howard Kagan Assoc 18 Tilghman Dr
Wayne 201 684-7682
NY Geo J Gay, Inc Box 214 Brockport 716 637-3162
NY Howard Kagan Assoc 150-08 87th Ave
Jamaica 212 658-8881
Ohio Walter J Brauer Inc Box 305 Wickliffe . 216 943-0601
Pa Walter J Brauer Inc Box 8466
Pittsburgh 412 921-3213

ALARMTRONICS ENGINEERING INC
154 CALIFORNIA ST NEWTON
MASS 02195 . . . . 617 969-9100
J AVERY EMP 25 ENG 4 $500-$1,000M

ALBANO HONEYCOMB DIV, AEROSPACE
TECHNOLOGY CORP 555 W 54TH ST NEW YORK
N Y 10019 . . . . 212 PL 7-5887
J HENDERSON EMP 100 ENG 2 $500-$1,000M

ALBEROX CORP INDUSTRIAL PARK NEW BEDFORD
MASS 02745 TWX 92-9422 . . . . 617 995-1725
W COYKENDALL, JR EMP 70 ENG 5
Cal k lloyd Box 546 Dana Point 213 383-3630
Ill Weldin Sales Co 2948 Cullom Ave Chicago . . 267-4944
Ind J C Butler 2070 E 54th St Indianapolis
Mass J Goode Assoc 44 Ledgewood Rd Weston
NJ Keefe Electronic Sales Co 15 S Haddon Ave
Haddonfield 609-429-4650
NY S F Foster Co 2806 Hennaberry Rd
Pompey 315 446-5904
NC Dula Assoc, Inc 3389 Nottingham Rd
Winston-Salem 723-4205
Ohio F T Rice 12417 Cedar Rd
Pa Servisales Co 800 Park Ave Meadville . . 814-335-1891

ALBION OPTICAL CO INC 260 N RTE 303
WEST NYACK N Y 10994 TWX 13-7442 . 914-358-4450
J KEYES EMP 25 ENG 3 $2,500-$5,000M
Cal Natl Television Sys 4351 Tujunga Ave
Studio City 213-985-3963

ALCATEL 32 RUE DE LISBONNE PARIS 8EME
FRANCE 522 17-09
R BESSEDE EMP 5500 ENG 500 OVER $10,000M

ALCH INSTRUMENT CO, INC 32 URBAN AVE
WESTBURY N Y 11590 . . . . 516 ED 4-7970
A CHITJIAN EMP 20 ENG 3 $100-$250M

ALCO CONTROLS CORP BOX 12700 ST LOUIS
MO 63141 . . . . 314 HE 2-6300
V PARRILL

ALCO ELECTRONIC PRODUCTS, INC BOX 1348
LAWRENCE MASS 01842 617-686-3887
R LAFFEY EMP 30 ENG 5 $1,000-$2,500M
Ala NBS Inc Box 1343 Huntsville 881-3175
Ariz Hytronic Measurements 1017 N 3rd St
Phoenix 253-6104
Cal R Del Bucchia & Assoc 15 Southgate
Daly City 756-8414
Colo Hytronic Measurements 4940 E 39th Ave
Denver 388-4081
Conn Gerber Sales Co 29 Whalley Ave New Haven . 777-6279
Fla NBS Inc Box 2147 Winter Haven 293-5003
Ill Rockford Controls 21 W181 Hill Ave
Glen Ellyn 469-6016
Kan Penzner Assocs Inc Box 6264 Overland Park . 381-0004
Md McCourt Co Inc 28 W Penna Ave Towson . . . 823-3455
Mass Gerber Sales Co 176 Second Ave Waltham . . 891-8040
Mich ABM Sales Inc 10116 Puritan Ave Detroit . . 862-1300
Minn Countryman Assoc 1821 University Ave
St Paul 645-9151
Mo Penzner Assoc 400 Brookes Lane Hazelwood . 731-4334
NM Hytronic Measurements 205 San Pablo SE
Albuquerque 268-3941
NY Bittan Assoc 381 Sunrise Hwy Lybrook 593-3833
Ohio Midwest Sales Co 3219 W 117th St
Cleveland 941-2700
Ore Earl & Brown Co Inc 2041 SW 58th Ave
Portland 292-9145
Pa Ralph M Davis Co 814 Wainwright Dr
Pittsburgh 341-6611
Tex John B Guenther Inc 4533 N Central Expwy
Dallas 528-6286
Utah Hytronic Measurements 2022 S Main St
Salt Lake City 466-4924
Wash Earl & Brown Co Inc 422 First Ave W
Seattle 284-1121
Can Electronic Components Intl 38 Guardsman Rd
Thornhill Ont 889-0212
For Norcon Box B Thomaston, Conn 283-5563

ALCONOX INC 215 PARK AVE S NEW YORK
N Y 10003 . . . . 212 GR 3-1300
E FENLON EMP 10

A L CONTROLS CO BOX 412 NEW HAVEN
CONN 06502 . . . . 203 562-9164
D MAY EMP 4 ENG 2 UP TO $100M
Colo Huffman Engrg Co 15 Eastfield Dr
Rolling Hills 377-4741
Ill Martec Assoc 780 Busse Hwy Park Ridge . . . 692-5233
Minn C F Vandervoort Co 1279 Osage St St Paul . 489-5222
For Brodokomerc 34 Prvoboraca Split 42-990
Ger Ernst Tesch K G 124 Grafrather Str
Wuppertal 78 24 24

ALCOR AVIATION, INC BOX 28299 SAN ANTONIO
TEXAS 78228 TWX 76-7470 . . . . 512 684-0210
E FLOOD EMP 150 ENG 4 $1,000-$2,500M

ALDEN ELECTRONIC & IMPULSE RECORDING
EQUIP CO INC BOX A WESTBORO
MASS 01581 . . . . 617 366-8851
L FARRINGTON EMP 150 ENG 10
$2,500-$5,000M
Cal F R Germain 125 Lomita St El Segundo . 213 322-6881
Va G DeWees 618 N Washington
Alexandria 703-549-5199

ALDEN PRODUCTS CO, INC 112 N MAIN ST
BROCKTON MASS 02403 . . . . 617 583-0160
R SIMMONS EMP 220 ENG 15 $2,500-$5,000M

ALDEN SYSTEMS, INC 251 N MAIN ST BROCKTON
MASS 02403 . . . . 617 583-0160
N DUHAMEL EMP 200 ENG 4

ALESSI INDUSTRIES 418 MAIN ST EL SEGUNDO
CAL 90245 . . . . 213 322-6690
V ALESSI EMP 12 ENG 3 $100-$250M
Cal Alessi Assoc 8710 Pershing Dr
Playa Del Rey 213 823-2255
Conn Impact Sales Co Inc Box 448
West Hartford 203 521-1221
Ill Audio Sound Sales Co 2535 N Ashland
Chicago 342-1600
Mass Impact Sales Inc 223 Crescent St
Waltham 617 893-2850
Pa Techni-Tool Inc 1216 Arch St
Philadelphia 215-568-4457
Tex Production Engrg Sales Organization Box 30393
Dallas . . . . 214 EM 9-3181
For Harwit Intl Inc 8549 Higuera St
Culver City, Cal 213 870-2256
Fr Techniques Modernes Intl 18 Rue de La Pepiniere
Paris 522-77-00
Jap Industrial Imports Ltd Box 1271 CPO Tokyo . 561-5383

ALEXANDER HAMILTON INSTITUTE 235 E 42ND ST
NEW YORK N Y 10017 212-697-6868
ADV PG 243

ALFAX PAPER & ENGINEERING CO BOX A
WESTBORO MASS 01581 . . . . 617 366-8227
D ENMAN EMP 31 ENG 3
Can Alfax Paper & Eng Co Inc Main St
Granby, PQ . . . . FR 2-7323

ALFORD MFG CO 120 CROSS ST WINCHESTER
MASS 01890 TWX 710-348-1063 . . . . . . 617 729-8050
H LEACH EMP 70 ENG 11 $1,000-$2,500M
Ala Gentry Assoc Inc 2109 W Clinton Ave
Huntsville 534-9771
Cal RF Assoc Inc 800 San Antonio Rd Palo Alto . 327-5531
Cal RF Assoc, Inc 1621 Pontius Ave Los Angeles . 478-1586
Fla Gentry Assoc Inc 550 N Bumby Ave Orlando . 841-7740
Ga Gentry Assoc Inc Box 13513 Sta K Atlanta . 233-3816
Ill Kenneth W Meyers Co 7256 W Touhy Ave
Chicago 774-6440
Ind Kenneth W Meyers Co 3512 Rockville Rd
Indianapolis 243-6681
Kan Simpson Enterprises Box 3066, SE Sta
Wichita 943-0502
Md E-A Inc 1406 Shoemaker Rd Baltimore 825-2385
Mass Microwave Consultants Corp 195 West St
Waltham 899-4400
Mo Simpson Enterprises 514 Parkwood
Kirkwood 965-1115
NJ L & M Assoc 511 Victor St Saddle Brook . . . 843-8700
NY Graydon-Sherman Inc Davis Bldg
Fayetteville 637-9861
NC Gentry Assoc Inc 116 E O'Neal Ave
Burlington 227-2581
Ohio Technitron Instr Inc 1250 W Dorothy La
Dayton 298-9964
Pa L & M Assoc Inc 965A Bristol Pike
Andalusia 639-3100
Tex Dannemiller-Smith Inc 10050 Monroe St
Dallas 357-8247
Wash Paratech Box 5427 Seattle 784-6447
Can Microwave Specialty Co 8490 Lafrenaie St
Montreal 324-1780

Fr AD Auriema-France S A 90-98 Bvd Victor Hugo Clichy 92 ... PAS 82-01
Ger Ad Auriema GmbH Uhdestr 33 Heilbronn-Sontheim ... 07131-82324
GB Ad Auriema Ltd 23-31 King St London W3 .. 992-5308
Jap Rikei Trading Co, Ltd 18-14 Nishishimbashi 1 Chome Minato-Ku, Tokyo ... 591-5246

ALFRED ELECTRONICS 3176 PORTER DR
PALO ALTO CAL 94304
TWX 910-373-1765 ... 415 326-6496
W BURTON EMP 145 ENG 25 $5,000-$10,000M
Ala Gentry Assoc Inc 2109 W Clinton St Huntsville ... 534-9771
Ariz Moxon Electronics 15 N 40th Pl Phoenix ... 273-7363
Cal Moxon Electronics Corp 2311 Pontius Ave Los Angeles ... 272-9311
Colo Bennewitz Assoc 2801 E Colfax Ave Denver . 399-1132
Fla Gentry Assoc Inc 550 N Bumby Ave Orlando . 841-7740
Ga Gentry Assoc Inc Box 13513 Sta K Atlanta . 873-5257
Ill Carter Electronics Inc 4919 W 63rd St Chicago ... 585-5485
Ind Carter Electronics Inc 6333 Hollister Dr Indianapolis ... 293-0696
Kan Poly-Onics Inc 4434 W 90th Ter Leawood .. 648-4173
Md Electronic Marketing Assoc 11501 Huff Ct Kensington ... 946-0300
Mass Microwave Consultants Corp 195 West St Waltham ... 899-4400
Mich S Sterling Co 21250 10 1/2 Mile Rd Southfield ... 357-3700
Minn Carter Electronics 2401 W 66th St Minneapolis ... 869-3261
Mo Poly-Onics, Inc 47 Village Sq Shop Ctr Hazelwood ... 837-0597
NJ Central Assoc 44 N Dean St Englewood ... 568-0808
NM Bennewitz Assoc 9720 Candelaria NE Albuquerque ... 298-6775
NY Labtronics Inc 130 Pickard Bldg Syracuse .. 454-9314
NC Gentry Assoc inc 116 E O'Neal Ave Burlington ... 227-2581
Ohio S Sterling Co 5827 Mayfield Rd Cleveland .. 442-8080
Pa Electronic Mktg Assoc 210 Goddard Blvd King of Prussia ... 265-1600
Tex Carey Wolf Co Box 12425 Ft Worth ... 738-1702
Wash Harry Levinson Co 1211 E Denny Way Seattle ... 323-5100
Can Electronetic Systems, Ltd 62 Alness St Downsview, Ont ... 636-3673
Den A F Pedersen Finsensvej 39 Copenhagen K ... MI 641
Fr Salies, S A 65-67 Ave Jean Jaures 91 Palaiseau ... 920-40-10
Ger Wandel u Goltermann 741 Reutlingen-Box 259 W Ger
GB Dale Electronics Ltd 109 Jermyn St London SW 1 ... 01-930-0725
Ital M Vianello Via L Anelli 13 120122 Milano ... 553 081
Jap Midoriya Electric Co ltd 3, 2-Chome, Kyobashi Chuo-Ku, Tokyo ... 561-8851
Nor Norsk Elektro Co Tollbugt 4 Oslo ... 42 27 42
SAfr K Baker Assoc (Pty) Ltd Box 1257 Johannesburgh ... 724-9341
Swed Ajgers Elektronik AB Postfack Stockholm 32 . 46 42 46
Swit Omni Ray AG Zurich 8 Dufourstr 56 ... 34 44 30
Belg Regulation Mesure 22 Rue Saint Hubert Brusseles 15
Braz Plurimac Importers, Inc Av Sao Luiz-258-11 S/1102 Sao Paulo, SP
Isrl Eastronics, Ltd 75 Haifa Rd, Box 21029 Tel Aviv ... 446-060
Fin Nores & Co Oy Fabianinkatu 32 Helsinki ... 13 360
Aust Jacoby, Mitchell & Co Pty, Ltd 469-475 Kent St Sydney NSW ... MA 8411

ALGO DIV, HAMILTON ELECTRONIC CORP
50 SCHRIEFFER ST S HACKENSACK
N J 07606 ... 201 487-4550
T BOUDREAU EMP 40 ENG 3 $500-$1,000M
Cal Yarbrough Sales Co 1608 Orange St Alhambra ... 283-0668
Fla Buchanan & Abrams Assoc 1512 E Concord Ave Orlando
Ill Martin Weldin Assoc 2948 Cullom Ave Chicago ... CO 7-4944
Mass Tec Sales Corp 52 N Washington St N Attleboro
NJ Sil Venturi 24 Silver Spring Rd Short Hills ... 379-7636
NY E Newland 801 First Ave Troy
Ohio Augey Natalino Assoc 209 Harmony Hills Akron ... 666-1447
Tex Texport Co 2411 Farrington St Dallas
Va Royelec Electronic Rep Ninth St Lynchburg
Wash Robert R Slater Terminal Sales Bldg Seattle ... MA 2-3860

ALKALINE BATTERIES CORP 1 FERRY ST
EASTHAMPTON MASS 01027
TWX 95-5451 ... 413-527-1200
R EDGE EMP 6 ENG 2
Ala Crim Sales & Engrg Inc Box 58033 Birmingham ... 871-4084
Cal Carrick Corp 16024 Ventura Blvd Encino ... 981-6552
Cal Howe-Stephens Co 1826 Industrial Way Redwood City ... 366-9591
Colo Mundix Co 2530 W Barberry Pl Denver ... 534-5373
Ga Hooker Reid Co Inc 4271 Garmon Rd W Atlanta ... 237-9385
Ill Custom Electrical Systems 4821 Main St Skokie ... 679-1424
Ind C M Buck & Assoc 1802 E 46th St Indianapolis ... 251-1281
Iowa F C Clatterbaugh Co Box 21 Cedar Rapids .. 364-5557
Iowa F C Clatterbaugh Co Box 141 Des Moines ... 282-3213
Mich Randy Smith Inc 18038 Mack Ave Detroit .. 886-3930
Minn Dan D Heimer Agency 12864 Filimore N E Anoka ... 781-7144
Mo Charles V Dunn & Assoc 11 E Gregory Blvd Kansas City ... 444-6212
Mo C O Leaver Corp Inc 2800 S Brentwood Blvd St Louis ... 968-1500
Neb F C Clatterbaugh Co Box 6181 College View Sta Lincoln ... 489-5912
Neb F C Clatterbaugh Co 300 Executive Bldg Omaha ... 391-2905
NC Hooker Reid CoInc Box 10941 Raleigh ... 828-8669
Ohio Arthur N Ulrich & Co 1565 Alum Creek Dr Columbus ... 253-2705
Ohio Arthur N Ulrich & Co Box 333 Tallmadge ... 633-8091
Ohio Arthur N Ulrich & Co Box 221 W Carrollton . 434-2662
Ohio Arthur N Ulrich & Co Box 488 Willoughby ... 946-2033
Tex Carey & Assoc 3315 W 12th St Houston ... 869-3623
WVa Arthur N Ulrich & Co Box 103 Scott Depot .. 755-4401

ALLACO PRODUCTS 130 WOOD RD BRAINTREE
MASS 02184 ... 617 843-7845
A ALEXANDER EMP 11 ENG 2
Cal Claude Michael 703 W Ivy St Glendale ... 245-8401
Ill Robert J Kennedy Co 6713 N Oliphant Ave Chicago ... NE 1-8283
Md Wm I Duncan & Assoc 206 W Washington Ave Towson ... 823-2506
NJ Sil Venturi 24 Silver Spring Rd Short Hills ... 379-7636
Pa Wm I Duncan & Assoc 5452 Charles St Phila ... 744-6110

ALL AMERICAN ENG CO, COML PRODS DIV BOX 652
NEWARK DEL 19711 ... 302-737-8400
P MADDEN EMP 70 ENG 4 $1,000-$2,500M
Cal R J de Recat & Co, Inc 1298 Shotwell St San Francisco
Fla R B Grove Inc 261 SW 6th St Miami
Mich P Wilkins & Assoc Box 207 Sturgis
NJ Eastern Marketing Assoc 306 E Buttonwood St Wenonah ... 857-0889
Okla Kenny Magoon 5424 S Marion Tulsa
Tenn Wm F Miller Box 6912 Nashville

ALL AMERICAN TOOL & MFG CO INC
8027 LAWNDALE SKOKIE ILL 60076 ... 312 673-7084
R HEIN EMP 12 ENG 2
Cal Pacific Scientific Co 6280 Chalet Dr City of Commerce ... 213 SP 3-2020
Mich S Sterling Co 21250 10 1/2 Mile Rd Southfield ... 313 357-3700
Mo Pacific Scientific Co 11771 Natural Bridge Rd Bridgeton ... 314 291-2440
NY Testing Machines Inc 400 Bayview Ave Amityville ... 516 598-1400
Ohio S Sterling Co 5827 Mayfield Rd Cleveland ... 216 HI 2-8080
Ore Pacific Scientific Co 1208 SE 7th Ave Portland ... 503 233-6177
Pa S Sterling Co 4232 Brownsville Rd Pittsburgh ... 412 TU 4-5515
Tex Pacific Scientific Co 702-A E Abram St Arlington ... 817 275-3236
Wash Pacific Scientific Co 8915 14th Ave Seattle ... 206 RO 2-4260
Can Testing Machines Intl of Can Ltd 6078 Sherbrooke St Montreal Que .. 514-489-9723
For Inter-Ocean Export Assoc 2530 Crawford Ave Evanston, Ill ... 312 BR 3-5314
GB Wessex Electronics Ltd Baldwin St Bristol 1

ALLARD INSTRUMENT CORP 770 MAIN ST
WESTBURY N Y 11590 ... 516 ED 48742
J ACKERMAN EMP 35 ENG 2 $250-$500M
Cal P Rosen Co Box 16 Berkeley ... 526-8286
Fla Tech-Rep Assoc Box 2095 Melbourne ... 391-0008
Ill Carlson Electronic Sales 7448 N Harlem Ave Chicago ... Sp 4-0277
Mass Naton Assoc 20 Strawberry Hill Rd Natick .. 235-1966
Minn Carlson Electronic Sales 2500 39th Ave NE Mnpls ... 788-4111

ALLCO S A 45 RUE DE LA DIV LECLERC GENTILLY
FRANCE ... 655-2525
Y TOUITOU EMP 80 ENG 6 $1,000-$2,500M

ALLEGHENY LUDLUM STEEL CORP
2020 OLIVER BLDG PITTSBURGH
PA 15222 ... 412 261-5300
B HILL EMP 16,500 OVER $10,000M
Cal Allegheny Ludlum Steel 221 Harris Ct S San Francisco ... 583-9855
Conn Allegheny Ludlum Steel 200 Lamberton Rd Windsor ... 688-5241
DC Allegheny Ludlum Steel 1001 15th St NW Washington ... 393-4232
Ga Allegheny Ludlum Steel 3379 Peachtree Rd Atlanta ... 261-8622
Ill Allegheny Ludlum Steel 1801 E DeLoss St Indianapolis ... 632-6521
Iowa Allegheny Ludlum Steel Kahl Bldg Davenport ... 326-4244
Mass Allegheny Ludlum Steel 65 William St Wellesley ... 237-1572
Mich Allegheny Ludlum Steel 1500 Jarvis Ave Detroit ... 564-6900
Minn Allegheny Ludlum Steel 5217 Wayzata Blvd Minneapolis ... 544-3344
Mo Allegheny Ludlum Steel 10720 Baur Blvd St Louis ... 991-2900
NY Allegheny Ludlum Steel 114 S Warren St Syracuse ... 422-6113
Ohio Allegheny Ludlum Steel 1270 McCook Ave Dayton ... 461-3745
Pa Allegheny Ludlum Steel 555 E City Line Ave Bala Cynwyd ... 839-7370
Tenn Allegheny Ludlum Steel 1712 1st Natl Bank Bldg Memphis ... 526-5141
Tex Allegheny Ludlum Steel 2727 Allen Pkwy Houston ... 529-2647
Wash Allegheny Ludlum Steel 3327 White Henry Stuart Bldg Seattle ... 624-8776
Wis Allegheny Ludlum Steel 3800 N 1st St Milwaukee ... 964-3500

ALLEGRI-TECH INC 141 RIVER RD NUTLEY
N J 07110 TWX FPP ... 201 661-2220
A LONGARZO EMP 120 ENG 3 $1,000-$2,500M

ALLEN AIRCRAFT RADIO INC 2050 TOUHY AVE
ELK GROVE VILLAGE ILL 60007
TWX 253594 ... 312-437-9300
F MEYER EMP 90 ENG 10 $5,000-$10,000M
Colo Aircraft Radio & Accessory Stapleton Fld Denver ... 303-398-3717
Ill Bonling Aircraft 5300 S Cicero Chicago ... 312-LU1-5324
NY Mars Aircraft Kennedy Intl Airport New York ... 212-656-5656
Den Avia Radio N Hangar 141 Copenhagen Arprt Dragoer Copenhagen . 01-53-0800
Neth AllenAirmotive Intl Schipol Airport Amsterdam ... 726-055

ALLEN AVIONICS INC,DIV A K ALLEN CO INC
255 E 2ND ST MINEOLA N Y 11501 ..... 516 747-5450
L JACOBSON
ADV PGS 218-220,264
Ala Brennan Assoc 2311 Poincianna Huntsville .. 536-7425
Cal Adtek Assoc 201 Town & Country Vlg Palo Alto ... 323-5414
Cal E V Roberts & Assoc Inc 9601 W Jefferson Blvd Culver City ... 870-9561
Fla Brennan Assoc Box 5045 Clearwater ... 446-5006
Ill M Q & Assoc 118 W Higgins Rd Park Ridge .. 698-2044
Ind McDonald Sales Co Box 2848 Fort Wayne .. 745-9214
Kan H C Heyde Co 9221 Wenonga Rd Leawood .. MI 9-8628
Md D K Jones & Assoc 2026 Maryland Ave Baltimore ... 752-0577
NH Buttolph Assoc, Inc Warner Hill Rd East Derry ... 432-2882
NY International Div 2200 Shames Dr Westbury ... 334-3303
NY Huntley Assoc 30 Arty Dr Buffalo ... 632-0454
NY Sweeney & Co Inc 5 Fox Meadow Ct Woodbury ... 692-4222
Pa D K Jones & Assoc 6520 Rising Sun Ave Phila ... 342-3990
SC Brennan Assoc Box 871 Aiken ... 649-7100
Tex Spacetronics Co 4515 Prentice St Dallas .. EM 8-1215
Can Aeromotive Eng Prods Ltd 887 Montee de Liesse Montreal ... 747-4781

ALLEN-BRADLEY CO 1201 S SECOND ST
MILWAUKEE WIS 53204 ... 414 671-2000
H ROSENKRANZ
Ala Allen-Bradley Co 825 S 22nd St Birmingham ... 322-0491
Ariz W Bert Knight Co Box 11394 Phoenix ... 264-3578
Ark Curtis H Stout Inc 2207 Cantrell Rd Little Rock ... 374-8201
Cal W Bert Knight Co 112 Glasgow Ave Inglewood ... 678-4711
Cal Hunter Assoc 252 Fox Plaza San Francisco . 626-8576
Colo Allen-Bradley Co 2600 W 2nd Ave Denver .. 936-7303
Conn Allen-Bradley Co 1720 Barnum Ave Stratford ... 378-7364
Fla Van & Smith Co Inc 2723 Park St Jacksonville ... 384-2376
Fla Charles R Lee & Assoc 3796 W Flagler St Miami ... HI 4-7414
Fla Van & Smith Co Inc 4921 Cypress St Tampa ... 877-8393
Fla Van & Smith Co, Inc 1220 N EdgewaterDr Orlando ... 425-7026
Ga Roy E Wilson Co 1058 Northside Dr, N W Atlanta ... 876-8833
Ill Allen-Bradley Co 838 S Desplaines St Chicago ... 922-9302
Ill Allen Bradley Co 1013 Broadway Rockford .. 965-8795
Ind Allen-Bradley Co 2212 S Calhoun St Fort Wayne ... 745-7068
Ind Allen-Bradley Co 1491 N Harding St Indianapolis ... ME 8-1491
Iowa Deco Engineering Prods 1112 Locust St Des Moines ... 288-5721
Iowa Allen-Bradley Co 1530 State St Bettendorf . 355-2831
Ky Rietze Co 123 N Sherrin Ave Louisville ... 893-2571
La Allen-Bradley Co 3320 Hessmer Ave New Orleans ... 888-2281
La Curtis H Stout Inc 409 Fairfield Bldg Shreveport ... 425-5485
Md Harry M Wood & Co Inc 2117 Eastern Ave Baltimore ... 276-1505
Mass Allen-Bradley Co 24 Brighton Ave Boston ... 782-0203
Mass Allen-Bradley Co 121 Chestnut St Springfield ... 732-3430
Mich Allen-Bradley Co 6750 E Davison Ave Detroit ... 365-5300
Mich Allen-Bradley Co 3421 Corunna Rd Flint ... CE 2-9341
Mich E B Dewey Co 345 State St Grand Rapids .. GL 4-1825
Mich E B Dewey Co 2519 Lake St Kalamazoo ... FI 4-6163
Minn Irvin I Aaron & Assoc 614 E Grand St Minneapolis ... FE 6-6659
Mo Allen-Bradley Co 1818 Main St Kansas City ... HA 1-4595
Mo Allen-Bradley Co 3850 Washington Blvd St Louis ... 535-1901
Neb Midwest Equipment Co 1614 Izard St Omaha ... 341-7600
NJ Allen-Bradley Co 1293 Broad St Bloomfield . 338-4600
NM Walter Dolde Sales Co 114 Morningside Dr NE Albuq ... 256-0307
NY Allen-Bradley Co 1654 Central Ave Albany . UN 9-5373
NY Allen-Bradley Co 1589 Kenmore Ave Buffalo ... 873-7617
NY Allen-Bradley Co 1337 Main St, E Rochester ... 482-0010
NY Allen-Bradley Co 218 Boss Rd Syracuse ... 463-4501
NC LeRoy P Spoon 307 Lincoln St Charlotte ... 372-3287
Ohio Allen-Bradley Co 680 E Market St Akron ... 253-2905
Ohio Allen-Bradley Co 2331 Reading Rd Cincinnati ... 721-4482
Ohio Allen-Bradley Co 3416 Prospect Ave Cleveland ... EX 1-2855

Ohio Allen-Bradley Co 3300 S Dixie Dr Dayton . . . 298-6121
Ohio Allen-Bradley Co 5550 W Central Ave
Toledo 531-8311
Ohio Allen Bradley Co 4355 N High St Columbus . . 263-6881
Okla John W Elder Co 1526 E Fourth St Tulsa . . LU 3-9149
Ore J A Tudor & Assoc Inc 14 N E Tillamook St
Portland 288-5154
Pa Allen-Bradley Co 842 Hamilton St Allentown . 437-2401
Pa Allen-Bradley Co 235 Fairfield Ave
Upper Darby . . . . JA 8-6943
Pa Allen-Bradley Co 4489 Campbells Run Rd
Pittsburgh 923-1844
Pa Allen-Bradley Co 653 W Market St York . . . 848-2239
Pa Allen Bradley Co 1611 Peach St Erie 455-5680
Tenn Allen-Bradley Co 1211 Euclid Ave NW
Knoxville 525-9578
Tenn C H Stout of Tenn, Inc 3506 Tchulahoma Rd
Memphis 362-1616
Tex Allen-Bradley Co 165 Cole St Dallas 748-6356
Tex Allen-Bradley Co 2105 McKinney Ave
Houston . . . . CA 5-0747
Utah Stevens Sales Co 1476 Major St
Salt Lake City 467-5489
Va Allen-Bradley Co 2519 Grenoble Rd
Richmond 282-4285
Wash J A Tudor & Assoc 2605 Western Ave
Seattle . . . . MU 2-7444
Wash J A Tudor & Assoc E 201 Augusta
Spokane . . . . FA 7-3328
WVa Henry E Payne 1116-B Kanawha Blvd, E
Charleston . . . . DI 3-1393
Wis Allen-Bradley Co 615 N Lynndale Dr
Appleton . . . . RE 4-6262
Wis Allen-Bradley Co 224 W Greenfield Ave
Milwaukee 671-2000
Wis Irvin I Aaron & Assoc 829 N Marshall St
Milwaukee 276-8515
Can Allen-Bradley Can Ltd 135 Dundas St
Galt, Ont 623-1810
For Allen-Bradley Co 1293 Broad St Bloomfield . 338-6262
For Elecsa, S A Av Wilson 905 Aptdo 4618
Lima, Peru
For Guevara & Sons 472 San Luis St Manila, Phil
For M Gonzalez Del Rio Cassilla De Correo 228
Montevideo, Uura
For Felipe Alberto Lopez Bloque 1-D-63, Cotiza
Caracas, Vene
Fr Bureau de Liaison 113 Rue de L'Universite
Paris 7E France
Ger Elecktro-Steuerung
Eberhard Bunz Thunbuschstr 2 5601 Gruiten
Ger Alfred Neye Enatechnik Box 42 2085 Quickborn
Hamburg
GB B & K Instr Ltd 57/61 Union St London SE 1
Neth Technische Handelmaatschappi
16 Nassau Dillenburgstr The Hague
Ital Special-Ind Corp Via D Manin 33 Milano
Jap Ace Co Ltd 2-2 Nihonbashi-Tori Chuo-ku Tokyo
Swed Thure F Forsberg Forshagagatan 58 Farsta 1
Swit Ernst M Egli Witikonerstr 52 Zurich
Arg T R C Elctns S A C I el Congallo 4456
Buenos Aires
Belg Electro Mecano Automatic 134-142 Rue Bara
Brussels
Braz Emile H Staub, Rep S A Box 30.318 Sao Paulo
Isrl Eastronics, Ltd 75 Haifa Rd Tel-Aviv
Mex Gimbel Mexicana S A Avenida Sonora 170
Mexico 11 D F
Fin INTO o/y 11 Meritullinkatu Helsinki 10
Aust Anodeon Sales Div 443 Concord Rd
Rhodes, N S W

ALLEN ELECTRONICS DIV ALLEN ORGAN CO
MACUNGIE PA 18062 . . . . 215 965-9801
M NELSON

ALLEN INC R C, INSTRUMENT DIV
678 FRONT AVE NW GRAND RAPIDS MICH 49501
TWX 616-949-3164 616-456-8541
D BERGGREN EMP 160 ENG 20 $1,000-$2,500M
Ala Kemp Instruments Inc 4306 Governors DrW
Huntsville 837-4304
Cal J B Rudy Co 29050 Brant Ave Long Beach . . 422-9830
Mo Kemp Engrg Co 10702 Manchester Rd
St Louis W08-0300
Ohio Rixan Assoc 5752 Wadsworth Rd Dayton . . . BA2-0011
Tex Kemp Engrg Co 2618 Manana Dr Dallas . . . FL7-6663

ALLEN-JONES ELECTRONICS DIV WEMS INC
17171 S WESTERN AVE GARDENA
CAL 90247 . . . . 213 DA 7-0710
W STEVENSON EMP 100 ENG 10
$1,000-$2,500M
Colo Allen-Williams Co 4971 Jackson Rd
Denver 303-388-4391
Ill Mesco Inc 10436 S Western Ave
Chicago 312-HI5-7121
Md Riber Inc Box 35 Gaithersburg 301-948-6860
NY Electro Lab Equip Co 12 Bromligh Rd
Garden City 516-PR5-5562
NC Radco 614 Nissen Bldg Winston-Salem . 919-722-9671
Pa Kurt Lesker Co 5635 Horning Rd
Pittsburgh 412-892-2996
Can Brock Electronics Ltd 27 Perth St
Lyn, Ont 613 342-0152

ALLEN MFG CO BOX 570 HARTFORD
CONN 06101 . . . . 203 242-8511
G NEWTON EMP 500 ENG 20

ALLIANCE MFG CO INC 22790 LAKE PARK BLVD
ALLIANCE OHIO 44601 . . . . 216 821-5360
Cal Wm J Purdy 770 Airport Rd Burlingame . . . UN 3-3300
Colo Hyde Electronics 888 S Lipan St Denver 936-3456
Conn Lew Carr 70 River Edge Farris Rd Madison . AT 8-4269
Fla John Thompson 322 Riverside Dr
Ormond Beach 677-2298
Ill T B Hunter 5653 W Irving Park Rd Chicago . SP 7-2500
Ind Alan J Bolenbough Rt 4 Beech Tree Dr
Columbus 372-3960

Kan Mathews & Co 7703 W 99th Terr
Overland Park . . . . NI 2-9063
Mich John J Orr Box 9075 Grand Rapids . . . . LE 4-4029
Minn HMR Inc 9 E 22nd St Minneapolis 335-7734
NY S A Shaw Co 361 Central Park Yonkers . . . YO 3-5700
Ohio Tom Shelby Co 17 S Walnut St
New Bremen 629-6511
Ore J W Eckersley Co 3150 SW Hamilton St
Portland 246-3183
Tenn John Cottrell Box 50337 Nashville . . . . CY 2-8997
Tex Lund & Co 2616 Manor Way Dallas 358-4335
Can Henry Daymond Sales Co Ltd Box 486
Oakville Ont . . . . VI 4-6721
For Joseph Plasencia Inc 521 Fifth Ave
New York N Y 867-8084

ALLIED COMPUTER TECHNOLOGY INC
3112 PENNSYLVANIA AVE SANTA MONICA
CAL 90404 213-451-8941
M MCGREW EMP 4 UP TO $100M

ALLIED CONTROL CO INC 2 EAST END AVE
NEW YORK N Y 10021
TWX 212-867-4594 . . . . 212 288-7403
J KENNEDY EMP 841 ENG 36 OVER $10,000M
Ala Technical Mktg Inc Box 1001
Huntsville 205 534-2487
Ariz J Berman Co Inc 2101 W Shangri La Rd
Phoenix 602 944-3361
Cal William J Purdy Co 770 Airport Blvd
Burlingame 415-347-7701
Cal J Berman Co Inc 8295 S La Cienega Blvd
Inglewood 213 678-1281
Colo Electronic Sales 4783 S Quebec
Denver 303-771-6300
Fla Geartner Assoc Inc 2101 Mohawk Tr
Maitland 305 647-4000
Ga Technical Mktg Inc Box 1152 Marietta . 404 435-0079
Ill D Dolin Sales Co 3525 W Peterson Ave
Chicago 312 588-3738
Ind Technical Reps Co 4000 Meadows Dr
Indianapolis 317 546-4967
Kan Thos L Dowell Inc 7208 W 80 St
Overland Park 913 649-6069
Md J R Daniel & Co Inc Box 124 Lutherville . 301 825-3330
Mass Downes Assoc 193 West St Waltham . . 617-891-6517
Mich L H Dickelman Co 13331 Puritan Ave
Detroit 313 273-0806
Minn Industrial Components Inc 4004 W 78th St
Mnpls 612-927-9991
Mo Richard Greene Co 1830 S Hanley Rd
St Louis 314 644-2666
NJ Horne Assoc 2282 Hamburg Tpk
Wayne 201-835-7400
NY Leonard D Allen Inc Box 205
North Syracuse 315 458-7470
NC Technical Mktg Inc Box 6664
Greensboro 919 274-2570
Ohio Tri-State Marketing Inc 1717 Section Rd
Cincinnati 513-631-5060
Ohio Allen Nace Co Inc Box 156 Brecksville . 216-526-4323
Pa J R Daniel & Co Inc Box 3 Glenside 215 887-0550
Pa Allen Nace Co Inc 1725 Washington Rd
Pittsburgh 412-561-3544
Tex Ammon & Champion Co
Box 35263 Blanton Tower 733
Dallas 214 357-8441
Wash Don Smith Sales Co 2320 N 45th St
Seattle 206 633-3160
Can Siemens Canada Ltd Box 7300
Pointe Claire P Q 514 695-7300

ALLIED ELECTRONICS CORP 100 N WESTERN AVE
CHICAGO ILL 60680 TWX 910-221-5570 . 312 TA 9-9100
C SMITH EMP 2400 OVER $10,000M
ADV PGS 230,531
Cal Allied Elctns of Cal Inc 128 E Wheeler Ave
Arcadia 213 684-0730
Colo Allied Electronics Corp 5475 Leetsdale Dr
Denver 303 399-2250
DC Allied Electronics Corp 4911 Niagara Rd
College Park Md 301 935-6400
Fla Allied Electronics Corp 4605 J F Kennedy Blvd
Tampa 813 877-6791
Mich Allied Electronics Corp 8140 Greenfield Rd
Detroit 313 846-7720
Minn Allied Electronics Corp 4330 Hwy 7
Mnpls 612 920-5800
NY Allied Electronics Corp 255 N Goodman St
Rochester 716 244-8750
Ohio Allied Electronics Corp 3592 Lee Rd
Cleveland 216 752-3290
Tex Allied Electronics Corp 6162 E Mockingbird La
Dallas 214 826-5101
Wash Allied Electronics Corp 4000 Aurora N
Seattle . . . . 206 ME 2-5935
Wis Allied Electronics Corp 3709 Fond de Lac
Milwaukee 414 444-2840

ALLIED RESEARCH ASSOC INC ENG SYS DIV
VIRGINIA RD CONCORD MASS 01742 . . . 617 369-9000
J RAUSEO EMP 30 ENG 5 $1,000-$2,500M

ALLIED RESEARCH & ENGINEERING CO
10300 GLASGOW LOS ANGELES
CAL 90045 . . . . 213 670-6816
P HARPER EMP 25 ENG 3 $250-$500M
Mich Michigan Chrome & Chem Co 8615 Grinnell
Detroit . . . . WA 1-3711

ALLIED RESEARCH PRODS INC SUB THE
RICHARDSON CO 4004 E MONUMENT ST
BALTIMORE MD 21205
TWX 710-234-2408 . . . . 301 732-9070
J CAIRNS EMP 300 ENG 40 OVER $10,000M
Cal Arp Inc 12105 B E Slauson
Santa Fe Springs 698-9995
Conn Allied Research Products 305 Sniffen La
Stratford 333-4282
Fla Allied Research Products Box 877
Port Orange 255-4511
Ill Allied Research Products
2801 W Lake St Bldg 330-A
Melrose Park 344-9280
Ind Allied Research Products 2051 E 46th St
Indianapolis 251-9111
Iowa Allied Research Products 611 Bahl Bldg
Davenport 323-0395
Mass Allied Research Products 166 Lynde St
Melrose 665-3362
Mich Allied Research Products 400 Midland Ave
Detroit 883-0100
Minn Industrial Chemical & Equip 2328 N 2nd St
Minneapolis 521-3581
Mo Sommers Bros Mfg Co Box 5495 B Bremem Sta
St Louis . . . . CH 1-7343
NJ Allied Research Products 29 Porete Ave
N Arlington 991-8777
NY Allied Research Products 834 Orbit La
Uniondale 739-7880
NC Allied Research Products 153 Clinton Ave
W Ashville 253-2403
Ohio Allied Research Products 2000 W 14th St
Cleveland 621-9300
Pa Allied Research Products Investment Bldg
Pittsburgh 471-1150
Wis Allied Research Products 2450 W Wells St
Milwaukee 414-342-5566
Can Allied Research Prod of Can Reg'd
6 Bras D'or Ave Pte Claire Que 695-9604

ALLIED SYSTEMS CORP 4 TRI PORT CT
GREENSBORO N C 27409
TWX 510-922-8333 . . . . 919 299-2294
E SAUDE EMP 20 ENG 2
Cal Cairns Engineering Sales 6151 W Century Blvd
Los Angeles 213 670-1700
Fla Kirkwood Assoc Box 52 Winter Park
Winter Park 305 645-2220
Mass Hobart Assoc 223 Crescent St
Waltham 617-899-6230
Pa H J Heffernan Co 7129 Camp Hill Rd
Ft Washington . . . . 215 VE 6-4411
Tex Carey & Assoc 3315 W 12th St
Houston 713-869-3623
Va H J Heffernan Co 1123 N Irving St
Arlington . . . . 703 JA 2-6666
Can Electrocraft of Canada 132 Days Rd
Kingston Ont 613 389-3386

ALLIED WITAN CO, INC 12500 BELLAIRE RD
CLEVELAND OHIO 44135 . . . . 216 941-2800
G GIBEL EMP 15 ENG 3 UP TO $100M

ALLIS-CHALMERS MFG CO BOX 512 MILWAUKEE
WIS 53201 TWX 910-262-3445 414-475-2000
J GRAHAM EMP 30000 ENG 2000
OVER $10,000M
Ala Allis-Chalmers 1824-29th Ave S
Birmingham 879-8621
Ariz Allis-Chalmers 222 W Osborn Rd Phoenix . . . 274-5426
Cal Allis-Chalmers 6820 E Washington Blvd
Los Angeles 724-2430
Colo Allis-Chalmers 70 W 6th Ave Denver 825-7231
Conn Allis-Chalmers 1150 Main St Hartford 666-8474
DC Allis-Chalmers 1101-17th St NW
Washington 659-2500
Fla Allis-Chalmers 5444 Bay Center Dr Tampa . . 877-9541
Ga Allis-Chalmers 3390 Peachtree Rd NE
Atlanta 261-2360
Ill Allis-Chalmers 72 W Adams St Chicago 372-6480
Ind Allis-Chalmers 539 Turtle Creek
Indianapolis 783-3265
Iowa Allis-Chalmers Box 1 Des Moines 967-4257
Ky Allis-Chalmers 233 E Burnett Ave Louisville . 637-5478
La Allis-Chalmers 2001 Canal St New Orleans . . 525-8402
Md Allis-Chalmers 1115 E 30th St Baltimore . . . 467-4480
Mass Allis-Chalmers 31 St James Ave Boston 482-3700
Mich Allis-Chalmers 17170 W Seven Mile Rd
Detroit 273-6400
Minn Allis-Chalmers 6410 W Old Shakopee Rd
Minneapolis 944-1500
Mo Allis-Chalmers 7912 Bonhomme Ave
St Louis 726-5454
NJ Allis-Chalmers 2401 Morris Ave Union 687-3700
NY Allis-Chalmers 100 Church St New York 233-9100
NC Allis-Chalmers 723 Sharon-Amity Rd
Charlotte 364-0412
Ohio Allis-Chalmers 1717 E Ninth St Cleveland . . 621-5182
Ohio Allis-Chalmers 6911 Market St Youngstown . 758-6633
Okla Allis-Chalmers 23 W Fourth St Tulsa 587-9163
Ore Allis-Chalmers 2300 SE Beta St Portland . . 654-9527
Pa Allis-Chalmers 551 W Lancaster Ave
Haverford 527-0900
Tenn Allis-Chalmers 46 N Third St Memphis 527-0377
Tex Allis-Chalmers 2730 Stemmons Frwy Dallas . 637-3170
Utah Allis-Chalmers 136 S Main St
Salt Lake City 364-6401
Va Allis-Chalmers 1508 Willow Lawn Dr
Richmond 282-7678
Wash Allis-Chalmers 700-108th Northeast
Bellevue 454-3981
WVa Allis-Chalmers 922 Quarrier St Charleston . . 343-9505
Wis Allis-Chalmers 2040 W Wisconsin Ave
Milwaukee 933-1736

ALLMETAL SCREW PRODUCTS CO INC
821 STEWART AVE GARDEN CITY N Y 11530
TWX 510-222-8132 . . . . 516 PI 1-1200
M EPSTEIN EMP 180 ENG 3
Cal Allmetal Screw Prods 333 Mathew St
Santa Clara 246-7444
Cal Allmetal Screw Prods 4917 W 147 St
Hawthorne 722-3131
Ga Allmetal Screw Prods
1462 Chattahoochee Ave NW Atlanta 351-6180
Ill Allmetal Screw Prods 1621 N 31st Ave
Melrose Park 345-6960

Tex Allmetal Screw Prods 802 Great SW Pkwy
Arlington 261-1101
Can Ontario Allmetal Screw Prods 41 Horner Ave
Toronto 252-4641

ALL-O-MATIC INSTRUMENTS & SYSTEMS INC
2099 JERICHO TPK NEW HYDE PARK
N Y 11040 .... 516 437-2200
G KAREL EMP 300 ENG 9
Cal Frauman Assoc Box 969 Menlo Park ... 415 322-8461
Ill R M Krueger Co Inc 5755 W Irving Park Rd
Chicago 312 282-8444
NJ Bressler Assoc 4808 Bergenline Ave
Union City 201 864-9577
Ohio Jay Engineering Co 1721 E Third St
Dayton 513 253-2151

ALL STAR PRODUCTS INC SQUIRE AVE DEFIANCE
OHIO 43512 .... 419 782-1065
D INGLE EMP 250 ENG 3
Ariz W Bert Knight Co Box 11391 Phoenix 261-3578
Cal Hunter Assoc 252 Fox Plaza
San Francisco 415 626-8576
Fla Components Sales Corp Box 9545
St Petersburg 360-7460
Ill C J Saberson Box 1108 Evanston 274-9668
Mich R C Merchant & Co 18411 W McNichols Rd
Detroit 535-6000
NY Perry Saftler Assoc 157 W 57th St
New York 247-3855
Va C P Skenes Box 102 Montross 493-5611
Can Anbak Sls Canada Ltd 3208 Lenworth Dr
Cooksville Ont 625-1061

ALLSTATE ELECTRONICS, INC 88 N HIGHLAND AVE
OSSINING N Y 10562 .... 914 941-1830
M SHER EMP 15 ENG 2 $100-$250M

ALL-STATE WELDING ALLOYS CO, INC BOX 350
WHITE PLAINS N Y 10602 914-592-5400
S MANDEL EMP 150 ENG 3
Cal All-State Welding Alloys Co 9550 Ann St
Santa Fe Springs 698-9883
Can All-State Welding Alloys of Can Ltd
104 Advance Rd Toronto .... BE 1-6231
GB All-State Welding Alloys Co
16 Phoenix Rd Wednesfld Wolverhampton ... 732680
Swit C Van Der Lugt Melsert 23 Chemin De Sous-Mont
Prilly 25 66 91
Belg N V All-State Welding Alloys Co of Belg S A
2 Europark St Niklaas-Waas 03/76-50-76
Mex S Fernandez Box 47070 Mexico 4 D F

ALLTRONICS-HOWARD CO BOX 19 BOSTON
MASS 02101 .... 617 742-0048
T HOWARD

ALL-TRONICS, INC 45 BOND ST WESTBURY
N Y 11590 TWX 510-222-3655 .... 516 333-3090
H WESTMAN JR $500-$1,000M
Cal Ed Landa Co 2288 Westwood Blvd
Los Angeles 213-272-9525
Cal Ed Landa Co Box 639 Los Altos 415-948-0788
Colo Beta Technical 4732 S Broadway
Englewood 303-781-3271
Fla Geartner Assoc 350 Lincoln Rd
Miami Beach 305 531-0200
Ill MQ & Assoc 118 W Higgins Av
Park Ridge 312-698-2044
Kan Gordon Fixman Eng Co 6631 S Kellogg
Wichita 316 682-9433
Mass Musello Assoc Harvard Rd Stow 617 369-5900
Minn TEC Sales 9906 Chicago Ave S
Minneapolis 612 884-1180
Mo Gordon Fixman Engineering Co
8160 Stanford Ave St Louis 314-Pa 5-5219
NY Measurement Technology 295 Northern Blvd
Great Neck 516-482-3500
Ohio Edmund C Frost & Co 30170 S Woodland
Cleveland 216-831-1442
Pa W Reeves Assoc, Inc 2973 N Providence Rd
Media .... 215 LO 6-6709
Wash A C E Assoc 137 W 153rd St Seattle .. 206-Ch 4-9391

ALMAC CRYOGENICS INC 1108 26TH ST OAKLAND
CAL 94607 .... 415 832-1505
A HEDSTROM EMP 11 $500-$1,000M

ALMA ENGINEERING INC 7990 DAGGET ST
SAN DIEGO CAL 92111 .... 714 278-9330
R FRICK EMP 27 ENG 5 $500-$1,000M
NY S B McCollum 44 Broadway Greenlawn

ALMOND INSTRUMENTS CO 755 N DODSWORTH
COVINA CAL 91722 213-966-1511
G ALMOND EMP 7 ENG 3 $100-$250M

ALMOR DEVELOPMENT CO INC 724 W ANAHEIM ST
LONG BEACH CAL 90813 .... 213 HE 7-2781
M FORMAN EMP 36 ENG 1 $250-$500M

ALNOR INSTRUMENT CO DIV ILL TESTING LABS
420 N LASALLE ST CHICAGO ILL 60610 . 312-467-1331
M CARLSON EMP 160 ENG 15 $2,500-$5,000M
Ala Ind Htg & Finish Co 2020 Arnold Rd
Birmingham 205-822-4456
Alas Portis & Assoc 132 E Stetson Dr
Scottsdale 602-947-4379
Cal Pacific Combustion Eng Co 5272 E Valley Blvd
Los Angeles 213-225-6191
Colo R G Davis Co Box 12004 Denver 303-422-6313
Fla Florida Precision Instr Corp 800 N W 7th Ave
Miami 305-374-1731
Ga Measure-Trol Co 175 Wieuca Rd N E
Atlanta 404-255-7249
Ill Ogden Mfg Co 2520 W Irving Park Rd
Chicago 312-267-2225
Ind Law Instrument Co Box 40262
Indianapolis 317-787-0009

Iowa Mueller Sales Corp 604 Ellis Blvd N W
Cedar Rapids 319-365-9107
Ky W J Purcell Co 410 E Maple St
Jeffersonville 812-282-1418
La Fred M Erichson Co 3008 18th St
Metaire 504-834-9360
Md Jobe & Co 2857 Greenmount Ave
Baltimore 301-235-3502
Mass Osgood Engineering Co 26 Henshaw St
Woburn 617-933-4744
Mich Robt B Turpin Co 16901 Schoolcraft
Detroit 313-272-0746
Minn Mueller Sales Corp 2420 Nevada Ave N
Golden Valley 612-544-8888
Mo Industrial Service Lab 4354 Olive St
St Louis 314-535-5760
Neb Mueller Sales Corp 9368 Brownley Dr
Omaha 402-393-9897
NJ Alvin M Stock Inc 2801 Central Ave
Union City 201-864-2140
NY Thermal Systems Inc 78 Princeton Pl
Orchard Park 716-662-5560
NC A D Penn Co 1043-C Providence Rd
Charlotte 704-332-8644
Ohio W J Purcell Co 4315 Myrtle Ave
Cincinnati 513-791-1131
Okla John Shurtleff Co 3140 E 15th St
Tulsa 918-WE6-7269
Pa Wistex 1 Belmont Ave Bala Cynwyd ... 215-TE9-7086
Tex Gay Sales Co 6414 Walnut Hill La
Dallas 214-EM8-2325
Utah Control Equipment Co 265 Cross Roads Sq
Salt Lake City 801-487-7741
Va Virginia Technical Assoc Box 9524
Richmond 703-266-9654
Wash Fairman B Lee Co 14629 22nd S W
Seattle 206-CH4-7262
Wis Mueller Sales Corp 3540 N 126th St
Brookfield 414-781-5310
Can Northwest Ind Ltd Box 517 Ind Arprt
Alberta Edmonton 403-455-3161
Can Baker Instr Ltd 185 Davenport Rd
Ont Toro 416-924-9708
Can Industrial Inst Co 44 Notre Dame St E
Que Mont 514-861-5384
BC John Sherman Co 855 Hastings St E
Vancouver 604-254-3113

ALPHA COMPONENTS CORP 4087 GLENCOE
VENICE CAL 90291 .... 213 398-2713
J CATALDO EMP 10 ENG 3 $250-$500M
Cal Osborne & Bidwell Co 225 E Redondo
Gardena 213 770-0300
Haw Pacific Electronics 1336-4 Dillingham Honolulu
Ill L W Phinney 1504 N Hoffman Park Ridge ... 825-5296
Minn White Sales Co 6418 Westlake St
Minneapolis 929-4661
NY Everett Sales Engg Co 160 Plandome
Manhassett 627-7750
Ohio Coy Sales Co Box 2078, Kettering Dayton .. 385-7222
Ore Dale G Weber Co Weathly Bldg Portland 234-0686
Pa Samuel A Jeffries Inc 105 Forrest Ave
Narberth 664-8500
Tex V J Sykes Assoc Inc 13333 N Central Expwy
Dallas 503-5034
Va Tom Davis Marketers Inc 4210 Daniels
Annandale 941-2313
For Itonra Intl 9470 Santa Monica Blvd
Beverly Hills, Cal 272-0011

ALPHA INDUSTRIES INC 381 ELLIOT ST
NEWTON UPPER FALLS MASS 02164
TWX 710-335-1237 .... 617 969-6480
A KARIOTIS EMP 255 ENG 15 $2,500-$5,000M
Ala Mekco Assoc Holiday Office Ctr Huntsville ... 881-3721
Ariz Bennewitz Assoc 532 N Brown Ave
Scottsdale 947-7379
Cal Alpha Ind Inc 505 W 4th St Tustin 838-7745
Colo Bennewitz Assoc 2801 E Colfax Ave Denver . 399-1132
Fla Mekco Assoc 3165 McCrory Rd Orlando
Ill Fiat Engrg Assoc 5133 St Charles Rd
Bellwood 644-9166
Iowa Reid Assoc 526 Mnb Bldg Cedar Rapids 362-6302
Kan Penzer-Mankus Assoc Box 6264 Overland Park
Md Callas Electronics Inc 6409 Frederick Ave
Baltimore 744-7711
Mass ZiecoInc 18 Muzzey St Lexington 861-8300
Mich Hal C Heym Assoc 1688 Buckingham Rd
Birmingham 644-9166
Mo Penzer-Mankus Assoc 400 Brookes La Hazelwood
NM Bennewitz Assoc 9720 Candelaria N E
Albuquerque 298-6775
NY Trionic Assoc Inc 320 Northern Blvd
Great Neck 466-2300
NC Mekco Assoc 100-B Lindsey St Burlington .. 226-7177
Ohio Rixan Assoc Inc 5752 Wadsworth Rd
Dayton 222-0011
Pa Danco Corp Fairview Village 275-2600
Tex Howell Sales Co Inc 1217 N W 14th St
Grand Prairie 262-5153
Wash Jon B Jolly Pier 59 Seattle 624-2152
Can Canuck Electronics Co 6420 Victoria Ave
Montreal Que 342-4117
For Soc Comercial Romar, LTd
Rua da Boavista 83-1D Lisboa, Port
For Cooperative C L Enterprise Co
17 Lane 53 Sec 2 Han-Kow St Taipei Tai
Den Tage Olsen A/S Ronnegade Copenhagen O
Fr Cerel 14-16 Rue Des Lilas Paris
GB Walmore Electronics Ltd 11-15 Betterton St
London WC2
Neth I R C A Paradysstr 92 Voorburg Holl
Ital Milano Brothers Piazza Velasca 5 Milan
Jap Japan Telescomm Corp 17-1 1-Chome Shinbashi
Minato-Ku, Tokyo
Nor Hans H Schive A/S Josefines Gate 7 Oslo 7
Swed AB Elektroflex Tradgardsgatan 26
17238 Sundbyberg 3
Swit W Stolz AG Zelghof 8967 Widen
Arg Rayo Electronica Belgrano 990 Buenos Aires

Ind Modi Trading Co Shradhhanand Rd Bombay
Isrl Independent Foreign Trade 35 Remez St Tel-Aviv
Fin Insinooritoimisto Sahkotyo Oy Hameenkatu 28
Tempere 3
Aust R H Cunningham Pty Ltd 608 Collins St
Melbourne Vic

ALPHA METALS INC 56 WATER ST JERSEY CITY
NJ 07304 .... 201 434-6778
M BOYLE EMP 400
Ala Space Engrg Sales Inc Box 5208 Huntsville
Cal Alpha Metals Inc 1916 Tubeway Ave
Los Angeles 723-9044
Fla H R Gross & Co 314 S Missouri Ave
Clearwater 446-6649
Ill Alphaloy Corp 4404 S Kildare Blvd Chicago . 376-5100
Ind C Higginbotham 9235 Compton Ave
Indianapolis 846-1488
Kan Louis Bruns 2210 N 50th Terr Kansas City . AT 9-5242
Mass J Dalton 16 Tamarack Trail
South Weymouth 337-4869
Mich J Zaiser 157 S Budlong St Millsdale 437-4589
NJ J Hagestad Box 1469 Scottsdale 945-8415
NY F Dunham 14 Highland Dr Schenectady
Tex P J Scanlon Co 724 S Sherman St Dallas ... 351-5391
Wash Bill Waddell Co 10211 NE 31st Pl Bellevue .. 822-9629
Wis R W Mead 1522 E Lillian La
Arlington Heights 259-0902
For T H Lee 22-1 Alley 7 La 133 Taipei Taiwan
For Canada Prodts Bauernmarkt 24 A-1010
Vienna Aus
For Component Prodts Ltd 33 Tseuk Luk St 4/f A
San Po Kong, Hong Kong
For San Juan Electronics Ltd PTA Dtierra St
San Juan Pr
For J Demousier 24 Praca do Duque Da Terceira
Lisbonne 2 Port
Den Trafomo-Rodovreuej 155 Rodovreuej 155
Kobenhavn-Vanlose
Fr Ste Francais Du Diamant 8 Rue Lafayette Paris
Ger P Jordan Gabelsberger str 13
605 Offenbach/M Postfach 671
GB Alpha Metals Inc (UK) Ltd High St
Hounslow Mdsx
Ital Amlico Prodotti Industriali Via Palmanova 131
Milano
Jap Circuit Equip & Supply Co Ltd
52 Ohwadacho Shibuyku Tokyo
SAfr Adlam Tool & Supply Co 10 Ronald Dr
Montreal Que
Swed Ajgers Elektronik AB Stockholm 32
Swit Amcel Mulemattr 36 4414 Fullinsdorf Basel
Belg R Gassner 177 Ave Louise Brussels 5
Isrl Talviton Box 3282 Tel-Aviv Israel

ALPHA PRODUCTS, INC 6825 S CHICAGO AVE
CHICAGO ILL 60637 312-667-0814
H DORN EMP 116 ENG 7 $2,500-$5,000M

ALPHA RELAYS INC 3244 KENNEDY BLVD
JERSEY CITY N J 07306 .... 201 656-8080
E ALLEN EMP 6 ENG 1

ALPHA SCIENTIFIC LABS INC 460 ROLAND WAY
OAKLAND CAL 94621 .... 415 635-2700
D KLEIN EMP 4 ENG 5 $500-$1,000M
Ga Physimetrics Inc 3376 Peachtree Rd NE Atlanta
Mich Anger Assoc 13126 Michigan Ave Dearborn
NY Scientific Sys Sales Corp 376 Great Neck Rd
Great Neck
Tex Scientific Devices 312 N Central Expwy
Richardson
Can Megatronix Ltd 954 Wilson Ave Downsview Ont
Fr Antares SA 9 Rue Ernest Cognacq
92 Levallois-Peret

ALPHA WIRE 711 LIDGERWOOD AVE ELIZABETH
N J 07207 TWX 710-742-7427 .... 201 925-8000
H SALTZMAN EMP 400 ENG 5 $2,500-$5,000M
Ariz Shefler-Kahn Co 2017 N 7th St Phoenix ... 258-7893
Cal F W Moulthrop & Assoc 1530 E 12th St
Oakland 261-7676
Colo Straube Assoc 2490-20 28th St Boulder ... 433-8600
Fla Millar-Hutto Assoc Inc 501 Park Ave
Winter Park 647-7407
Ga Millar-Hutto Assoc Inc 3110 Maple Dr
Atlanta 261-6160
Haw Bill Kolans Co Box 2098 Honolulu 811-628
Ill Alpha Wire 6251 W Touhy Ave Chicago 774-6929
Ind Thomas & Sukup Inc 2060 E 54th St
Indianapolis 251-4574
Kan Florence & Meyer Inc 2900 Woodland Ave
Wichita 561-7282
Mass Gerber Sales Co Inc 26 Maple Ct
E Longmeadow 525-3059
Mich Shalco Inc 23529 Woodward Ave Ferndale .. 547-4771
Minn Clark R Gibb Co 1311 W 25th St Minneapolis
Mo Florence & Meyer Inc 406 W 34th St
Kansas City 561-7282
NY Marsey Sales 206 Park Ave Rochester 442-9700
NC Millar-Hutto Assoc Inc North Hills Off Mall
Raleigh 787-9564
Ohio Neal Bear Corp 3435 Streetsboro Rd
W Richfield 659-3331
Pa Nebco Assoc Inc 1974 Gregory Ave
Monroeville 824-2111
Tex Texport Co 2411 Farrington St Dallas 631-6270
Va Don Miller & Assoc 2252 Staples Mill Rd
Richmond 353-5324
Wash Dave Miller Sales Co Inc 2323 N 45th St
Seattle 632-7070
Can Frank Eakin Ltd 9 Milvan Dr Weston, Ont ... 741-7485

ALPINE ELECTRONIC COMPONENTS INC
5 NUTMEG RD WOLCOTT CONN 06720 .. 203 879-1449
R LIKLEY EMP 75 ENG 1 $500-$1,000M

ALTAIR RESEARCH & MFG CO 1241 E STATE ST
ONTARIO CAL 91761 .... 714 983-2418
J ASKEW EMP 6 ENG 2 UP TO $100M

ALTEC LANSING DIV LTV LING ALTEC INC
1515 S MANCHESTER AVE ANAHEIM CAL 92803
TWX 910-591-1142 .... 714 774-2900
W JOHNSON EMP 750 ENG 45 OVER $10,000M
Cal R W Hall 7939 Belton Dr Los Angeles .. 213 670-1555
Fla M G Thomas 2643 Derbyshire Rd
Maitland 305 831-1656
Ga N R Schneider 3777 Montford Dr
Chamblee 404 457-0426
Haw Altec Lansing 207 Keawe St Honolulu ... 808 507-228
Md C L Range, Jr 9131 Hollyoak Dr
Bethesda 301 365-1699
Mich C Standiford 2928 Kenwick Cir Lansing . 517 485-5190
Mo T M Rooney 5119 N Smalley Ave
Kansas City .... 816 GL 3-1170
Neb R Start 8710 Weir St Omaha 402 331-6732
NY W V Watkins 41 Keeler Ave Merrick .. 516 378-7099
Ohio E W Stone 2321 Western Ave
Waukegan 312 662-6991

ALTHOR PRODUCTS 2260 BENSON AVE BROOKLYN
N Y 11214 .... 212-ES3-7444
J KESSLER EMP 7 ENG 1 UP TO $100M

ALTO SCIENTIFIC CO, INC 4083 TRANSPORT ST
PALO ALTO CAL 94303
TWX 415-492-9273 .... 415 321-3434
D GREEN EMP 37 ENG 6 $1,000-$2,500M
Cal Cain & Co 522 S Sepulveda Blvd
Los Angeles 213-476-2251
Conn George Gregory Assoc 9 S Main St Cheshire . 272-5040
Fla Naeco Assoc 1501 84th Ave N
St Petersburg 813-527-1276
Ill Cain & Co 1203 Ironwood Dr Mt Prospect .. 253-3578
Mass George Gregory Assoc 7 Erie Dr Natick .... CE 5-9070
NJ Naeco Assoc 20 S Shore Dr
Williamstown 516-HU7-7300
NY Mort Lader Co 675 W Jericho Tpk
413 Main St 516-367-4044
Ohio Cain & Co 2485 Lipton Rd Columbus 861-2119
Pa Mort Lader Co Lafayette Hill
Tex Cain & Co 8609 Northwest Plaza Dr Dallas .. 369-2897
Va Naeco Assoc 1925 N Lynn St Arlington . 703-524-4551
Wash Paratech 2208 NW Market St Seattle . 206-783-3900
For Alto Intl Div Box 237 Mamaroneck NY . 914-698-2783

ALTRON ELECTRONICS CO 1309 JEFFERSON AVE
WOODLYN PA 19094 215-833-1224
A SYDNOR EMP 12 ENG 2 UP TO $100M

ALTRONIC RESEARCH CORP
13710 ASPINWALL AVE CLEVELAND
OHIO 44110 .... 216 851-3220
B FREDERICO EMP 6 ENG 2 UP TO $100M

ALUMINUM CO OF AMERICA 1501 ALCOA BLDG
PITTSBURGH PA 15219
TWX 412 642-2103 .... 412 553-4545
R WILLIAMSON EMP 47000 OVER $10,000M
Ala Alcoa 10 Office Park Birmingham 879-8641
Ariz Alcoa 5045 N 12th St Phoenix 264-7941
Ark Alcoa 18th & Maple St N Little Rock 758-1070
Cal Alcoa 1145 Wilshire Blvd Los Angeles 482-2680
Colo Alcoa 1777 S Bellaire St Denver 757-8477
Conn Alcoa 4695 Main St Bridgeport 374-6141
Del Alcoa 722 Chemical Ctr Bldg Wilmington ... 656-6643
DC Alcoa 1200 Ring Bldg Washington .... FE 8-9400
Fla Alcoa 490 Hialeah Dr Hialeah 885-2726
Ga Alcoa 1615 Peachtree St NE Atlanta 875-7441
Idah Alcoa 1220 Vista Ave Boise 342-8038
Ill Alcoa 401 N Michigan Ave Chicago 645-8400
Ind Alcoa 51591 US 31 N South Bend 272-3333
Iowa Alcoa 2435 Kimberly Rd Bettendorf 359-1327
Kan Alcoa 5309 E Central Wichita .... MU 4-0555
Ky Alcoa 448 Mall Off Bldg Louisville 897-1536
La Alcoa 1309 Whitney Bank Bldg New Orleans . 522-3372
Md Alcoa Chesapeake Bldg Baltimore 828-4800
Mass Alcoa Wellesley Office Pk Wellesley Hills 235-8800
Mich Alcoa 610 New Center Bldg Detroit 871-8100
Minn Alcoa 4010 W 65th St Minneapolis ...... WA 7-7051
Mo Alcoa 8301 Maryland Ave St Louis 863-0300
Neb Alcoa 8401 W Dodge Rd Omaha 393-7874
NJ Alcoa 100 Halsted St E Orange 675-5090
NY Alcoa 200 Park Ave New York 972-6000
NC Alcoa 1200 E Morehead St Charlotte 334-9751
Ohio Alcoa 1 Erieview Plaza Cleveland 522-1000
Okla Alcoa 111 NW 23rd St Oklahoma City .... JA 8-0537
Ore Alcoa 111 Lloyd Plaza Portland 234-0911
Pa Alcoa 670 One Allegheny Sq Pittsburgh 553-4131
Tenn Alcoa 4515 Poplar Ave Memphis 682-2477
Tex Alcoa 1900 Fidelity Union Twr Dallas ...... RI 1-6291
Utah Alcoa 230 S 4th W St Salt Lake City 359-9811
Va Alcoa 3113 W Marshall St Richmond 353-5551
Wash Alcoa 1401 Madison St Seattle 329-1111
WVa Alcoa 1018 Kanawha Blvd E Charleston 343-4591
Wis Alcoa 2040 W Wisc Ave Milwaukee 342-7110
Can Alcoa Intl Can Ltd 2 Carlton St Toronto 363-2385
For Alcoa Intl SA Ave D'Ouchy 61 Lausanne 27-61-61
For Alcoa Intl (Asia) Ltd 2 Ice House St
Hong Kong 22-80-77
For Alcoa De Centro Amer S A Box 404
San Salvador 27-0313
GB Imperial Aluminum Co Ltd Box 15 Droitwich .. 27-0802
Jap Furukawa Aluminum Co Ltd
8, 2-Chome Marunouchi, Chiyoda-ku
Tokyo 211-0771
Nor Mosal Aluminium A/S Box 5430 Majorstua
Oslo 46-68-70
Mex Alcomex S A Apartado 5-309 Mexico City .. 11-99-71
Aust Alcoa of Australia Pty Ltd 155 Queen St
Melbourne 67-65-85

ALUMINUM DESIGN CORP 9300 W 47TH ST
BROOKFIELD ILL 60513 .... 312 485-6290
M WARREN EMP 70 ENG 4 $500-$1,000M
ADV PGS 63,713
Conn Lauren L McMaster Box 506 Newtown . 203-426-5910
Ga Wynn Sales & Eng Co 38 Old Ivy Rd NE
Atlanta 404-233-7437

Ill Communications Engineers 7106 N Western Ave
Chicago 312-761-0548
Mass Tech-Line Sales Box 34 Needham 617-444-3880
NY Reed Electronics Inc 2815 Monroe Ave
Rochester 716-473-2767
Tex Airmec Industries 805 Lane St Irving .. 214-253-4407

ALUSUISSE METALS INC 2460 LEMOINE AVE
FORT LEE N J 07024 .... 201 461-6660
EMP 8 $2,500-$5,000M

AMATOM ELECTRONIC HARDWARE
81 ROCKDALE AVE NEW ROCHELLE
N Y 10802 .... 914 NE 6-5700
J CUTTER EMP 56 ENG 3
Cal T W Yeakle 171 Annandale Rd
Pasadena 213 681-1455
Fla Stanley wallace Assoc Box 67 Lutz 813 949-1817
Ill Arnold Leff Assoc 1046 Wilson Ave
Chicago .... 312 LO 1-6831
Mass Near Inc 99 Highland Ave Somerville .. 617 MI 3-0547
Mich Grant Shaffer Co 14241 Fenkell Ave
Detroit .... 313 BR 3-5390
Minn C E Bohlig Co Box 8095 Minneapolis ... 612 922-7011
Mo Compar Ozark Inc 2600 Woodson Rd
St Louis 314 423-7200
NY A & M Assoc Ltd 1119 Grant Ave
Bronx 212 538-2930
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 216 752-5444
Pa Jadelectronic Assoc Box 5735 Phila ... 215 GL 5-3355
Tex Gordon V Peck Co 210 Casa Linda Plaza
Dallas .... 214 DA 7-1170
Wash Allied Agencies 1818 Westlake Dr
Seattle .... 206 AT 4-4082
Wis R A Rubinstein Sales 3363 N Cramer
Milwaukee .... WO 4-5175
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 514-389-5914

AMBAC INDUSTRIES INC 900 OLD COUNTRY RD
GARDEN CITY N Y 11530
TWX 510-222-4536 .... 516-PI2-5700
C KENERSON EMP 9320 ENG 670
OVER $10,000M
Cal AMBAC Industries 650 N Sepulveda Blvd
El Segundo 772-4414
DC AMBAC Industries 1701 Penna Ave NW
Washington 298-8450
Ill American Bosch Div 930 N York Rd Hinsdale . 325-2020
Mass American Bosch Div 3664 Main St
Springfield 736-8311
Mich American Bosch Div 17330 W McNichols Rd
Detroit BR3-8600
Miss Electrical Products Div Box 1111 Columbus . FA8-4150
NY Arma Div Roosevelt Field Garden City PI2-2000
Ohio American Bosch Div 5100 W 164 St
Cleveland 267-3525
Pa Tele-Dynamics Div 5000 Parkside Ave Phila . TR8-3000

AMBCO ELECTRONICS 1222 W WASHINGTON BLVD
LOS ANGELES CAL 90007 .... 213 747-5131
C MASON EMP 15 ENG 2 $250-$500M

AMBER BOOTH CO 7914 WESTGLEN DR HOUSTON
TEX 77042 713-782-8081
R IRVING EMP 35 ENG 5 $1,000-$2,500M

AMCO ENGINEERING CO 7333 W AINSLIE ST
CHICAGO ILL 60656
TWX 910-221-5192 .... 312 867-8500
R KOMAREK EMP 184 ENG 15 $2,500-$5,000M
Ala Ridge Instrument Co 7220 Governor's Dr W
Huntsville 837-3211
Alas Arva Inc Box 759 Anchorage 272-5231
Ariz Gramer & Co 110 W Camelback Rd Phoenix . 279-1231
Cal Hunter Assoc 252 Fox Plaza San Francisco . 626-8576
Cal Black & Strong 1728 S LaCienega Rd
Los Angeles 870-9191
Colo Williams Assoc 4971 Jackson St Denver 388-4391
Conn Instrument Dynamics Inc 345 N Main St
West Hartford 233-5503
Fla R F Willett Co 1260A S Highland Ave
Clearwater 446-0075
Ga Ridge Instrument Co 3094 McCully Dr NE
Atlanta 939-1554
Ill R L Lang & Assoc 7333 W Ainslie St
Chicago 867-4241
Ind McDonald Sales Box 2848 Ft Wayne 745-9214
Iowa Engineering Services Co 1026 3rd Ave S E
Cedar Rapids 366-1591
Kan Engineering Services Co 7924-A State Line
Prairie Village .... MI 9-4000
Md L G White & Co 1110 Fidler La
Silver Spring 585-3141
Mass Instrument Dynamics Inc Wakefield Ind Pk
Wakefield 245-5100
Mich Technitron Inc 13657 Grand River Ave
Detroit 838-7324
Minn Bonament Heyda Co 3830 Rustic Pl St Paul . 484-8531
Mo Engineering Services Co 6717 Vernon Ave
St Louis 726-2233
NJ F & F Assoc 58 Arcadia Rd Woodcliff Lake . PR 8-6767
NM Williams Assoc 420 Washington SE
Albuquerque 255-1638
NY Naco Elctns Corp 119 Luther Ave Liverpool . 474-7481
NY F & F Assoc 461 Old Country Rd Westbury .. 334-1160
NC L G White & Co Box 2356 Winston Salem .. PA-5-3612
Ohio Technitron Inc 1250 W Dorothy La Dayton .. 298-9964
Ohio Technitron Inc 23203 Lorain Rd
North Olmsted 734-0960
Okla Don Shuhart Co 5237 S Peoria Tulsa 747-4136
Ore Arva Inc 2035 S W 58th Ave Portland 292-8762
Pa L G White-Keystone Inc 100 N Essex Ave
Narberth .... MO 4-6505
Pa Technitron Inc 114 Spring Grove Rd
Pittsburgh 371-1231
Tenn Ridge Instrument Co 140 E Division Rd
Oak Ridge 483-1311
Tex Don Shuhart Co 4509 Greenville Ave
Dallas .... EM 3-5436
Utah Williams Assoc 2469 S Main St
Salt Lake City 466-8709
Wash Arva Inc 1320 Prospect St Seattle 622-0177
Can Vibron Ltd 2400 Finch Ave W Weston Ont .. 741-5200
For Nopel Corp 21 West St New York N Y 944-5328
BC Arva Inc 1624 W 3rd Ave Vancouver 736-6377

AMC SEMICONDUCTOR CORP 106 E 18TH ST
NEW YORK N Y 10003 .... 201 677-8410
G WATTS EMP 30 ENG 5

A M E C 18 RUE PORTE ST JEAN 45 ORLEANS
FRANCE 87 79 95
S TOUILLON EMP 70 ENG 4 $250-$500M
Ger Amec Deutschland Alte Frankfurter Str 66
Mannheim RFA
Spn AMEC Espana 381 A G Franco Barcelona

AMECO INC BOX 13741 PHOENIX
ARIZ 85002 602-252-7731
EMP 300 ENG 15 $5,000-$10,000M
Ariz B Hannon Box 13741 Phoenix 602-252-7731
Cal W Hinck 22379 Ortega Dr Salinas 408-424-4577
Fla D Scott Box 7366 St Petersburg 813-525-3508
Ind P Franklin 106 W Monroe South Bend . 219-233-3002
Ky N Dummer 2607 Woodsdale Ave
Louisville 502-583-9055
NY K Jones 110 Highland Ave N Syracuse . 315-458-4631
Pa C Richard Box 3343 Harrisburg 717-737-0487
Tex F Garza 102-2308 MacArthur Blvd
Irving 214-252-6284

AMECOM DIV LITTON INDUSTRIES
5115 CALVERT RD COLLEGE PARK MD 20740
TWX 710-826-9650 301-864-5600
G BROWN EMP 500 ENG 150

AMELCO SEMICONDUCTOR, A TELEDYNE CO
1300 TERRA BELLA AVE MOUNTAIN VIEW
CAL 94040 TWX 910-379-6494 .... 415 968-9241
F LAWRENCE EMP 910
Ariz Southwest Engineering 8341 N 7th St
Phoenix 602 944-1521
Cal Amelco Semiconductor 910 S Brookhurst Ave
Anaheim 714 635-3171
Colo Simpson & Assoc 2552Ridge Rd Littleton ... 798-8439
Fla Amelco 711 Magnolia Ave Orlando 423-5833
Ill Amelco Semiconductor 650 W Algonquin Rd
Des Plaines 439-3250
Md Daniel & Co Box 124 Lutherville 825-3330
Mass Amelco Semiconductor 805 High St
Westwood 326-6600
Mich W R Hummon & Assoc Box 501 Farmington . 474-0661
Mo PEM Sales Co 9537 Lackland Rd St Louis .. 427-7200
NJ Amelco Semiconductor 535 Bergen Blvd
Ridgefield 201 943-4700
NM Data Handling Co 209 San Pablo SE
Albuquerque 268-0928
NY R W Mitscher Co 496 Elliott Sq Bldg
Buffalo 716 854-2517
Ohio Electronic Marketing Corp 814 W Third Ave
Columbus 299-4161
Pa Daniel & Co 231 S Easton Rd Glenside ..... TU 7-0550
Tex Texport 2411 Farrington Dallas 631-6270
Wash Harry Levinson Co 1211 E Denny Way
Seattle .... EA 3-5100
For Machine & Products 52 Wall St New York N Y 944
Den A/S Nordisk Elecktronik Danasvej 2
Copenhagen EVA-8285
Fr Technique et Produits Cite des Bruyeres
92 Sevres 626-02-35
Ger Omni Ray GmbH Postfach 75 D4051 Breyell ... 0 2153
GB Souriau Lectropon Ltd Wellington St
Slough, Buck .... SL 2-7629
Neth Uni-Office N V Box 1122 Rotterdam 13 22 20
Ital Sisram Corso Matteotti 55 Torino 54 78 04
Jap Hakuto Co, Ltd Toranomon-Sangyo Bldg
Minatoku, Tokyo 503-3711
Nor Nordisk Electronik A/S
Elkemhuset Middlthunsgate 27 Oslo 60-25-90
Swed AB Nordiska Elektronik Stureplan 3
Stockholm 08/24 83 40
Swit Omni Ray AG Dufourstr 56 8008Zurich . 212-944-4370
Isrl STG Intl Ltd 52 Nachlat Benyamin St Tel Aviv .. 53459
Aust Austronic Engrg Labs 452 Victoria St
Brunswick 3056 387-1477

AMERAC, INC DUNHAM RD BEVERLY
MASS 01915 617-922-8611
E HOGGARD JR EMP 30 ENG 4

AMERICAN AEROSPACE CONTROLS INC
129 VERDI ST FARMINGDALE
N Y 11735 .... 516 694-5100
R GITLIN EMP 30 ENG 4 $250-$500M
Ariz Luscombe Engrg 3130 N 3rd Ave
Phoenix 602 274-1542
Cal Luscombe Engrg 610 S Arroyo Pky
Pasadena 13 684-2000
Fla D & E Assoc 2031 Chippewa Trail
Maitland 305 644-3039
Mass Daner Assoc 684 Commonwealth Ave
Newton Center 969-4650
Minn A & R Assoc Rt 1 Box 230 Anoka 612-421-0751
Va Gans-Fryling Inc 2030 16th St N
Arlington 703 527-3262
Fr Radio Television Francaise 73 Ave de Neuilly
Neuilly-Sur-Seine
Ger Kontron GmbH Nikolaistr 7, 8 Munich 23
Jap Seishin Trading Co
11 Shiba-Nishikubo Akefune-Cho
Minato-ku Tokyo
Nor Ole A Nordby Huitfeldtsgt 9 Oslo
Swed Falico Ltd Stadsgarden 18 Stockholm So
Swit Kontron AG Hardstr 235 Zurich 5

AMERICAN ALUMINIUM CO 230 SHEFFIELD ST
MOUNTAINSIDE N J 07092 201-233-3500
C HUNTER EMP 120 ENG 4 $1,000-$2,500M
Cal William Purdy Co 770 Airport Blvd
Burlingame 347-7701
Fla Hi-Co Assoc Box 1317 Winter Park 647-5030
Ill Arthur Cramer Co 120 E Ogden Ave
Hinsdale 325-3322
Ind Robert Dorntge 5555 N Tacoma Ave
Indianapolis 251-0777
Md Bruce Hall Assoc 205 East St SE Vienna Va
Mass Kenneth B Reidy Box 1062 Acton 617-263-7146
Mich Carl Lamparter & Assoc 1333 W 8 Mile Rd
Detroit 869-7642
Minn Charles F VanderVoort 1279 Osage St
St Paul 489-5222
NJ Boenecke-Hile Inc Box 325 Haddonfield
NY Stampress Components Inc 834 Linden Ave
Rochester .... DU 1-2620
NC Manufacturers Sales Co Box 20005
Greensboro 274-2474
Ohio Frank A Gold 6000 Nob Hill Dr Chagrin Falls . 247-8855

AMERICAN ASTRIONICS INC 3950 FABIAN WAY
PALO ALTO CAL 94303 .... 415 328-6800
J FRASCHILLA EMP 24 ENG 8 $500-$1,000M
Ariz Thorson Co 2505 E Thomas Rd
Phoenix 602-956-5300
Cal Sedillo Co 125 E Sunnyoaks Campbell .. 408 264-4010
Colo Thorson Co 300 E Hampden Ave
Englewood 602-956-5300
Mass Hobart Assoc 223 Crescent St
Waltham 617-899-6230
NJ Jersey Instrumentation Sales Co Box 403
Ridgewood 201-445-5210
NM Thorson Co 5921 Lomas Blvd NE
Albuquerque 505-265-5655
NY A & D Devices Inc 830 Lyndon Ave
Rochester 716-586-8033
Ohio Rep/Corp 2077 Embury Park Rd
Dayton 513-278-5885
Pa Denco 500a E Godfrey Ave
Philadelphia 215-725-9000
Tex Thorson Co 7700 Carpenter Fwy
Dallas 214-631-5440
Va E-Tech 6615 Backlick Rd Springfield .. 703-451-6500
Wash Thorson Co 1767 Eighteenth Ave So
Seattle 206-325-5000
Ital Romagnoli Elettronica
5 Via Monte Grappa 157100
Livorro 24-627-30-002
Jap Nichiden Shoji Co Ltd
688 Nishiya Cho Hodogaya Ku
Yokohama 045-381-0151

AMERICAN ATOMICS CORP 425 S PLUMER AVE
TUCSON ARIZ 85719 .... 602 622-4881
C HANSON EMP 15 ENG 3 UP TO $100M

AMERICANA X-RAY CO 568 GRAND AVE ENGLEWOOD
N J 07631 .... 201 944-0010
E FOSTER $100-$250M
ADV PGS 643,690

AMERICAN CABLE ELECTRONIC SUPPLY INC
5257 WALNUT AVE SACRAMENTO
CAL 95841 .... 916 331-3150
J POLAK EMP 10 ENG 4 $100-$250M

AMERICAN CHEMICAL & REFINING CO
36 SHEFFIELD ST WATERBURY
CONN 06714 203-756-4646
Q DEITZ EMP 35 ENG 5 OVER $10,000M

AMERICAN CIRCUIT-TRONICS CORP
723 E 10 MILE RD ROYAL OAK
MICH 48067 .... 313 398-6130
K MARSH EMP 80 ENG 5 $1,000-$2,500M
Colo American Circuit-Tronics Corp 7707 Ellen Lane
Denver 303-428-8711
Ind D C Flanagan 2512 East Dr
Fort Wayne 219 484-5751
Mass Autarch Assoc Box 169 Wakefield 617 245-9155
NJ Mecit-Elec Sales Co Inc Medford
Medford 609-654-8209
NY Verter Sales Co 2352 E 66th Brooklyn . 212-HI 4-3880
Ohio Servisales Co 12417 Cedar Rd
Cleveland 216-462-2344
Pa Servisales Co 800 Park Ave Meadville .. 814-335-1891

AMERICAN COMPONENTS, INC 8TH AT HARRY
CONSHOHOCKEN PA 19428
TWX 510 660-9268 215-828-6240
R LEWIS EMP 210 ENG 17 $1,000-$2,500M
Cal M W Riedel & Co 2215 W Valley Blvd
Alhambra 213 283-7694
Colo Vinson Assoc 3600 S Lincoln St
Englewood 303 789-2203
Fla Floyd Fausett Co 711 N Magnolia Ave
Orlando 305-424-0701
Ga Floyd Fausett Co Box 278 Symrna 404-436-5169
Ill Ed Schmeichel Co 5968 W Chicago Ave
Chicago 312-378-2070
Mass New England Electn Sales 590 Washington St
Canton 617-828-4835
Minn Electro-Serv Co 1455 W Lake St
Minneapolis 612-827-2907
Mo Automatic Gen Elctn Sales Inc
6550-E Troost Ave Kansas City 816-333-8206
NM Vinson Assoc Box 3295 Sta D
Albuquerque 505 298-7442
NY R W Mitscher Co, Inc 496 Ellicott Sq Bldg
Buffalo 716-854-2517
Ohio K W Elctn Sales Inc 8459 N Main St
Dayton 513-278-4797
Pa B & A Assoc 237 Lancaster Ave Devon . 215-688-5173
SC Floyd Fausett Co Stony Point Hwy
Greenwood 404-436-5169
Tex Delzell & Evans Assoc Box 35093
Dallas 214-FL 1-1839

Wash N R Schultz Co Box 159 Bellevue 503-646-1345
Can Canadian Micronics Ltd Box 6157 Sta J
Ottawa 613-233-5129
For Elbar Elctns Corp 433 Liberty St
Schenectady NY 518-372-5841

AMERICAN CYANAMID CO 859 BERDAN AVE
WAYNE N J 07470 .... 201 831-1234
EMP 36000 OVER $10,000M
Ala American Cyanamid Co Woodlands Ave N
Mobile 438-4646
Cal American Cyanamid Co 2300 S Eastern Ave
Los Angeles 723-6411
Colo American Cyanamid Co 1445 Kearney St
Denver 377-2773
DC American Cyanamid Co 15th St & N Y Ave
Washington 737-4800
Ga American Cyanamid Co 5180 Peachtree Blvd
Atlanta 457-0261
Ill American Cyanamid Co 10401 W Touhy Ave
Rosemont 827-8871
La American Cyanamid Co 824 Dakin St
New Orleans 831-1301
Md American Cyanamid Co Pennington & St John St
Havre De Grace 939-1910
Mass American Cyanamid Co 1055 Commonwealth Ave
Boston 782-6000
Mich American Cyanamid Co 21040 Greenfield Rd
Oak Park 566-2610
Minn American Cyanamid Co 7630 Excelsior Blvd
Minneapolis 935-1721
Mo American Cyanamid Co 6100 E 60th St
Kansas City 363-3305
NY American Cyanamid Co 111 W 50th St
New York 956-3131
NC American Cyanamid Co 3333 Wilkinson Blvd
Charlotte 399-0441
Ohio American Cyanamid Co 20545 Center Ridge Rd
Cleveland 333-3400
Okla American Cyanamid Co 18th & Baltimore
Tulsa 585-1594
Ore American Cyanamid Co 3145 NW Yeon Ave
Portland 228-6281
Pa American Cyanamid Co 185 Commerce Dr
Ft Washington 646-7000
Tex American Cyanamid Co 7611 Carpenter Frwy
Dallas 631-2130
Wash American Cyanamid Co 120 Andover Park E
Seattle 633-2060
WVa American Cyanamid Co 135 Bradmann Bldg
Bluefield 325-9188
Can Cyanamid of Canada, Ltd 635 Dorchester Blvd W
Montreal 2, Que 866-5611

AMERICAN ELECTRICAL HEATER CO
6110 CASS AVE DETROIT MICH 48202
TWX 810-221-5369 .... 313 875-2505
R KUHN EMP 125 ENG 3 $1,000-$2,500M
Ariz Maddox Sales Co 5709 N 19th Pl
Phoenix 602 274-3807
Cal Maddox Sales Co 2945 E 12th St
Los Angeles 213 269-7291
Cal Maddox Sales Co 2720 17th St
San Francisco 415 362-3249
Colo R G Bowen Co Inc 1440 So Santa Fe
Denver 303 722-4641
Fla H R Gross & Co 314 S Missouri Ave
Clearwater 813 446-6649
Ga Murphy & Cota 586 Armour Cir NE
Atlanta 404 875-2525
Ill L F Brooks 606 S Emerson St
Mt Prospect 312 253-6813
Iowa N W Kathrinus Co 417 W 4th St
Ottumwa 515 684-6110
Kan N W Kathrinus & Co 2336 S Boeke
Kansas City 913 236-4108
La J F McKinney Sales Co 2012 Condon Ave
Metairie 504 887-1723
Md Par-Nell Sales Co 69 Main St
Reisterstown 301 833-6444
Mass Ellingwood Inc 38 Pequot Rd Wayland .. 617-358-2883
Mich R C Oxley 320 N Almer Caro 517 673-3621
Mo N W Kathrinus & Co 2427 S Brentwood Blvd
St Louis 314 962-5627
NM C T Carlberg & Assoc Box 3177 Sta D
Albuquerque 505 265-1579
NY Fish Assoc 149 Roosevelt Dr Utica 315-732-1008
NY Kaelber & Mack Inc 75 Plandome Rd
Manhasset 516 627-6620
NC Murphy & Cota 1106 Burke St
Winston-Salem 919-723-1001
NC Murphy & Cota 2407 Running Brook Dr
Greensboro 919 288-1923
Okla J F McKinney Sales Co Box 3958 Tulsa . 918 622-2967
Ore James W Eckersley Co 3150 SW Hamilton St
Portland 503 246-3183
Pa E Edwards 505 Wellington Rd
Norristown 215 272-4818
Tex J F McKinney Sales Co 1303 Chemical St
Dallas 214 631-9450
Tex Jack F McKinney Sales Co 5458 Edith
Bellaire 713 655-3653
Utah R G Bowen Co Inc 1380 W North Temple
Salt Lake City 801 364-4632
Can Len Finkler Ltd 2 Tycos Dr Toronto 416 781-5231
For ITT Export Corp 75 Varick St
New York N Y 212-797-3300
For Export Dept 238 Main St
Cambridge Mass 617-876-4733

AMERICAN ELECTRIC CABLE CO 181 APPLETON ST
HOLYOKE MASS 01040 .... 413 539-9893
J MOYNAGH EMP 50 ENG 2 $1,000-$2,500M
Cal Shannon Electronics 1 First St
Los Altos 415 941-2217
Fla D & E Assoc 2031 Chippewa Tr
Maitland 305 644-3039
Ill Memac Sales Co 4740 N Austin Ave
Chicago 312 545-1033
Kan Suor Sales Corp 8115 Troost Kansas City

Md Barnhill & Assoc 1931 Greenspring Dr
Timonium 252-5610
Mich Miltmore Sales 34142 Fountain Blvd
Westland 313-646-9976
Minn Intl Sales Co 8703 Beard Rd
Minneapolis 612 881-6683
NY Levison Sales Co Inc Box 242 Valley Stream . 561-9696
Ohio Milber Co 24105 Duffield Rd Cleveland
Tex Jack F McKinney Sales Co 1303 Chemical
Dallas 631-9450
Va Mr Glen White Box 1104 Lynchburg
Wash Leo Steinhauer & Son 8501 S E 72nd
Mercer Island

AMERICAN ELECTRONIC LABS INC BOX 552
LANSDALE PA 19446
TWX 510-661-4976 .... 215 822-2929
I FAYE EMP 1000 ENG 200 OVER $10,000M
Cal E Bell 8939 S Sepulveda Blvd
Los Angeles 213 670-8755
Cal Walter Assoc Inc Box A N Los Altos ... 415-941-3141
Colo Edw W Johnson Co 10130 W Asbury Ave
Denver 303 985-4810
Haw Harkom Hawaii Inc 630 Piikoi St Honolulu 587-178
Ill Midwest Microwave 6414 W Belmont Ave
Chicago 312 823-1051
Kan Mid-America Mktng Co Box 3423
Merriam 913-432-8678
Mass Addelco Corp 56 Pickering St Needham 444-4754
NJ Bonn Assoc 266 Lake St Metuchen .... LI 9-9573
NJ F Johnston 15 Peters Pl Red Bank 741-0947
NM Shefler-Khan Co Box 8342
Albuquerque 505 265-7077
NY Lightstone Corp E Molloy Rd Syracuse 454-3200
Ohio Mulligan & Mathias 2011 Riverside Dr
Columbus 486-2976
Pa Bonn Assoc 2 Edison St Cherryhill NJ .. 609-795-0600
Tex Geo Weinreich & Assoc 11554 E Northwest Hwy
Dallas 321-2800
Wash cane-Jessup Co Box 250 Bellevue 454-0691
Can Conway Elctn Enterprises 88-90 Arrow Rd
Weston Ont 244-5655

AMERICAN ELECTRONICS, INC
1600 E VALENCIA DR FULLERTON CAL 92634
TWX 910 592-1256 .... 714 871-3020
J BARNHILL EMP 353 ENG 30 $5,000-$10,000M
Ala Reynolds & Assoc 904 Bob Wallace Ave
Huntsville 205-536-1941
Ariz Robbins & Assoc 4315 St Joseph Way
Phoenix 602-959-3594
Cal J N Bolt 1600 E Valencia Fullerton 714-871-3020
Colo Robbins & Assoc Box 20296 Denver ... 303-399-6618
Fla Reynolds & Assoc Box 1043 Eau Gallie . 305-727-3205
Ga Reynolds & Assoc 175 W Wievca Rd NE
Atlanta 404-252-5360
Md Stemler Assoc 6707 Whitestone Rd
Baltimore 301-944-8262
Md Stemler Assoc 6707 Whitestone Rd
Baltimore 301-944-8262
Mass E A Janse Assoc 892 Worcester St
Wellesley 617-235-1623
NJ B B Taylor Corp 147 Mohawk Trail
Wayne 201-839-0444
NJ Varrelman-Gorman Box 206 Livingston . 201-992-2505
NY B B Taylor Corp 2270 Grand Ave
Baldwin 516-223-8000
NC Reynolds & Assoc 412 W Market St
Greensboro 919-275-0725
Ohio Luebbe Sales Co 2649 Erie Ave
Cincinnati 513-871-4211
Tex Robco Inc 2204 Canyon Creek Plaza
Richardson AD1-3042
Jap Sunitomo Shoji Kaisha Ltd 1 Kandamitoshiro-Cho
Chiyuda-Ku Tokyo 294-4111

AMERICAN ENGRAVING INC 108 S PENNSYLVANIA
MANGUM OKLA 73554 405-782-3331
R LOWRY EMP 30 ENG 2 $100-$250M

AMERICAN FELDMUEHLE CORP 15 CRESCENT ST
GLENBROOK CONN 06906 .... 203 325-1511
S PRUSIK EMP 12 ENG 2 $1,000-$2,500M

AMERICAN GAS FURNACE CO 130 SPRING ST
ELIZABETH N J 07201 .... 201 352-2120
F KORZEB EMP 150 ENG 15 $2,500-$5,000M
Conn Stanley P Rockwell Co 296 Homestead Ave
Hartford .... CH 6-5623
Ill E L Milford Box 242 Prospect Heights .... CL 3-3827
Mo Edward W Mooney Co 7505 Delmar Blvd
Univ City .... PA 5-8875
NJ W E Sturmer 30 W Main St Freehold 462-8440
NY Hornbruch Assoc 31 Fulton Ave Rye .... WO 7-3771
Ohio A R Griesbach Co 19030 Lake Rd Cleveland . AC 1-5242
Can Canefco Ltd 50 Milne Ave
Scarborough, Ont .... OX 1-2117

AMERICAN GELOSO ELECTRONICS INC
251 PARK AVE S NEW YORK N Y 10010 . 212 254-2282
B CAHN EMP 25 ENG 5 $250-$500M
Cal Art Szerlip Sales Co Box 3465
Van Nuys 213-989-3938
Colo R & D Sales Co 420 S Federal Blvd
Denver 303-934-5445
Fla John F Thompson Co 322 Riverside Dr
Ormond Beach 904-677-2298
Ga Winfield Southeast Box 29845 Atlanta . 404-636-3023
Ill Roy Fried 5701 W Cermak Rd Cicero .. 312-277-3610
Ind Robert P Kingston Co 10127 Marwood Tr E Dr
Indpls 317-846-7629
Kan MGM Inc 9500 Mission Rd
Overland Park 913-649-8050
Md AB&T Sales Corp Box 4 Olney 301-924-4976
Mass Gerber Sales Co Inc 176 Second Ave
Waltham 617-891-8040
Mich D Milsk 20110 Olympia Ave Detroit .. 313-KE-5-4012
Minn Merrill Franklin Co 4820 Minnetonka Blvd
Mnpls 612-920-8014

NM Lee Davis Co 1415 Richmond Dr NE Albuquerque 505-256-1749
NY D R Evans Assoc 161 Mineral Springs Rd Buffalo....716-822-2363
NY Sir Sales Inc Box 335 Roslyn Hts 516-621-7485
NC Winfield Southeast 4909 Cartarct Dr Raleigh....919-787-2841
Pa J H Podolny 5912 Penn Ave Pittsburgh .412 441-0800
Tex Hank Leiberman Sales Co Box 66216 Houston 713-526-3431
Can Wm Cohen Corp 8900 Park Ave Montreal Que 418 382-2132
For Crusol Inc Urbanizacian Hnas Davila Box 98 Bayamon P R 785-3531

AMERICAN HYDROMATH CO 2020 JERICHO TPK
NEW HYDE PARK N Y 11040 ....516 354-4233
R KRISTAL EMP 10 ENG 3 $100-$250M

AMERICAN INSTRUMENT CO, INC
8030 GEORGIA AVE SILVER SPRING
MD 20910....301 589-1727
D FINN EMP 280
Cal American Instrument Co 3030 Bridgeway Sausalito 332-4726
Cal American Instrument Co 1251 Auburn Dr West Covina....339-0359
Colo R G Davis Co Box 12004 Denver....422-6313
Fla American Instr Co Box 1316 Winter Park ...647-3743
Ill American Instrument Co Box 477 Barrington 381-5120
Mass American Instrument Co 30 Shawsheen Ave Bedford ....CR 5-0014
NJ American Instrument Co Box K Collingswood .854-6633
NM Southwestern Eng & Equip Co 707 1st Natl Bank Bldg Albuq 265-6775
NY American Instrument Co Box 4421 Dewey Sta Rochester 254-6573
NY American Instr Co Box N Babylon....353-3663
NC American Instrument Co Box 804 Black Mountain 669-6100
Ohio American Instr Co Box 39272 Cleveland 248-5400
Tex Southwestern Eng & Equip Co 6300 N Central Expy Dallas ....EM 3-6501
Tex American Instr Co 4242 Richmond Ave Houston....666-2313
Wash American Instrument Co 14016 NE 72 Pl Redmond ....GL 4-1353
Can American Instrument Co Box 1008 Pointe Claire, Que 626-0404
Den H Struers Chemiske Lab Skindergade 38 Copenhagen
Fr Radiophon 148 Ave Malakoff Paris
Ger Colora Messtechnik GmbH 7073 Lorch/Wurtt Postfach 5
GB V A Howe & Co Ltd 86 Peterborough Rd London SW 6
Neth N V Beun-De Ronde-H V L 2 Henri Polakalaa Amsterdam C
Ital S & Agostino Belotti Piazza Trento N 8 Milano
Jap Nippon Automatic Cont Co 1-Chome, Chofu-Minemachi, Ohta-ku Ohta-Ku Tokyo
Nor Anth B Nilsen & Co Ltd Box 776-777 Oslo
SAfr Protea Phys & Nucl Instru Pty Ltd 38 Faraday St, Wemmer Johannesburg
Swed Bergman & Beving Karlavagen 76 Stockholm
Swit Kontron Technik AG Hardstr 235 Zurich

AMERICAN LAMOTITE CORP 2914 E 81ST ST
CLEVELAND OHIO 44104....216 271-1000
P MOUGEY EMP 20
Conn J Plautz 607 Sherman Ave New Haven .203-624-7300
Wis Frank W Ladky Assoc 4604 N Wilson Dr Milwaukee 414-964-8060

AMERICAN LATEX FIBRE CORP 500 BROADWAY
LAWRENCE MASS 01841 ....617 685-5172
J DIMAGGIO JR EMP 85 ENG 2
Cal Harvey Holden Box 576 W Covina....753-5581
NJ Lawrence Pkg Corp 113 N 13th St Newark ....WO 2-4394
RI Joseph P DiMaggio Methuen St Laurence

AMERICAN LAVA CORP MFRS RD & CHEROKEE BLVD
CHATTANOOGA TENN 37405
TWX 810 573-5216 ....615 265-3411
W RENNICK EMP 1200
ADV PG 112
Cal W Thompson & J Sturtevant 6023 S Garfield Ave Los Angeles 213-685-9600
Conn W F Kraekel 214 Surrey Dr Orange ...203-795-3254
Ill J T Lusk 165 Arlington Ave Elmhurst ..312 279-8055
Ind H H Kunath 8442 Browning Dr Indianapolis 317-888-2196
Mass Kenneth M Simpson 155 4th Ave Needham Hgts 449-0300
Mo D H Dossett 811 Chestnut St Lee's Summit 816-524-2415
NJ J Nugent 700 Grand Ave Ridgefield 201-943-6700
NY A W Rees Box 12A Star Rte Phoenix ...315 695-3335
Ohio P D Coates 18107 Chillicothe Rd Chagrin Falls 216-543-6050
Pa W S Tallman 5698 Rising Sun Ave Phila 215-742-0200
Tex W S Humphreys Jr Box 164 Richardson 214-235-4985
Va Harry E Cressman 1714 Brandon Ave SW Roanoke....703-345-8710

AMERICAN LINCOLN CORP, ELEC MOTOR DIV
968 BRADLEY ST WATERTOWN NY 13601
TWX 475 3775 ....315 782-2350
L HUNTSINGER EMP 225 ENG 4 $2,500-$5,000M

AMERICAN MACHINE & FOUNDRY CO ALEXANDRIA
DIV 1025 N ROYAL ST ALEXANDRIA VA 22314
TWX 703 931-4209 ....703 548-7221
K CANNON EMP 100 ENG 50
Ala NBS Inc Box 1343 Huntsville 881-3175
Cal Arthur L Bolton Co 1174 Chestnut St Menlo Park 322-6244
Conn Abbott-Allison Co Box 467 Meriden 237-9232
Fla NBS Inc 151 S Triplet Dr Casselberry 831-2446
La Young Engineering Co Box 50327 New Orleans....522-6216
NJ Grimm, Siegel Assoc 246 Clifton Ave Clifton .773-5010
NM R A Mayes Co 8016 Zuni Rd SE Albuquerque....265-7989
Ohio Harvey Teplitz & Co 3718 Salem Ave Dayton....277-9178
Pa Boenecke-Hile Inc Box 325 Haddonfield 429-7449
Wash Gordon McLoren & Assoc 7419 SE 29th St Mercer Island....232-5164

AMERICAN METAL CLIMAX INC
1270 AVE OF THE AMERICAS NEW YORK
N Y 10020 ....212 PL 7-9700
EMP 13750 OVER $10,000M

AMERICAN MICA INSULATION CO 235 PARKER AVE
MANASQUAN N J 08736 ....201 223-3100
B CATO EMP 125 ENG 2 $1,000-$2,500M
NJ Budd Cato Assoc Box 95 Brielle 223-3842

AMERICAN MICRO-SYSTEMS, INC
3800 HOMESTEAD RD SANTA CLARA CAL 95051
TWX 910-338-0018 ....408 246-0330
G DUMAS EMP 450 ENG 75 $5,000-$10,000M
Ala 20th Century Mktg, Inc 2603 Artie St SW Huntsville 205 536-1596
Ariz Williams Assoc 1110 E McDowell Rd Phoenix....602 254-6085
Cal Black & Strong, Inc 1728 S La Cienega Blvd Los Angeles....213 870-9191
Colo Williams Assoc 4971 Jackson St Denver 303 388-4391
Fla Wm R Lehmann Co 1010 Executive Center Dr Orlando....305 841-4901
Md J A Dougherty Sls Co 320 Hillen Rd Towson....301 832-0431
Mass Circuit Sales Co 1 Militia Dr Lexington .617-861-0567
Mich Lowry Dietrich Co 600 Michigan Bldg Detroit 313 961-4540
Minn Technical Assoc 6121 Excelsior Blvd Mnpls....612-929-6721
NJ Pantronics Inc 1275 Bloomfield Ave Fairfield....201-228-3500
NM Williams Assoc 420 Washington St SE Albuquerque 505 255-1638
NY Bowser & Sapecky Assoc 4541 Main St Buffalo....716 839-4170
NC Byrd & Barbour Sls Inc Box 30 Smithfield....919 934-8136
Ohio Lowry Dietrich Co 316 Marion Bldg Cleveland 216 781-1855
Ore Arneson Assoc 200 NE Canyon Rd Beaverton 503-646-3416
Pa Lowry Dietrich Co 90 Clairton Blvd Pittsburgh....412 892-2992
Tex Arnold Barnes Co 3230 Mercer St Houston 713 622-3620
Utah Williams Assoc 2461 S Main St Salt Lake City....801 466-8709
Wash Arneson Assoc 5950 6th Ave Seattle ..206-762-7664

AMERICAN OPTICAL CO INSTRUMENT DIV BOX A
BUFFALO N Y 14215
TWX 710-522-1731 ....716 895-4000
P PIRET EMP 1400 ENG 50

AMERICAN OPTICAL CORP TECH PRODS GR LASER
PRODS DEPT 14 MECHANIC ST SOUTHBRIDGE
MASS 01550 TWX 617-764-4969 ....617 764-3211
D ATKINS EMP 10000 ENG 1000 OVER $10,000M
Cal G E Woods Assoc 2415 S Manchester Ave Anaheim....714-633-9370
Conn Gerald Rosen Co 194 Plymonth St Stratford 203-375-5456
DC Sonco 4720 Montgomery La Washington....301 654-5226
Mass Gerald Rosen Co 563 Worchester Rd Natick 617-655-2211
Mich Harvey Teplitz & Co 26847 Grand River Ave Detroit....313-537-9058
NJ Friedman Assoc 110 Halsted St East Orange 201 673-2500
Ohio Harvey Teplitz & Co 3718 Salem Ave Dayton....513-277-6531
Pa Sonco 107 Town Ctr Rd King of Prussia .215 265-3250
Va Sonco 2601 Waldo La Richmond....703-643-5226
Fr Salies Import 11 Rue Leon Morane Paris 15e
Ger Dr Selvogt & Co Trifthofstr Schliessfach 59 812 Weilheim I OB
GB British Amer Optical Co Ltd 39 Hatton Gdn London E C I
Isrl Landseas (Israel) Ltd 29 Beazlel St Tel-Aviv

AMERICAN POTASH & CHEMICAL CORP
BOX 2294 TERM ANNEX LOS ANGELES
CAL 90054 TWX 910-3211-4050 ....213 382-8231
W ASHTON EMP 1900 ENG 200 OVER $10,000M

AMERICAN POTASH & CHEMICAL CORP RARE
EARTH DIV 254 ANN ST WEST CHICAGO
ILL 60185....312 231-0760
R CAVINS EMP 150 ENG 30 OVER $10,000M

AMERICAN PRECISION INDUSTRIES, E/M DIV.
77 OLEAN RD EAST AURORA NY 14052 ..716 652-9000
J ARNOLD EMP 50 ENG 4 $1,000-$2,500M
ADV PG 132
Cal L L Stoakes Inc 4438 Ingraham St San Diego....714-274-6281
Cal L-Tronix Assoc 1617 W Colorado Blvd Los Angeles 213-256-2224
Cal Andot Tech Sales 89 Adam Way Atheton 415-365-0586
Kan H C Heyde Co 9221 Wenonga Rd Leawood....913-649-8628
Md J A Dougherty Sales 320 Hillen Rd Towson....301-823-0431
Mass P J Engr Sales 372 N Beacon Boston ..617-783-0510
Mich Sheridan Assoc Lathrup Village....313-358-3333
NJ Marchand-Fara 15 Alden St Cranford .201-272-5510
NJ Loman Co 2118 Lombard St Phila Pa ..215-735-3570
NY Marchand-Fara 1295 Northern Blvd Manhasset 516-627-1151
NC Marchand-Fara 3504 Kirby Dr Greensboro 919-299-9339
Ohio Sheridan Assoc 10 Knollcrest Dr Cincinnati....513-761-5432
Pa Loman Co 2118 Lombard St Phila 215-735-3520
Pa Sheridan Assoc 201 Penn Center Blvd Pittsburg 412-243-6655
Tex Scott Tech Sales 6636 Brian Cove Dr Dallas....214-352-7698
Can John G Weiss Co Ltd 5727 Monkland Ave Montreal 514-489-6887

AMERICAN PRECISION INDUSTRIES INC
77 OLEAN RD EAST AURORA NY 14052
TWX 9-1293....716 652-9000
J ARNOLD EMP 50 ENG 6 $1,000-$2,500M
Cal L L Stoakes Inc 4438 Ingraham St San Diego....BR 4-6281
Md J A Dougherty Sales Co 320 Hillen Rd Towson 823-0431
Mass P J Engrg Sales Co Inc Box 267 Boston 783-0510
Mich Sheridan Assoc Box 128 Lathrup Village....313-358-3333
Mo H C Heyde Co 9221 Wenonga Rd Leawood ..MI 9-8628
NJ Marchand-Fara Co Box 181 Cranford 272-5510
NY Marchand-Fara Co 1295 Northern Blvd Manhasset 516-627-1151
NC Marchand-Fara Co 3504 Kirby Dr Greensboro....919-299-9339
Ohio Sheridan Assoc Box 37646 Cincinnati....761-5432
Pa Loman Co 2118 Lombard St Philadelphia 215-546-3520
Tex Scott Technical Sales Box 30324 Dallas ...FL 2-7698

AMERICAN RADAR COMPONENTS, INC
415 E MAIN ST DENVILLE N J 07834 ...201 627-5530
J HUNDLEY EMP 29 ENG 2 $500-$1,000M

AMERICAN RECTIFIER CORP 116-15 15TH AVE
COLLEGE POINT N Y 11356....212 353-2828
F KLAUS EMP 80 ENG 5 $1,000-$2,500M
Ariz Central Station Equip Co 2323 Aviation Highway Tucson ....MA 3-2493
Cal W A Borden Box 365 Alamo....415-837-8716
La L C Reed 501 N St Patrick St New Orleans ..482-3106
Mo Jeffrey Equipment Co Box 4311 St Louis ..TW 2-2447
Pa D P McGarry RD 2 Grove City....412-794-8532
RI A E Murphy 118 Kenyon Ave Wakefield ...ST 3-7148

AMERICAN RESEARCH CORP
RT 6 & NEW BRITAIN AVE FARMINGTON
CONN 06032....203 677-2693
J SHAMROTH EMP 25 ENG 3 $500-$1,000M

AMERICAN SCREEN PROCESS EQUIPMENT CO
404 N NOBLE ST CHICAGO ILL 60622 ..312-829-1400
M GREEN EMP 100 ENG 4 $1,000-$2,500M
NY A Klein 570 McDonald Ave New York ....TR 1-5700
Ohio R Lash 1965 E 57th St Cleveland....HE 2-3177
Pa F Riccelli 6900 River Rd Philadelphia....LO 4-3722
Tex L Hruska 3101 San Jacinto Houston ....JA 6-1058
Can M Barnes 268 Eddystone Rd Downsview 743-3310

AMERICAN SEMICONDUCTOR CORP
4 N HICKORY ST ARLINGTON HEIGHTS ILL 60004
TWX 910 687-2263 ....312 392-8830
J YOST EMP 40 ENG 4 $500-$1,000M
Ariz GAR-WIC CO 2828 E Blanche Dr Phoenix 602-992-3188
Cal Wm Anderson Assoc Box 45768 Los Angeles 213-776-1163
Colo Inland Assoc 1136 Pearl St Boulder ...303-442-1336
Conn New England Tech Sales 3 Mott Ave Norwalk 203 866-6382
Fla Henry Sarkis & Assoc 671 Domerich Dr Maitland 305-647-3671
Ind John F Kilfoil 5225 New Haven Ave Ft Wayne....219-749-0113
Kan Inland Assoc 6047 Howe Dr Mission ...913-362-2366
Mass New England Elctn Sales Corp 590 Washington St Canton....617-828-4835
Mich Norwood Scroggs Co 2221 Arbor Hills Rd Jackson 517-782-5211
Minn Carl-M Co 1926 Wellesley Ave St Paul .612-699-8004
Mo Inland Assoc 453 N Lindberg Creve Couer 314-933-/301
NJ RHB Sales Co 95 Carpenter St Belleville....201-751-1415
NY A G Assoc Box 45 Suffern 914-357-5562
Ohio Electro Com 8761 Snow Rd Cleveland....886-2404
Pa John F Kilfoil 9415 Montgomery Rd Cincinnati....513-791-6150
Tex Delzell & Evans Assoc Box 35093 Dallas....351-1839
Can Future Elctns Inc 4310 Girouard Ave Montreal 260 P Q....514-481-7701

AMERICAN SILVER CO DIV 36-07 PRINCE ST
FLUSHING N Y 11354 ....212 FL 3-8012
M SHERMAN EMP 40 ENG 3 $1,000-$2,500M

AMERICAN SMELTING & REFINING CO
120 BROADWAY NEW YORK N Y 10005 ..212 RE 29500

AMERICAN SOLDER & FLUX CO INC
19TH & WILLARD STS PHILADELPHIA
PA 19140 ....215 BA 6-1800
J MCBRIDE EMP 20 ENG 1 $500-$1,000M

AMERICAN SOLENOID CO, INC 245 E INMAN AVE
RAHWAY N J 07065 TWX 710 996-5871 .201 381-5100
V CORSARO EMP 30 ENG 5 $1,000-$2,500M

Cal Control Switches Inc 6241 W 89th St Los Angeles ....SP 6-2766
Ill Electro-Kinectics, Inc 7040 W Higgins Ave Chicago ....RO 3-2200
Ky Fluid-Aire Co 3714 Winchester Louisville ...582-1144
Mass American Solenoid Co, Inc 318 Weston Rd Wellesley 237-2244
Mich American Solenoid Co, Inc 17000 W 8 Mile Rd Southfield 358-0030
NJ Ward Leonard Electric Co 234 Washington Ave Belleville ....PL 9-4414
Ohio Midwest Equipment Co 11315 Williamson Rd Cincinnati ....VA 1-1687
Pa American Solenoid Co R D 1 Box 101A Eighty Four........412 941-785
Tex Carey & Assoc Inc 3315 W 12th St Houston .869-3623

AMERICAN-STANDARD, ADVANCED TECHNOLOGY DIV 1401 S SHAMROCK AVE MONROVIA
CAL 91016 TWX 910-585-3243........213 359-9317
S LEINWAND EMP 68 ENG 5
Ariz Brooks-Feeger Assoc 4710 N 16th Ave Phoenix
Cal The Porter Co 17000 Ventura Blvd Encino
Cal Recht Assoc 900 N San Antonio Rd Los Altos
Cal Airsupply Co 2230 Michigan Ave Santa Monica
Colo Brooks-Feeger Assoc 2186 S Holly St Denver 757-3371
Conn Aerol Assoc Box 146 Essex
Ga Airsupply Co 1190 Hayes Industrial Dr Marietta
Ill Branum Sales Co Box 516 Lake Zurich
Ind O E M Sales Co Inc 4165 Millersville Rd Indianapolis
Kan Aero Hill Sales Box 1312 Wichita
Mich George Instrument Co 1440 Eastern N S E Grand Rapids
Mich George Instrument Co 1024 W 14 Mile Rd Clawson
Mo O E M Sales Co Inc Box 252 Florissant
NJ Aerol Assoc 730 Clifton Ave Clifton
NM Brooks-Feeger Assoc 1238 Ortiz S E Albuquerque........268-438
NY Aerol Assoc 400 Jericho Tpk Long Island
NY Airsupply Co 1 Dupont St Plainview
NY Barker Co 288 Old Country Rd Mineola
Ohio The Satullo Co 16801 Euclid Ave Cleveland .247-8997
Pa Airsupply Co 237 Lancaster Ave Devon
Pa Garrettson Co 9214 Masland St Phila
Utah Brooks-Feeger Assoc 535 S 2nd St Salt Lake City
Va Airsupply Co 3865 Wilson Blvd Arlington
Wash Thorson Co 1767 15th Ave S Seattle
Can Abercorn Aero Ltd 2240 Beaconsfield Ave Montreal Que
Fr Airsupply Co 37 Rue Des Plantes Paris 14e
Ger Airsupply Intl 8000 Munich 23/Ungererstr

AMERICAN TECHNICAL CERAMICS NORDEN LA HUNTINGTON STATION N Y 11746
TWX 510-226-6993........516 271-9600
Ala Brennan Assoc Inc PO Box 5006 Clearwater Fla........813-446-5006
Cal Nor-Cal Assoc Box 129 Belmont......415-328-6616
Fla J F Griffin 536 Marlin Rd N Palm Beach........305 671-6060
Ga Brennan Assoc Inc PO Box 5006 Clearwater Fla........813-446-5006
Ill Communications Engrs 7106 N Western Ave Chicago........312-761-0548
Ind Communications Engrs 418 E Berry St Ft Wayne........219-743-9866
Iowa Electronic Sales Co 1310 Hertz Dr SE Cedar Rapids........319-364-4342
Mass Naton-Neehan Assoc Box 203 Sudbury 893-0914
NY Bob Dean Inc 714 W Clinton St Ithaca .607 AR 2-2187
NY S-J Sales 148-05 Archer Ave Jamaica .212-291-3232
NC Brennan Assoc Inc PO Box 5006 Clearwater Fla........813-446-5006
Ohio J C Hofstetter Co 5168 Valley View Dr Medina........216-241-4880
Pa W F Satterthwaite Box 191 Lansdowne........215 MA 3-5100
SC Brennan Assoc Inc PO Box 5006 Clearwater Fla........813-446-5006
Tex Parvin Sales Box 307 Addison Rd Addison........214-239-9148

AMERICAN THERMO ELECTRIC CO
7269 SANTA MONICA BLVD LOS ANGELES
CAL 90046........213 464-1632
J LEVY EMP 12 ENG 2 $100-$250M

AMERICAN TIME PRODUCTS, ELCTNS DIV BULOVA WATCH CO INC 61-20 WOODSIDE AVE
WOODSIDE N Y 11377
TWX 710-582-2637........212 335-6000
R ANSELL EMP 700 ENG 42 OVER $10,000M
Cal Straube Assoc 483 Willow Rd Menlo Park........415-323-2476
Cal Cardinal Assoc 16024 Ventura Blvd Encino........213 788-4540
Colo Straube Assoc Mtn States Inc Box 1649 Boulder........303-443-8600
Fla Perrott Assoc 1607 Forsyth Rd Orlando .305 275-1132
Fla Perrott Assoc Box 4532 Clearwater ...813 531-5513
Fla Perrott Assoc Box 6277 West Palm Beach........305 967-1770
Ga Emmett Rushin Co Box 486 Roswell....404 993-6498
Ill Communications Eng 7100 N Western Ave Chicago........312 Ro 1-0548
Md Daniel & Co Box 124 Lutherville......301-825-8330
Mass Samuel Hooker, Inc Box 352 Winchester........617 729-5482
Minn Wenco Sales Inc 7728 Morgan Ave S Minneapolis........612 866-3639
Mo J C Mankus & Assoc 400 Brooks La Hazelwood........314 Pe 1-4334
NY H C Johnson Agencies Inc 111 Mt Hope Ave Rochester........716 232-2688
NY Cane Technical Sales 555 E Boston Post Rd Mamaroneck........914 698-4411
NY H C Johnson Agencies Inc Box 86, Brandywine Sta Schenectady........518-882-9303
NY H C Johnson Agencies Inc Box 215 Fayettville........315-637-9383
NY H C Johnson Agencies Inc 8 Los Robles St Williamsville........716 632-7880
Pa Daniel & Co Box 2 Glenside........215 Tu 7-0550
Tex Carl Tinch Sales Co 1st Bank & Trust Bldg Richardson........214 Ad 1-1322
Wash Jas J Backer Co 221 W Galer St Seattle........206 At 3-6470
Can Canadian Micro Electronics 323 Bank St Ottawa........613-233-5129

AMERICAN TRANS-COIL CORP 124-06 101ST AVE
RICHMOND HILL NY 11419........212 441-5207
W CLANCY EMP 75 ENG 5 $500-$1,000M

AMERICAN ULTRAVIOLET CO 242 COMMERCE
CHATHAM NJ 07928........201-635-8355
C REYNOLDS EMP 11 ENG 3 $250-$500M

AMERICAN ZETTLER, INC 697 RANDOLPH AVE
COSTA MESA CAL 92626 TWX 67-8472 .714 540-4190
G RUEB EMP 8 ENG 3
Ala Frank C Nickerson Co Box 9679 Birmingham........205-853-3181
Ariz Hamilton Reps Inc 9800 N Oracle Rd Tucson........602 297-2279
Cal Rep Assoc 1645 S LaCienega Blvd Los Angeles........714-274-8485
Cal Gene C Woempner Co 2040 Pioneer Ct San Mateo........415-349-6316
Colo J F Hurlbut Co 2240 S Adams St Denver........303 756-2046
Conn Brookdale/Richter Eng Inc 14 Hazel Rd Guilford........203-453-3118
Fla Barrett Assoc Box 14205 Orlando 305-277-2857
Fla Barrett Assoc 300 NW 123rd St Miami .305 681-4957
Ga Frank C Nickerson Co Box 33185 Decatur........404-377-1575
Ill Malone Eng Inc 7640 W North Ave Elmwood Park........312-456-4031
Ind Frederick & Meily Co 1601 S Hanna St Ft Wayne........219-745-2461
Mass Brookdale/Richter Eng Inc 348 Lake Ave Boston........617 244-6969
Mich Miltimore Sales 34142 Fountain Blvd Westland........313-261-8117
Minn Hamilton, Grayden & Flemmer Hamilton Rd Hopkins........612 941-1120
NY MWM Assoc Box 412 Lynbrook......516-593-6190
NY I A Hotze Co Inc 112 Dewitt Str Syracuse........315-479-6641
NC Frank C Nickerson Co 1001 Parrott Ave Kingston........919-527-4911
Ohio Mulligan & Mathias 2011 Riverside Dr Columbus........614 486-2976
Ore Van Voorhees Assoc 4415 NE Sandy Blvd Portland........503 287-6633
Pa Arnold Assoc 528 Ryers Ave Cheltenham........215 742-0600
Tex Roger Martin Assoc Box 64513 Dallas .214-358-3704
Tex Roger Martin Assoc Box 1002 Bellaire .713-468-3877
Wash C Lyle Reeve Mktg Assoc Box 7087 Seattle........206-542-5889
Wis DeVos Prinz Sales 1819 E Kenilworth Milwaukee........414-272-0356
For Tele Norma C.A. Aptdo del Este 5405 Caracas, Ven........71 55 11
Den Soren T Lyngso A/S Ostmarken 4 Kopenhagen........SO 0179-7700
Fr Zettler France S A R L 91 Rue De Sartoris Paris Haute Seine........1-242-3990
Ger Alois Zettler GmbH 8 Munchen 5 Munich Holzstr 28........26 01 81
Neth Zettler Nederland N V Joh van Oldenbarneveltlaan,s Gravenhage........16-37-005570
Ital Zettler Apparecchi, Elettrici S P A Via Benaco, 1-3 Milanese S Guiliano
Nor Ingenior Arvid Dahm Fr Nansens, 11-9 Oslo 1 .42 66 88
Swed O T Axlund Friherregata 56 Stockholm 38 00 40
Swit Zettler-Elektro-Apparate A G Technisches Buero Bergheimstr 9 Zuerich........051-538355
Belg Zettler Belgique S.A. 50 rue le Titien Bruxelles 4........00222-35 57 78
Mex Heuer & Boehme S.A. Balderas 96 Mexico 1 .18-16-34

AMERICON CORP 87 RUMFORD AVE WALTHAM
MASS 02154 TWX 710-324-6377......617 891-5230
D WING EMP 70 ENG 6
Ariz Fryco 403 N Old Scottsdale Rd Scottsdale ..945-3281
Cal J E Hachten Co 1135 W Huntington Dr Arcadia........681-2361
Cal J E Hachton Co 800 Welch Rd Palo Alto 326-1252
Ill Midwest Microwave 6414 W Belmont Ave Chicago........283-1051
Md Brimberg Assoc 814 Thayer Ave Silver Spring........588-7790
Mass Bawer Assoc 53 Rokeby Rd Waban........244-6572
Mich Sheridan Assoc Inc Box 128 Lathrup Village .358-3333
Mo Technical Mktg Assoc 2050 Woodson Rd St Louis........887-3600
NY Salsbury Assoc 331 W John St Hicksville ...938-1080
NY Floring & Murray Box 11 Dewitt........446-5555
Ohio Sheridan Assoc, Inc Box 37646 Cincinnati ..761-5432
Pa Ron-Mar Co Box 201 Plymouth Meeting....825-2841
Pa Sheridan Assoc 201 Penn Center Blvd Pittsburgh........243-6655
Tex Spacetronics Co 4515 Prentice St Dallas ...368-1215
Wash Ray Johnston Co 1011 NE 69th St Seattle..524-5170
Can Tech Assoc Inc 1262 Don Mills Rd Don Mills, Ont........445-7490
Fr Technique Et Products Rue Carle-Vernet 92 Sevres........626-02-35
Ger Tek-Elec/Rirtronic Gmbn Koenigstr 33 Stuttgart........22-53-15
GB Microwave & Elect Sys Ltd Newbridge Midlothian Scotland........277-278
Neth Tek-Elec/Airtronics Herengracht 532 Amsterdam........63-919
Ital Tek-Elec/Airtronic Spa Viale Romagna 14 Milan........73-85-674
Swed AB Gosta Backstrom Box 12089 Stockholm 12........54-03-90
Swit Fabrimax Kirchenweg 5 Zurich........47-06-70
Isrl S T G Intl Ltd 52 Nachlat Benyamin St Tel-Aviv........5-3459
Aust Cema (Australia) Pty Ltd 29 Anderson St Sydney

AMF CUNO DIV AMER MACHINE & FDRY CO
80 S VINE ST MERIDEN CONN 06450 ..203-237-5541
R FAY EMP 800

AMGLO CORP 4333 N RAVENSWOOD AVE CHICAGO
ILL 60613........312 477-9494
F SEERY EMP 40 ENG 10 $500-$1,000M

AMICON CORP POLYMER PRODS DIV
25 HARTWELL AVE LEXINGTON
MASS 02173........617 861-9600
J BOLGER EMP 125 ENG 30 $1,000-$2,500M

A & M INSTRUMENTS INC COMMUNITY DR
GREAT NECK N Y 11022
TWX 510 223-9804........516 487-0330
R LYON EMP 65 ENG 6 $1,000-$2,500M
Ala James P Stoddard 904 Bob Wallace Ave Huntsville........205 534-0653
Ariz Williams Assoc Inc 1110 E McDowell Dr Phoenix........602-254-6085
Cal Held & Mollard Inc 1494 Oddstad Dr Redwood City........415-365-1700
Colo Williams Assoc Inc 4971 Jackson St Denver........303-388-4391
Fla CES Assoc Box 1152 Melbourne......305-254-2183
Ill A & M Instruments Inc 6251 W Touhy Ave Chicago........312-774-3500
Kan Technical Reps Inc 6814 Farmview La Wichita........316-682-4140
Mass E A Janse Assoc 892 Worcester St Wellesley........617-235-1623
Mo Technical Reps Inc 525 St Francis Florissant........521-1000
NJ Bixon Assoc Box 305 Fairlawn.......201-797-5356
NM Williams Assoc Inc 420 Washington SE Albuquerque........505-255-1638
NY Merkel Assoc Inc 7172 Transit Rd Buffalo........716-634-3737
Ohio Brownie & Assoc 3066 E 116 St Cleveland........216-795-7472
Pa Sencor Inc 2222 Glendale St Phila 215-342-0223
Utah Williams Assoc Inc 2469 S Main St Salt Lake City........801-466-8709
Wash Eicher & Richards 2727 NE Blakeley Ave Seattle........206-LA-3-7888
Can Electronic Marketing of Can 3600 Barclay Ave Montreal, Que........514-739-3206
For Joseph Plasencia Inc 501 5th Ave New York........212-867-8084

AMIPRODUCTS CORP 132-8 LIBERTY ST NEW YORK
N Y 10006........212 227-1321
J WILSON EMP 4 ENG 1 $100-$250M

AMK ELECTRONICS CO INC BOX 2065 EDISON
N J 08817........201 636-2636
A ADERENTE EMP 20 ENG 2 $100-$250M

AMLAB INC 1701 ELIZABETH AVE RAHWAY
NJ 07065........201 381-1551
S BROADWIN EMP 7 ENG 3 $250-$500M

AMMON INSTRUMENTS INC 345 KELLEY ST
MANCHESTER N H 03105........603 669-1531
P AREL EMP 125 ENG 5 $500-$1,000M
Ala Grady Duckett Sales Co Box 537 Hazelgreen........828-3475
Alas Ron Merritt Co Box 759 Anchorage
Ariz Fryco Box 460 Scottsdale........945-3281
Cal W Bert Knight Co 112 Glasgow Ave Inglewood........678-4711
Conn Kitchen & Kutchin Inc 22 Broadway North Haven........239-0212
Fla H R Gross & Co 314 S Missouri Ave Clearwater........446-6649
Ga Grady Duckett Sales Co Box 29067 Atlanta .451-3529
Ill DJM Electronics Sales Inc 5356 N Milwaukee Ave Chicago........774-1212
Kan MESA Inc 5460 Buena Vista Dr Mission....262-6565
Md Ken Randall Co Box 9752 Baltimore.......661-3808
Mass Kitchen & Kutchin Inc 17 Waltham St Lexington........862-8230
Mich Koechler-Pasmore 25245 Five Mile Rd Detroit........477-8790
Minn H M R Inc 9 E 22nd St Minneapolis......335-7734
NJ Ken Randall Co 250 Haddon Ave Collingswood........054-3323
NY The Robert Lamb Co Inc 1865 Kenmore Ave Buffalo........874-4900
NC Grady Duckett Sales Co Box 22002 Greensboro........273-4617
Ohio R K Deunk & Assoc Inc 7390 Chippewa Rd Cleveland........526-4317
Ore Ron Merrit Co 2035 SW 58th Ave Portland .292-8762
Tex Unidyne Inc 5700 Savoy La Houston.......666-2401
Wash Ron Merritt Co 1320 Prospect St Seattle...682-7337
Can Electrodesign Ltd 9124 St Lawrence Blvd Montreal........389-5912

AMPACET CORP 250 S TERRACE AVE MT VERNON
N Y 10550........914 699-9100
D WEIL EMP 75 ENG 3 $5,000-$10,000M

AMPAR DIV ADAMS-RUSSELL 39 GREEN ST
WALTHAM MASS 02154
TWX 710-324-6484 617-899-1900
B MCCARTHY EMP 43
For Sales Office/Rep Listings see Anzac-Waltham Div
Adams-Russel

AMPEREX ELECTRONIC CORP, COMPONENT DIV
35 HOFFMAN AVE HAUPPAUGE N Y 11787
TWX 510 227-8552 .... 516 234-7000
R GABBEI EMP 60 ENG 5
Ariz Jack Berman Co 2101 W Shangri La Rd
Phoenix 602-944-3361
Cal Amperex Elect Corp 801 E Charleston Rd
Palo Alto 415 327-0461
Cal Gene C Woempner Co 821 Malcolm Rd
Burlingame 415 697-5131
Cal Shephard-Stern Co 41-9 W Burbank Blvd
Burbank 213 849-6671
Colo Mel Pearson & Co 1860 S Acoma St
Denver 303 777-7878
Ga Millar-Hutto Assoc 3110 Maple Dr N E
Atlanta 404-261-6160
Ill Amperex Elect Corp 360 E North Ave
Northlake 312 261-7877
Ind Thomas & Sukup, Inc 2060 E 54th St
Indianapolis 317 251-4574
Md Brothers & Connen Assoc 6302 Lincoln Ave
Baltimore 301-R04-7189
Mass Vector Sales, Inc 774 Pleasant St
Belmont 617 489-1400
Mich Amperex Electronic Corp 809 Center St
Lansing 517-482-7140
Minn Amperex Electronic Corp 6700 France Ave S
Minneapolis 612-920-7955
Mo Palatine Engrg Sales Inc
8622 St Charles Rock Rd St Louis ... 314-426-7055
NY Reed Electronics 2815 Monroe Ave
Rochester .... 716 GR 3-2767
NY Kahgan Sales Corp 1261 Broadway
New York 212 684-7772
NC Millar-Hutto Assoc Box 17173 Raleigh . 919-787-9564
Ohio Mulligan & Mathias Co 2011 Riverside Dr
Columbus 614 486-2976
Pa Beil & Whitaker, Inc 3623 Jacksonwald Ave
Reading 215 779-2610
Pa Paragon Sales Co 111 S 22nd St
Philadelphia 215 563-7060
Pa Mulligan & Mathias Co 2011 Riverside Dr
Columbus, Ohio 614 486-2976
Tex Dunbar Assoc 417 Meadows Blvd
Dallas 214 363-2536
Va Amperex Elctn Corp 5700 Old Richmond Ave
Richmond 703-282-6515
Can Philips Electron Devices 116 Vanderhoof Ave
Toronto 416 425-5161

AMPEREX ELECTRONIC CORP, ELECTRO OPTICAL
DEVICES DIV POUND HILL RD SLATERSVILLE
R I 02876 TWX 710-387-1591 .... 401 762-3800
R NELSON EMP 180 ENG 11 OVER $10,000M
For Sales Offices & Representatives See Amperex Electronic
Corp, Professional Tube Div Listing

AMPEREX ELECTRONIC CORP SEMICONDUCTOR &
MICROCIRCUITS DIV SLATERSVILLE R I 02876
TWX 710-387-1591 .... 401 762-9000
H STEENBEKE EMP 550 ENG 50
For Sales Offices & Representatives see Amperex Electronic
Corp, Professional Tube Div Listings

AMPEREX ELECTRONIC CORP, PROFESSIONAL
TUBE DIV 230 DUFFY AVE HICKSVILLE
NY 11802 TWX 401-767-2499 .... 516 WE 16200
A KATZ EMP 650 ENG 40
Cal Wm J Purdy 312 7th St San Francisco .... UN 3-3300
Cal Amperex Electronics Corp 801 E Charleston Rd
Palo Alto 327-0461
Cal R W Thompson Assoc 4135 El Camino Way
Palo Alto 321-6383
Cal Shephard-Stern Co 4109 W Burbank Blvd
Burbank 849-6671
Cal Wm J Purdy 4110 Stillmeadow Way
Sacramento 481-0971
Cal R W Thompson Assoc 5005 W Century Blvd
Inglewood 677-6104
Cal Winters & Co 11766 W Pico Blvd
Los Angeles 213 879-9045
Colo Mel Pearson & Co 1860 S Acoma St Denver . 744-2323
Conn Gerber Sales Co 29 Whalley Ave
New Haven .... SP 7-6279
Conn Vector Sales 774 Pleasant St Belmont . 617-489-1400
Fla Millar-Hutto Assoc 501 Park Ave N
Winter Park .... MI 7-7407
Fla A B Andrews & Co 1408 S Bayshure Dr
Miami 377-2522
Ga Millar-Hutto Assoc 3110 Maple Dr NE
Atlanta 261-6160
Ill Dwight Smith Assoc 32 S River St Aurora . TW 6-0828
Ind Thomas & Sukup Inc 2060 E 54th St
Indianapolis .... CL 1-4574
La Cartwright & Bean of Tenn 7010 Magnolia Ct
Metairie 887-5225
Md Brothers & Conneen Assoc 6302 Lincoln Ave
Baltimore 764-7189
Mass Gerber Sales Co 24 Maple Ct
E Longmeadow .... LA 5-3059
Mass Gerber Sales Co 176 Second Ave Waltham .. 891-8040
Mass Applied Technology, Inc 7 Vine St
Manchester .... CA 7-2700
Mass Vector Sales, Inc 774 Pleasant St
Belmont 617 489-1400
Mich Amperex Electronic Corp 809 Center St
Lansing 517 482-7140
Mich Jack M Thorpe Co 640 Hidden La Detroit .. TU 4-4360
Minn Clark R Gibb Co 1311 W 25th St
Minneapolis .... FR 7-1200
Minn Amperex Electronic Corp 6700 France Ave S
Minneapolis 920-7955
NJ Arthur M Rothman 592 Colonial Rd
River Vale 391-5629
NJ Brothers & Conneen Assoc 3108 Pleasant Run Dr
Cinnaminson 829-9325
NJ J Bressler, Inc 4808 Bergenline Ave
Union City 201 864-9577
NY Kahgan Sales Corp 556 Peninsula Blvd
Hempstead 538-2300
NY Paston-Hunter Co 2002 Teall Ave Syracuse . 437-2992
NY Reed Electronics Inc 2815 Monroe Ave
Rochester .... GR 3-2767
NY Reed Electronics Vestal Pkwy E Vestal ..... PI 8-7391
NY Reed Electronics 6200 E Molloy Rd
E Sayracuse 463-8955
NY Amperex Electronic Corp 323 Thompson Rd
Syracuse 315 463-1116
NC A B Andrews & Co 333 Fayetteville St
Raleigh 833-5565
NC Millar-Hutto Assoc North Hills Office Mall
Raleigh 919 787-9564
Ohio ~~C L Pugh Co 2144 Riverside Dr Columbus .... 486-9678~~
~~Ohio~~ Mulligan & Mathias Co 2011 Riverside Dr
Columbus 486-2976
Ohio Amperex Electronic Corp 4130 Linden Ave
Dayton 253-3158
Pa Beil & Whitaker Inc 3623 Jacksonwald Ave
Reading 779-2610
Pa Beil & Whitaker Inc 1303 N Troxell St
Allentown .... HE 4-5220
Pa Brothers & Conneen Assoc 131 Harned Rd
Springfield .... KI 3-8641
Pa Paragon Sales Co 111 S 22nd St
Philadelphia .... LO 3-7060
Pa Beil-Whitaker, Inc 5610 Akron Dr
Harrisburg 652-0184
Tenn Cartwright & Bean of Tenn 560 S Cooper St
Memphis .... BR 6-4442
Tex Dunbar Assoc Box 30511 Dallas 239-7151
Tex Lund & Co 2616 Manor Way Dallas 214 358-4335
Tex Lund & Co 3827 Richmond Ave Houston 665-3440

AMPERITE CO INC 600 PALISADE AVE UNION CITY
N J 07087 .... 201 UN 49503
T WHALEN EMP 75 ENG 3 $500-$1,000M
ADV PG 547
Can Atlas Radio Corp Ltd 50 Wingold Ave Toronto

AMPEX CORP 401 BROADWAY REDWOOD CITY
CAL 94063 TWX 415-364-9034 .... 415 367-2011
C DUBOIS EMP 13000 ENG 2,000
OVER $10,000M
Ala Ampex Corp 3322 S Memorial Pkwy
Huntsville 881-4271
Cal Ampex Corp 500 Rodier Dr Glendale 245-9373
Fla Ampex Corp 1325 N Atlantic Ave
Cocoa Beach 783-1811
Ga Ampex Corp 1680 Tully Circle, NE Atlanta .. 633-4131
Ill Ampex Corp 10 King St Elk Grove Village ... 439-4600
Mass Ampex Corp 391 Totten Pond Rd Waltham .. 899-2040
Mo Ampex Corp 400 Brookes Lane Hazlewood .. 731-2161
NJ Ampex Corp 75 Commerce Way Hackensack . 489-7400
NM Ampex Corp 116 Washington Ave SE Albuq . 265-8507
Ohio Ampex Corp 4130 Linden Ave Dayton 254-6101
Pa Ampex Corp 947 Old York Rd Abington 887-7650
Tex Ampex Corp 1615 Prudential Dr Dallas 637-5100
Va Ampex Corp 3620 S 27th St Arlington 671-4000
Wash Ampex Corp 1910 Fairview Ave E Seattle .. 329-3544

AMPHENOL COMPONENTS GROUP, BUNKER-RAMO
CORP OAKBROOK NORTH OAK BROOK
ILL 60521 .... 312 261-2000
R HALL EMP 4400
ADV PGS
71,155,156,157,159,160,161,164,166,167,169,228,260,293,427,428,429,430,431,436,557,577,578,588,596,614,713
Cal Amphenol Sales 17000 Ventura Blvd
Encino 213-788-8560
Cal Amphenol Sales 421 Castro St
Mountain View 415-969-0630
Colo Amphenol Sales 709 W Littleton Blvd
Littleton 303-794-4269
DC Amphenol Sales 7600 Georgia Ave, NW
Washington 202-829-9000
Fla Amphenol Sales 601 N New York Ave
Winter Park 305-647-5504
Ga Amphenol Sales 175 W Wieuca Rd N E
Atlanta 404-255-0992
Haw Earl Assoc 1638 Kona St Honolulu 808-996-953
Ill Amphenol Sales 2801 S 25th Ave
Broadview 312-345-9000
Ind L M DeVoe Co 665 E 61st St
Indianapolis 317-283-1395
Mass Richard Purinton Inc 11 Muzzey St
Lexington 617-862-8300
Minn Amphenol Sales 7701 Normandale Rd
Mnpls 612-927-6589
Mo Amphenol Sales 47 Village Sq
Hazelwood 314-TE8-6996
NJ Amphenol Sales 6525 S Crescent Blvd
Pennsauken 609-665-2870
NY Amphenol Sales 3000 Marcus Ave
Lake Success 516-488-1700
NY Amphenol Sales 6443 Ridings Rd
Syracuse 315-437-2689
NY Amphenol Sales 2 La Grange Ave
Poughkeepsie 914-452-4220
NC Amphenol Sales 1500 E Club Blvd
Durham 919-688-6361
Ohio Amphenol Sales 20545 Center Ridge Rd
Cleveland 216-331-9100
Ohio Amphenol Sales Military Mktg
1250 W Dorothy La Dayton 513-298-0754
Tex Amphenol Sales 777 S Central Expwy
Richardson 214-AD5-8318
Wash Amphenol Sales 924 104th NE
Bellevue 206-455-2525

AMPHENOL CADRE DIV 20 VALLEY ST ENDICOTT
N Y 13761 TWX 510-252-0898 .... 607 754-4444
C KOWAL EMP 804 ENG 20 $5,000-$10,000M
ADV PG 293

AMPHENOL CONNECTOR DIV 2801 S 25TH AVE
BROADVIEW ILL 60153 312-261-2000
N SPANGLER EMP 2149 ENG 120 OVER $10,000M
ADV PGS 156,157,159,161,164,167,169

AMPHENOL CONTROLS DIV 120 S MAIN ST
JANESVILLE WISC 53546
TWX 910-288-2924 .... 608 754-2211
W KERCHO EMP 531 ENG 18 $2,500-$5,000M
ADV PGS 228,429,430,431,436,557

AMPHENOL DISTRIBUTOR DIV 2875 S 25TH AVE
BROADVIEW ILL 60153
TWX 910-226-1961 .... 312 261-2020
S KELLEHER EMP 194 ENG 17

AMPHENOL INDUSTRIAL DIV 1830 S 54TH AVE
CHICAGO ILL 60650 TWX 910-229-1541 .. 312-242-1000
R COLT EMP 1303 ENG 51 OVER $10,000M
ADV PGS 160,161,428,577,578

AMPHENOL RF DIV 33 E FRANKLIN ST DANBURY
CONN 06810 TWX 203-744-0896 .... 203 743-9272
E LEHMANN EMP 665 ENG 35 OVER $10,000M
ADV PGS
155,156,164,166,260,427,588,596,614,713

AMPHENOL SPACE & MISSILE SYSTEMS
9201 INDEPENDENCE AVE CHATSWORTH
CAL 91311 TWX 213-314-2531 .... 213 341-0710
B BRACHMAN
ADV PG 71

AMPHICON SYSTEMS INC 1 GRAPHIC PL
MOONACHIE N J 07074 .... 201 487-3383
M CHATER EMP 40 ENG 5 $500-$1,000M

AMP INCORPORATED EISENHOWER BLVD
HARRISBURG PA 17105 .... 717 564-0101
F HOWELL OVER $10,000M
Cal AMP Inc 4151 Middlefield Rd Palo Alto
Cal AMP Inc 3138 W El Segundo Blvd Hawthorne
DC AMP Inc 7826 Eastern Ave NW
Washington 202 829-3344
Ga AMP Inc 2970 Peachtree Rd NW
Atlanta 404 261-4151
Ill Amp Inc 1050 Morse Ave Center Industrial Pk
Elk Grove 312 439-5800
Mass AMP Inc 60 Hickory Dr Waltham 617 893-4306
Minn AMP Inc 4600 W 77th St Minneapolis . 612-920-8210
NJ AMP Inc 130 N Broadway Camden 609 964-5055
Ohio AMP Inc 1890 Northwest Blvd
Columbus 614 486-0276
Tex AMP Inc Frito-Lay Tower, Exchange Park
Dallas 214 352-4852
Wash AMP Inc 940 104th St NE Bellevue ... 206 454-3013
Can AMP of Canada Ltd 49 Gervais Dr
Don Mills, Ont 416 429-1311
Fr Ste AMP de France, SA Boite Postale 39
95 Pontoise 464-92-20
Ger Deutsche Amp GMBH
Amperestra 7-11 607 Langen BFFM . 06103 7831-7835
GB Aircraft-Marine Products (GB) Ltd
Terminal House Stanmore, Mdsx 01-954-2356
Neth AMP Holland, NV Papierstr 2
'S-Hertogenbosch 04100 25221
Ital Amp Italia Spa
Via Fratelli Cervi 15 10093 Collegno Torino . 785-656
Jap Amp (Japan) Ltd 15-147 Chome Roppongi
Minato-Ku Tokyo 404-7171
Swed Svenska AMP AB Kross 32 Stockholm ... 08189 0420
Mex AMP de Mexico, SA
San Andres Atoto 4, Naucalpan de Juarez
Edo de Mexico 76-41-55
Spn Amp Espanola, S A Apd 5294 Pedro Iv, 485
Barcelona 5 .... 207.75.50
Aust Aircraft Marine Prods (Aus) Pty Ltd Box 78
Auburn, NSW 648-1724

AMP INC, CAPITRON DIV 155 PARK ST
ELIZABETHTOWN PA 17022 .... 717 367-1105
H TAYLOR
Cal J Miller, G Birdsell 3138 W El-Segundo Blvd
Hawthorne 675-1186
Fla J Hogaboom 2203 Beatrice Dr Orlando 295-3927
Ill L M Reis 945 Mountain Dr Deerfield 945-4061
Md J G Greene 3604 Marlbrough Way
College Park 935-5502
Mass J B Sullivan 101 Lexington Ave Needham ... 444-4839
NJ E R Kelly 10-04 Dewey Pl Fair Lawn 791-6817
Tex R L Perrenot 1st Bank & Trust Bldg
Richardson .... AD 1-2118

AMPROBE INSTRUMENT DIV SOS CONSOLIDATED
INC. 630 MERRICK RD LYNBROOK
N Y 11563 .... 516 LY 35600
L VANBLERKOM EMP 220 ENG 8
$2,500-$5,000M
Ariz Maddox Sales Co 5709 N 19th Pl Phoenix .. 274-3807
Cal Maddox Sales Co 2945 E 12th St
Los Angeles 269-7219
Colo E-O Sales 1423 S Lipan Denver 744-7081
Conn Mac Rae-Patton, Inc 28 Gravel St Meriden . 238-1965

Fla Millar-Hutto Assoc Inc 501 Park Ave N
Winter Park ....MI 7-7407
Ga Millar-Hutto Assoc Inc 3110 Maple Dr NE
Atlanta 261-6160
Ill J Ingalls 5921 N Kenmore Ave Chicago.....334-6790
Ind R M Crandall & Assoc 4225 E Kessler Blvd
Indianapolis 251-7800
Iowa Jim Bixler & Assoc 2822 Ave A
Council Bluffs........................328-1841
Mass Jack Fay Inc 389 Elliot St
Newton Upper Falls 969-4660
Mich Young & Champagne 91 E Milwaukee Ave
Detroit ....TR 1-0720
Minn Elstad Sales Co 1405 Oakview La N
Minneapolis 545-4000
Mo C L Arehart Co 6621 Sterling Raytown ....FL 6-3488
NH MacRae-Charron, Inc 453 Proctor Rd
Manchester 624-4827
NJ McKay-Burgoyne El Sales Inc 110 Vesey St
Newark 624-6526
NY R W Mitscher Co 496 Ellicott Square Bldg
Buffalo........................TL 4-2517
NC Millar-Hutto Assoc Inc N Hills Box 17173
Raleigh 787-9564
Ohio Gordon F Stofer & Bro 20160 Center Ridge Rd
Cleveland........................333-0733
Okla Wayne Parker 222 W B St Jenks ....CY 9-5449
Pa R A Johnson & Co 2209 Mt Carmel Ave
Glenside........................884-1389
Tex Glidden Engrg & Eqpt Co 3802 Winchester St
Houston ....CA 4-6471
Utah Darger Co 211 S 2nd W Salt Lake City 355-2873
Va Arthur Hoey 3364 Cedar Grove Rd
Richmond........................272-3449
Wash Northwestern Agencies Inc 4130 1st Ave S
Seattle ....MA 3-8882
Can Can Atlos Electronics Ltd 50 Wingold Ave Toronto

AMSCO INDUSTRIAL CO DIV AMER STERILIZER CO
2820 W 23RD ST ERIE PA 16512 814-838-6511
C HAGELSTEIN
Cal Amer Sterilizer Co 4333 Lankershim Blvd
N Hollywood
Colo Amer Sterilizer Co 7835 W 16th Ave Denver
Fla Amer Sterilizer Co 4424 N Dale Mabry Tampa
Ga Amer Sterilizer Co 206 14th St NW Atlanta
Ill Amer Sterilizer Co 1418 W Roosevelt Rd
Broadview
La Amer Sterilizer Co 5534 Canal Blvd New Orleans
Md Amer Sterilizer Co 35 Wisconsin Cir Chevy Chase
Mass Amer Sterilizer Co 167 Corey Rd Brookline
Mich Amer Sterilizer Co 32580 Grand River Blvd
Farmington
Minn Amer Sterilizer Co 5574 Nicollet Ave S
Minneapolis
Mo Amer Sterilizer Co 6738 Chippewa St St Louis
NY Amer Sterilizer Co 410 E Jericho Tpk Mineola
Ohio Amer Sterilizer Co 11506 Reading Rd Cincinnati
Pa Amer Sterilizer Co 1732 N Highland Rd Pittsburgh
Tex Amer Sterilizer Co 6620 Snider Plaza Dallas
Va Amer Sterilizer Co 3222 W Cary St Richmond
Wash Amer Sterilizer Co 420 NE Ravenna Blvd Seattle
Can Amsco Canada 255 Queen St E Brampton, Ont
Belg Amsco International 207 Rue Royale Brussels
Mex Amsco De Mexico Naucalpan De Juarez Mexico

AMSTRO CORP 113 CLINTON RD FAIRFIELD
N J 07006........................201 228-3881
J FIORE EMP 20 ENG 20

AMTRON INC SUB REPUBLIC CORP
14820 S KEDZIE AVE MIDLOTHIAN ILL 60445
TWX 25-3890........................312 389-3955
J KASPER EMP 175 ENG 25
Fla W M Jones Co Inc 2317 E South St
Orlando ....GA 4-6298
Ga W M Jones Co Inc 2666 Redding Rd NE
Atlanta........................404 237-4769
Ill G & F Sales & Engrg Co 5555 W 109th St
Oak Lawn ....312 GA 4-4170
Md W M Jones Co Inc Box 5490 Towson ...301 823-5721
Mo Richter Equip Co 9567 Page Blvd
St Louis ....314 HA 7-0990
NJ W M Jones Co 332 S Forklanding Rd
Maple Shade........................609 662-0480
Ohio Fred R Sharp Co 14904 Euclid Ave
Cleveland 216-249-7000

AMUNEAL MFG CORP 2042 W JEFFERSON ST
PHILADELPHIA PA 19121 ....215 236-6800
S KAMENS EMP 22 ENG 2 $250-$500M
Cal Yarbrough Sales 5808 Montery Rd
Los Angeles 213-254-5101
Fla Talbe Co 2031 Chippewa Trail Maitland
Ill Talbe Co 9506 Glenlake Rosemont 823-1205
Ind Southern Sales Co 6216 Carrollton Ave
Indianapolis 253-3359
Md Eastern Components Inc 6200 Annapolis Rd
Landover Hills 825-1335
Mich Don Poulin Co 17222 E Warren Ave Detroit .886-4990
NJ Talcomp Co 19 Sylvan Ave Englewood Cliffs .947-5038
NY L G Taggart Box 304 Pittsford.......716-381-3380
Ohio George L Herrick Co 845 Canterbury Rd
Westlake 871-8855
Pa Eastern Components Inc
1349 ww Cheltenham Ave
Philadelphia 215-927-6262
Tex Southern Engineering Box 8393 Dallas ....LA 1-3748

ANACONDA ALUMINUM CO BOX 1654 LOUISVILLE
KY 40201 TWX 204124 ....502 634-1511
F SEWELL EMP 2000
Cal Anaconda Aluminum Co 2737 Supply Ave
L A 685-7801
Ga Anaconda Aluminum Co Box 1730 Atlanta ..344-2750
Ill Anaconda Aluminum Co 9933 Lawler Ave
Skokie........................676-2920
Ky Anaconda Aluminum Co 3415 Bardstown Rd
Louisville 459-5770
Mass Anaconda Aluminum Co 824 Boylston St
Chestnut Hill 734-6923
Mich Anaconda Aluminum Co 1287 S Woodward
Birmingham 647-5022
Minn Anaconda Aluminum Co 6950 France Ave S
Minneapolis........................612 920-3566
Mo Anaconda Aluminum Co 10 S Brentwood Blvd
St Louis........................727-6255
NJ Anaconda Aluminum Co Park-Eighty Plaza E
Saddle Brook 845-8055
Ohio Anaconda Aluminum Co 19129 Hilliard Rd
Rocky River 331-5064
Pa Anaconda Aluminum Co 2 Bryn Mawr Ave
Bryn Mawr 215 525-8605
Tex Anaconda Aluminum Co Expressway at Milton
Dallas 368-6448

ANACONDA AMERICAN BRASS CO 414 MEADOW ST
WATERBURY CONN 06720............203 757-2021
EMP 10,000
District sales offices in all major cities

ANACONDA WIRE AND CABLE CO 605 THIRD AVE
NEW YORK N Y 10016..............212-TN-7-8000
R MCILVANE

ANADEX INSTRUMENTS, INC 7833 HASKELL AVE
VAN NUYS CAL 91406
TWX 910 495-1762 ....213 782-9527
K MATHEWS EMP 74 ENG 12 $1,000-$2,500M
Ala Currie Aerospace Assoc, Inc Box 1424
Huntsville........................536-5650
Ariz R A Mayes Co 4747 N 16th St Phoenix 279-5243
Cal Jay Stone & Assoc 140 Main St Los Altos ..948-4563
Colo R A Mayes Co Box 9 Broomfield 421-0706
Conn Instrument Assoc 234 Murphy Rd Hartford ..525-9367
Fla Currie Aerospace Assoc, Inc Box 13229
Orlando 855-0843
Ill A S & H Assoc 6272 W North Ave Chicago ..237-2343
Md K-G Sales 11151 Viers Mill Rd Wheaton 946-4055
Mass Instrument Assoc 30 Park Ave Arlington 648-2922
Mich Carter, McCormic & Peirce Inc 23995 Fwy Pk Dr
Farmington 477-7700
Minn Electro Prods Co 1636 Randolph Ave
St Paul 690-1146
Mo Harris-Hanson 2814 S Brentwood Blvd
St Louis........................962-9895
NJ Engel & Assoc Box 569 Ridgewood 444-1400
NM R A Mayes Co 8016 Zuni Rd SE
Albuquerque........................265-7989
NY Ossmann Instruments Inc 101 Pickard Dr
Syracuse 454-2461
Ohio Carter, McCormic & Peirce Inc 3406 N Main St
Dayton........................278-5873
Pa Engel & Assoc Box 425 Hatboro..........922-3270
Tex R A Mayes Co Box 1021 Richardson 235-3043
Wash Dewar & Assoc 6361 1st Ave S Seattle 763-2233
Can Whittaker Electronics, Ltd 1885 Wilson Ave
Weston, Ont........................247-7454
Can Whittaker Elctns, Ltd Box 216
Roxboro, Que 684-3000
BC Whittaker Elctns Ltd 1144 Millstream Rd
W Vancouver 926-3411

ANALOG DEVICES INC 221 FIFTH ST CAMBRIDGE
MASS 02142 TWX 710-320-0326 ......617 492-6000
M SALLEN EMP 275 ENG 35 UP TO $100M
ADV PGS 33,189
Ala Currie Aerospace Assoc 2603 Artie St
Huntsville........................536-5650
Ariz Barnhill Assoc 4900 E Indian School Rd
Phoenix 959-2115
Cal Synergen Inc 4868 Oak Park Ave Encino ...981-4150
Cal Synergen Inc 221 Town & Country Village
Palo Alto 328-3383
Colo Barnhill Assoc 1170 S Sheridan Blvd Denver .934-5505
Fla Currie Aerospace Assoc 2907 McCoy Rd
Orlando 855-0843
Ill Date Electronics Co 5505 N Menard Ave
Chicago 774-1452
Ind Data Electronics Co 1010 E 86th
Indianapolis 846-2593
Kan Technical Mktg Assoc 5827 Outlook Rd Mission
Md Rep-Tron Inc Box 1347 Silver Spring 588-6933
Mich Electro Sales Assoc 10745 Morang Dr
Detroit........................886-2280
Minn Date Electronics Co 8611 Harrison S
Minneapolis 881-6386
Minn Systems Engrg Assoc 8633 Harrison S
Minneapolis 881-6386
Mo Technical Mktg Assoc 2050 Woodson Rd St Louis
NM Barnhill Assoc 827 Penna Ave NE
Albuquerque........................265-7766
NY Labtronics, Inc 130 Pickard Bldg Syracuse ..454-9314
NY Harwood-Sandler 8243 Jericho Tpk
Woodbury 692-6100
NY Labtronics Inc 217 Parker Rd Hamburg
NY Labtronics Inc Kingston 338-1604
NY Labtronics Inc 3568 Moyer Rd
N Torawanda 695-1001
NC Currie Aerospace Assoc 614 Nissen Bldg
Winston Salem 725-1927
Ohio Electro Sales Assoc 851 E 222nd St
Cleveland 261-5440
Ohio Electro Sales Assoc Overlook Branch
Dayton........................426-5551
Pa Electro Sales Assoc 201 Penn Ctr Blvd
Pittsburgh 371-9449
Pa Wyncote Instrumentation 1616 Kenmare Dr
Dresher 643-2440
Tex Barnhill Assoc 3810 Westheimer Houston ...621-0040
Tex Barnhill Assoc 312 N Central Expwy
Richardson........................231-2573
Wash Avionics Liaison, Inc 6770 Perimeter Rd
Seattle 767-3870
Can Whittaker Electronics, Ltd 42 Howden Ave
Ottawa 5 Ont 224-1221
Can Whittaker Electronics, Ltd Box 216
Roxboro, Que 683-3621
Can Whittaker Electronics, Ltd 1885 Wilson Ave
Weston, Ont........................247-7454
For International Engrg Service Veitingergasse 159
1130 Vienna 0222-8246732
Den K Kamuk-Prebens Vaenge 7 Lyngby 01-877162
Fr Analog Devices S A 48 rue Athime Rue 92 Garches
Ger Analog Devices Gmbh 8000 Munchen
Reithmannstr 10
GB Analog Devices Ltd 59 Eden St Kingston-upon-
Thames Surrey
Neth Klaasing Electronics Singel 406 Amsterdam-C .246617
Ital G De Mico Via Manzoni 31 Milano 112 653-131
Jap Seki & Co Ltd
9 2-chome Nihonbashi-Koamicho Chuo-Ku
Tokyo 6694121
Nor Estronic Tollbugt 4 Oslo....................411685
Swed Stenhardt Komponentbolag Grimstagatan 89
27 Vallingby
Swit Digitana AG Gertrudstr 24 Zurich.......051-447575
BC Whittaker Electronics Ltd 1144 Millstream Rd
W Vancouver 926-3411
Belg Betea SPRL 15 Ave Geo Bernier
Brussels 5 02-498085
Isrl Stg Intl Ltd 52 Nachlat Benyamin St Tel Aviv ..53459
Fin Into Box 10153 11 Meritullinkato Helsinki 10 ..11-123

ANALOG GENERAL CORP 7 NEIL CT OCEANSIDE
N Y 11572 516-678-1441
H ZARON EMP 18 ENG 4

ANALOGIC CORP AUDUBON RD WAKEFIELD
MASS 01880 TWX 710-348-0425......617-246-0300
M FERBER EMP 60 ENG 12
Ala Mecko Assoc 3322 Memorial Pkwy
Huntsville 205 881-3721
Ariz B F A 4710 N 16th St Phoenix 602 264-6536
Cal W K Geist Co 1205 Airway Glendale....213 245-9501
Colo B F A 1309 S Inca St Denver 303 744-3301
Fla Mecko Assoc 115 Fifth Ave Indialantic .305 723-6924
Ill Ridgway Assoc 9420 Foster Ave
Chicago 312 992-2150
Ind Carter Elctns Inc 6333 Hollister Dr
Indianapolis 317-293-0696
Ky Ridgway East, Inc Box 5385 Lexington .606 299-1057
Mass R H Sturdy Co Inc 204 Worcester St
Wellesley Hills 617 235-2330
Mich WKM Assoc 1474 E Outer Dr Detroit
Minn Ridgway Assoc 4901 Garfield Ave
Minneapolis........................612 824-9059
NJ Moxon Electronics Corp 40 Coles Ave
Cherry Hill........................609 665-5444
NM B F A 1238 Ortiz SE Albuquerque 505 268-4387
NC Mecko Assoc 301 W Third St
Burlington........................919 226-7177
Ohio Ridgway East Inc 4654 Michael Ave
No Olmsted 216 777-6600
Okla B F A Inc 3216 E 21st St Tulsa 919 936-5295
Pa WKM Assoc 90 Clairton Blvd
Pittsburgh 412-892-2953
Tex B F A Inc Box 57888 Webster 713 482-7563
Utah BFA Corp 535 S Second W
Salt Lake City 801-355-2684

ANALOG TECHNOLOGY CORP
3410 E FOOTHILL BLVD PASADENA CAL 91107
TWX 910 588-3776 ....213 449-8440
F SCHUTZ EMP 87 ENG 24 $2,500-$5,000M

ANALYTICAL MEASUREMENTS, INC
31 WILLOW ST CHATHAM NJ 07928 ....201 273-7500
F PAULLY EMP 20 ENG 3

ANAREN MICROWAVE INC 478 E BRIGHTON AVE
SYRACUSE N Y 13210
TWX 710541-1507.......................315 475-1621
EMP 85 ENG 25 $2,500-$5,000M
Ariz Barnhill Assoc 4900 E Indian School Rd
Phoenix 602-959-2115
Cal Waldman Assoc 1094 W Evelyn Ave
Sunnyvale........................408-245-2500
Cal L & M Engrg Inc 9911 Inglewood Ave
Inglewood........................213-678-5409
Colo Barnhill Assoc 1170 S Sheridan Denver .303-934-5505
Conn Research Instruments Inc 14 Meadow Ridge Dr
Shelton 203-735-0902
Fla Technical Assoc 2319 E South St
Orlando 305-424-5681
Fla Technical Assoc 5302 NW 36th Way
Fort Lauderdale 305-584-4648
Ill Communications Engineers 7106 N Western Ave
Chicago 312-761-0548
Ind Communications Engineers 418 E Berry St
Fort Wayne 219-743-9866
Md Scientific Marketing Assocs 8817 Hunting La
Laurel 301-776-5130
Mass Research Instruments Inc 87 Terrace Ave
Burlington 617-272-1800
NJ Megargel & Himmelstein Assoc 8070 C Rte 130
Pennsauken 609-662-3081
NM Barnhill Assoc 827 Penna NE
Albuquerque 505-265-7766
NY Rotondi Assoc 16 Fisher Ave Tuckahoe .914-961-4338
NY J A Reagan Co Inc 6 Highland Ave
Albany 518-489-4777
NY J A Reagan Co Inc Box 2547
Newburgh........................914-561-4510
NY J A Reagan Co Inc 41 Woodberry Rd
New Hartford 315-732-3775
NY J A Reagan Co Inc 52B Crestmont w8rd
Binghamton 607-723-9661
NY J A Reagan Co Inc 891 Monroe Ave
Rochester 716-473-2115
NC Technical Mktg Assoc 5100 N Glen Dr
Raleigh........................919-787-2352
Tex Vista Engineering Assocs 777 S Central Expwy
Richardson 214-235-4547
Tex Vista Engineering Assocs 1614 S Post Oak Rd
Houston 713-622-5680
Wash Rush S Drake Assoc 6133 Maynard Ave S
Seattle........................206-763-2755

ANCHOR ALLOYS INC 968 MEEKER AVE BROOKLYN
N Y 11222
H DRAPKIN

ANCHOR METAL CO, INC DIV 966 MEEKER AVE
BROOKLYN N Y 11222
H DRAPKIN

ANCHOR PLASTICS CO INC 36-36 36TH ST
LONG ISLAND CITY N Y 11106 .... 212 RA 9-1494
J SHAPIRO EMP 120 ENG 4
Cal W S Harmon Co 6115 Venice Blvd
Los Angeles .... WE 7-1460
Ill Arnold Leff Sales 1046 Wilson Ave Chicago . LO 1-6831
Mich J Frank 18303 Muirland Detroit .... UN 4-4797
NJ Mech-Elec Sales Co 16 S Main St Medford . 254-8209
NY Wolcott-Park Inc 1149 Ridge Rd E
Rochester .... FI 2-3120
Ohio C B Miller 7825 Tecumseh Tr Cincinnati ... LO 1-7449

ANCHOR SPECIALTY MFG CO INC
300 HOLLISTER RD TETERBORO
N J 07608 .... 201 288-1939
W ZABLOCKY EMP 10 ENG 2 UP TO $100M

A & N CORP 511 HOWARD CT CLEARWATER
FLA 33516 813-446-0795
N VAUDREUIL EMP 4 ENG 1 $100-$250M
Cal West Kensington Engrg 1025 Glendale Blvd
Los Angeles 213-384-2010
Colo Klein Aerospace Co Box 1056
Englewood 303-781-4967
Ill Mesco Inc 10436 S Western Ave
Chicago 312-445-7121
Mass Industrial Eq & Sales Corp 84 State St
Boston 617-227-0838
NJ Truesdell Co Inc Box 77 Hollow Rd
Skillman 609-466-3200
NY W M Hicks Inc 4 Spruce Dr Roslyn 516-627-6150
Pa Kurt J Lesker Co 5635 Horning Rd
Pittsburgh 412-892-2996

ANCRONA CORP 65 E 55TH ST NEW YORK
N Y 10022 TWX 710-581-4513 .... 212 688-6286
H FREIWALD EMP 5 ENG 2 $1,000-$2,500M
GB Rastra Elctns Ltd 275 King St
Hammersmith-London
Ital Banto SRL Via F Filziz Milano
Swit Dimos AG Badenerstr 701 Zurich 626140

ANDERSEN LABORATORIES, INC
1280 BLUE HILLS AVE BLOOMFIELD
CONN 06002 TWX 710-425-2390 ...... 203 242-0761
A PARLEY EMP 325 ENG 45 $5,000-$10,000M
Ariz Ar/Tec Box 727 Scottsdale 602-947-6304
Cal Gary Janssen 12961 Woodlawn Tustin . 714-838-6160
Colo Waugaman Assoc 2785 N Spear Blvd
Denver 303-255-5000
Iowa Howard R Brown Sales Co 3400 Indian Rd S E
Cedar Rapids 319-366-0635
Kan Robinson & Assoc Box 466
Shawnee Mission 913-262-1374
Mich H Heym Assoc 1688 Buckingham Rd
Birmingham 313-644-9166
Minn Hasse & Assoc 3825 York Ave N
Minneapolis 612-588-0551
Tex Gillett Industries Co 5635 Yale Blvd
Dallas 214-363-0107

ANDERSON-JACOBSON INC 2235 MORA DR
MOUNTAIN VIEW CAL 94040 .... 415 968-2400
R JACOBSON EMP 75 ENG 12 $2,500-$5,000M
Ill Anderson-Jacobson Inc 222 E Wisconsin Ave
Lake Forest 312-295-1122
NJ Anderson-Jacobson Inc 284 Hackensack Ave
Hackensack 201-488-2525

ANDERSON POWER PRODS INC, CONNECTOR &
SWITCH PRODS DIV 145 NEWTON ST BOSTON
MASS 02135 TWX 710 339-0536 617-787-5880
C MYERS EMP 265 ENG 6 $5,000-$10,000M
Ariz Cosmic Control Co 5045 N 12th St Phoenix . 266-7661
Cal Control Switches, Inc 6241 W 89th St
Los Angeles 776-2766
Colo Mountain States Machy Co 1526 Blake St
Denver 303 244-7421
Conn Electro-Products Sls Co 150 S Broad St
Meriden 235-4040
DC Kalwey Assoc 1725 Eye St NW Washington . 338-4095
Fla G F Bohman Assoc 7040 Lake Ellenor Dr
Orlando 855-0274
Ga Emmett Rushin Co Box 486 Roswell 404 993-6498
Ill Harry J Kahn Elect Sales Co 2101 W Walnut St
Chicago 666-5315
Ind H J Kahn Electric Sales Co 1635 Gent Ave
Indianapolis 317 631-4154
La Jack R Cahall Assoc 641 Papworth Ave
Metairie 834-1345
Mass Electro-Products Sales Co Box 121
Waltham 899-8387
Mich Charles H Armstrong Co 570 Livernois Ave
Ferndale 566-2577
Minn Xylem Co 322 S 4th St Minneapolis 335-5205
Mo Zeppenfeld & Co 14 Westwood Forest
Kirkwood 822-2333
NJ C H Ribble Co Inc 31 DiCarolis Court
Hackensack 201 342-2602
NM Ralph B Black Co, Inc 1025 Hermosa Dr SE
Albuquerque 265-0144
NY George E Bowker, Inc 85 Great Arrow Ave
Buffalo 876-8387
NC Candor Co, Inc Bethania 924-1480
Ohio Arthur N Ulrich Co 1565 Alum Creek Dr
Columbus 253-2705
Pa Cross-Country Sls & Engrg Inc Box 381
Wayne 687-1368
Tex J T Jones 25 N Wynden Way Houston .. 713 621-2383
Utah James D Stephens Co 550 S 2nd W
Salt Lake City 355-3540

Wash T A Bender Co 1938 Fairview Ave E
Seattle 202 323-3600
Wis Harry J Kahn Elec Sales Co, Inc 1348 N 37th St
Milwaukee 933-3898
GB Colton E C Connectors Ltd Aetna Wks-Moor La
Cranham Upminster Essec .... UPM 4454

ANDO ELECTRIC CO LTD 7 19 4-CHOME KAMATA
OHTA-KU, TOKYO JAPAN TWX 246-6425 ... 733-1151
K OGATA EMP 1000 ENG 350 $5,000-$10,000M
NY Sumitomo Shoji America Inc 277 Park Ave
New York 922-2200

ANDONIAN ASSOCIATES, INC 26 THAYER RD
WALTHAM MASS 02154 .... 617 484-0500
R BYRNES EMP 25 ENG 6

ANDOVER CORP 318 N EARL AVE LAFAYETTE
IND 47904 .... 219 447-1157
T MARRS EMP 140 ENG 5 $1,000-$2,500M

ANDREW CORP 10500 W 153RD ST ORLAND PARK
ILL 60462 TWX 910-651-3340 .... 312 349-3300
R BICKEL EMP 550 ENG 80 OVER $10,000M
Cal Andrew Calif Corp 941 E Marylind Ave
Claremont 714 626-3505
Colo Andrew Corp 451 E 58 Ave Denver 303 222-1579
Mich Andrew Corp Box 1470 Rockville 301-762-1900
NJ Andrew Corp Box 416 Ridgewood 201 445-2500
Tex Andrew Corp Box 938 Richardson 214 235-1279
Wash Andrew Corp 11520 Lake City Way N E
Seattle 206 362-5335
Can Andrew Antenna Co Ltd 130 Berkley Ave
St Lambert Que 514 672-5833
For Electronics of Puerto Rico, Inc
Box 6412, Loiza Sta San Juan 23-3719
For Yong Kuk Kwon IPO Box 3364 Seoul Korea .. 23-3719
Fr Salies Import 65-67 Ave Jean Jaures
91 Palaiseau 920-4010
GB Andrew Antenna Systems Lochgelly Fife G B .. LOC 561
Swed Magnetic AB 161 Iibromma II Stockholm . 08-29.04.60
BC Andrew Antenna Co Ltd 422 6th St
New Westminster 604 526-4271
Belg E T I SA 219 rue Royale Brussels 3 13-31-38
Gr A E Devletoglou 20 Voukourestiou St
Athens 134 623-426
Ind Motwane Private Ltd 127 Mahatma Gandhi Rd
Bombay 1 252-337
Fin Oy Aseko AB Vuorikatu 22 Helsinki 10 .... 625 953
Aust Andrew Antennas 171 Henty St
Reservoir Vic 460-1544

ANDREW ENGINEERING CO 5727 W 36TH ST
MINNEAPOLIS MINN 55416 929-0391
K YOUNGBERG EMP 14 ENG 5 $500-$1,000M

ANGELICA UNIFORM CO 700 ROSEDALE AVE
ST LOUIS MO 63112 .... 314 863-0500
S ABELOV EMP 3000 OVER $10,000M

ANGSTROHM PRECISION, INC 7811 LEMONA AVE
VAN NUYS CAL 91405 .... 213 989-3061
H SCHUMER EMP 150 ENG 8 $1,000-$2,500M
Ala Massey Assoc 3818 Lakewood Dr Hunstsville
Ariz Gramer & Co 110 W Camelback Rd Phoenix
Cal Riker Maxson Components 9 Morlan Pl Arcadia
Colo Lindberg Co 6300 E Evans Denver 761-0455
Conn Riker Maxson 544 Main St Cromwell 624-7291
Fla Massey Assoc P O Box 13577 St Petersburg
Ill Riker Maxson 7544 W Oakton St Niles 345-6500
Ind Schroeder & Loomis 715 E 65th St Indianapolis
Mass Riker Maxson 418 Union Framingham 969-9710
Minn Beta Engineering Co 128 Jackson Ave N
Hopkins 938-2551
Mo Kelly-Schmitz-Winkeler 7546 Troost Ave
Kansas City
NM Data Handling Co 209 San Fablo SE Albuquerque
NC James L Highsmith & Co 3733 Monroe Rd
Charlotte
Ohio Riker Maxson Box 8086 Cincinnati
Tex Chas Hoffman Assoc Inc 777 S. Central Expwy
Richardson
Wash Seatronics Inc 5616 4th Ave S Seattle 783-3900
Can Ward Leonard of Canada 1070 Birchmont Rd
Toronto Ont
For National Atlantic Corp 50 E 42nd St
New York, N Y .... CI 7-2584

ANGSTROM TECHNOLOGY INC 1802 LYELL AVE
ROCHESTER NY 14606 716-254-9400

ANN ARBOR COMPUTER CORP 415 W HURON ST
ANN ARBOR MICH 48103 .... 313 761-2151
J STRAND EMP 35 ENG 10 $500-$1,000M

ANNIS CO, R B 1101 N DELAWARE ST
INDIANAPOLIS IND 46202 317-637-9282
EMP 15 ENG 3 $250-$500M
Cal Frank W Hooper Enterprises Box 581
Burlingame 344-3420
Ill Murphy & Dickey Co 10001 Derby La
Westchester 312-344-5660
Ky Marquis Machinery Inc Box 4061
Louisville 502-451-3070
Mich Fisher-Detroit 2832 E Grand Blvd
Detroit 313-872-5175
Minn Northern Mach & Supply 2010 Minnehaha Ave
Mnpls 612-335-1125
NY Robert F Lamb Co 1865 Kenmore
Buffalo 716-874-4900
NC Apex Machine Tool Supply Co Box 8005
Charlotte 704-399-0454
Ohio Waldrip Blankenburg & Co 7650 Chippewa Rd
Brecksville 216-526-1100
Va Hildenbrand Co Box 1060 Fairfax
Can Higginson Equip Sales Ltd Box 5011
Burlington Ont

ANODYNE, INC 1270 NW 165TH ST N MIAMI BEACH
FLA 33169 .... 305 NA 1-3641
E TURNEY JR EMP 150 ENG 5
NY Anodyne, Inc 215-45 Northern Blvd Bayside . 224-4000
NY S L Shafer Box 8324, Roselawn Br
Rochester 442-1407

ANRITSU ELECTRIC CO LTD
12-20 MINAMIAZABU 4 CHOME, MINATO-KU
TOKYO JAPAN TWX 242-2353 .... (442)8171
T IIZUKA EMP 2700 ENG 850 OVER $10,000M
ADV PGS 286,359,371,505,543,617

ANSLEY OLD EASTON RD DOYLESTOWN PA 18901
TWX 510-665-8105 .... 215 345-1800
D BYERS
Ariz Jewett Co Box 172 Scottsdale
Cal Western Sales Assoc Box 96 Mountain View
Conn John & Boweing Co 225 Montowese St Branford
Fla Reynolds & Assoc Box 1043 Eau Gallie
Ill Bill Selfridge 169 Lake St Mundelein
Mass John E Boeing Co 18 Muzzey St Lexington
Mich Villani Pitcher Inc 20233 Ann Arbor Trail
Dearborn
Minn Lloyd F Murphy & Assoc 730 Chicago Ave
Minneapolis 612 333-4511
NY H R C Assoc 390 Plandome Rd Manhasset
Ohio Technical Assoc Box 388 Fairborn 216 861-2626
Ohio Hudnall-Durnall Box 304 Terrace Park
Pa Avenair Ind Sales Assoc Box 234 Fluortown
Tex Koch Eng & Sales Co 309 Meadows Bldg Dallas
Wash D Mendenhall 15325 62nd Pl NE Bothell

ANSONIA WIRE & CABLE CO 111 MARTIN ST
ASHTON R I 02864 .... 401 724-6400
F CORCORAN EMP 242 ENG 4 $5,000-$10,000M
Cal K W Lockwood Co 15450 Cabrito Rd
Van Nuys 873-7766
Ill D S Davis Co 2919 N Paulina St
Chicago 312 327-4777
NJ Frank C Morris 21 Colorado Ave
Beach Haven 492-2550
NY C A Schroeder & Co Box 12 Flushing 353-9311
Wis D Radowicz 515 Glenview Ave
Wawautosa 414-476-4680

ANTENNACRAFT CO INC U S HWY 34W, BOX 1005
BURLINGTON IOWA 52601 .... 319 754-7575
J FEUQUAY EMP 31 ENG 1 $1,000-$2,500M
Cal Art Herman Co 6770 E Gage Ave
Belle Garden 213-927-2658
Colo B & B Electronics 2161 S Platte River Dr
Denver 303-935-4631
Fla John Thompson 322 Riverside Dr
Ormond Beach 677-2298
Ill G McL Cole Co 6514 W Higgins Rd
Chicago 312-774-3535
Ind Shamrock Elctn Sales 5750 N Ewing St
Indianapolis 251-7669
Mass Keene Sales Co 156 Broad St Lynn 595-1001
Mo Collins Carlson-Hempe 6825 N Baltimore
Kansas City .... GL 3-3203
NY Wm Tauber Co 151 Fayette Blvd
Syracuse 315 446-7094
Ohio Shamrock Elec Sales 805 Rockhill Ave
Dayton 216-298-3052
Pa Shamrock Elect Sales 1755 W Market St
Akron 216-298-3052
Tex Lund & Co 2215 N Olive St Dallas .... RI 8-8839
Wash Fleehart & Sullivan 3826 Woodlawn Park Ave N
Seattle 633-4979

ANTENNA PRODUCTS CO DIV COMMUNICATIONS
RSCH CO BOX 9588 AUSTIN TEX 78757 . 512-258-1651
G HAVENER EMP 75 ENG 4 $500-$1,000M
Va Antenna Products Co Box 574 Vienna 938-9600

ANTENNA SPECIALISTS CO 12435 EUCLID AVE
CLEVELAND OHIO 44106 .... 216 791-7878
R BEEBE
Cal Bassett & Moore 12045 Magnolia Blvd
N Hollywood 877-7129
Colo Koether-Cox Co 1325 S Inca St Denver ... PE 3-5561
Ga J E Joyner & Assoc Inc 868 York Ave SW, Sta A
Atlanta 758-7496
Haw Earl Assoc 1638 Kona St Honolulu 815-649
Ill Klem-Steffen, Inc 417 W Harrison St
Oak Park 921-1200
Ind Thomas & Sukup Inc 2060 E 54th St
Indianapolis .... CL 1-4574
Kan Maury E Bettis Co 423 N Fountain Wichita . 685-7441
Mass H A Chamberlin Hanscom Field Air Term
Bedford 274-0044
Mich Butchart-Rathsburg & Assoc
16637 E Warren Ave Detriot 882-1717
Minn Nick J Laub Co 3749 W Broadway
Robbinsdale .... JU 8-4663
Mo Maury E Bettis Co 3706 Broadway
Kansas City .... LO 1-0772
NJ Jules J Bressler Inc 4808 Bergenline Ave
Union City .... UN 4-9577
NY Leonard D Allen Inc Box 205 Syracuse 458-7470
Ohio Neal Bear Corp 3435 Streetsboro Rd
W Richfield 659-3331
Ore Earl & Brown Co Inc 2041 S W 58th Ave
Portland 292-9145
Pa Nebco Assoc Inc 1974 Gregory Ave
Monroeville 824-2111
Tex Maynard Sales Co 158 Express St Dallas ... RI 2-2384
Wash Earl & Brown Co Inc 422 First Ave W
Seattle 284-1121
Can Robert J Buckland Co Box 367, Sta B
London, Ont 432-7731
For Minthorne Intl 64-14 Woodside Ave
Woodside, N Y .... TW 9-8888

ANTEX LTD ARMADA WAY PLYMOUTH
DEVON ENG PLY-67377
T RAYNER EMP 40 ENG 2
Mass M M Newman Corp 79 Clifton Ave Marblehead

ANTI-CORROSIVE METAL PRODUCTS CO, INC
BOX 1894 ALBANY N Y 12201 .... 518 732-7711
J MENGEL EMP 100 ENG 5 $2,500-$5,000M
Ala Anti Corrosive Metal Prods 912 1st Ave N
Birmingham 328-7587
Cal Anti Corrosive Metal Prods
1420 Monterey Pass Rd Monterey Park .. AN 8-2545
Colo Regional Sls Co 1719 Boulder Ave Denver .. GE 3-1376
Fla Anti Corrosive Metal Prods 1920 W 4th Ave
Hialeah 888-9551
Ga Anti Corrosive Metal Prods
1478 Chattahooche Ave Atlanta 355-4253
Ill Anti Corrosive Metal Prods 560 W Lake St
Chicago 346-6565
Md Anti Corrosive Metal Prods 7307 Pulaski Hwy
Baltimore 866-4848
Mass Anti Corrosive Metal Prods 9 Lowell Ave
Winchester 729-8709
Mich J R Warren 1015 Pinecrest Ave SE
Grand Rapids 452-9541
Mo Smith-Moschner & Co
6025 Chippewa at Hampton St Louis .... FL 1-1177
NY Anti-Corrosive Metal Prod 159 W Sandford Blvd
Mt Vernon 325-5990
Ohio Anti Corrosive Metal Prods 2444 Lakeside Ave
Cleveland 781-0755
Pa Anti Corrosive Metal Prods
178 W Wingohocking St Phila 324-2211
Tex Anti Corrosive Metal Prods 1402 Hutchins
Houston 228-4200
Wash Anti Corrosive Metal Prods 4760 Ballard NW
Seattle SU-4-4674

ANTRONIC CORP 4942 W DIVISION ST CHICAGO
ILL 60651 .... 312 287-5110
L PRUSOW
Ariz B & G Sales Co 305 E Indian School Rd
Phoenix 602 264-5761
Cal Wayne Dinsmore Co 16033 Ventura Blvd
Encino 213 622-2849
Colo Electronix Specialties Co 3629 S Fox St
Englewood 303-781-4409
Fla Len Haas Co 1930 NE 187th Dr
N Miami Beach 305-949-9143
Haw Earl Assoc 1638 Kona St Honolulu 808-949-5953
Ill Markal Sales Corp 5787 N Lincoln Ave
Chicago .... LO 1-7290
Ind Charles Scheffler 1133 Navajo Trail
Indpls 317 253-6337
Md Brothers & Conneen 6302 Lincoln Ave
Baltimore .... 301 RO 4-7189
Mass Keene Sales Co 156 Broad St Lynn 595-1001
NJ S Fisher Elect Sales 161 Cedar La
Teaneck 201 836-6661
NM Lee Davis Co 1415 Richmond Dr NE
Albuquerque 505-256-1749
Ohio Robert Peters Co 25000 Euclid Ave
Cleveland .... AN 1-2330
Pa Brothers & Conneen 131 Harned Rd
Springfield .... KI 3-8641
Tenn L Jones 5401 Poplar Ave Memphis 901 683-7616
Tex Antle-Smith Sales 2721 Brookfield Ave
Dallas 214-FL7-7279
Wash Dave Miller Sales Co 2323 N 45th St
Seattle .... ME 2-7070
For Magnus-Inter-America Inc 5715 Lincoln Ave
Chicago, Ill 334-1503

ANZAC-NORWALK DIV ADAMS-RUSSELL
121 WATER ST NORWALK CONN 06854
TWX 710-468-3753 203-853-9411
C ERWIN
For Sales Office/Rep Listings see Anzac-Waltham Div
Adams-Russel

ANZAC-WALTHAM, DIV ADAMS-RUSSELL
39 GREEN ST WALTHAM MASS 02154
TWX 710-324-6484 .... 617 899-1900
B MCCARTHY EMP 43 ENG 10
Cal Wright Engineering 175 S San Antonio Rd
Los Altos 415-941-4405
Fla Brennan Assoc 211 S Ewing St
Clearwater 813 446-5006
Ill R F Specialists 118 W Higgins Road
Park Ridge 312-698-2044
Mass Russell Engineering Sales 181 West St
Waltham 617-899-6618
NY DAL Tech Devices 366 N Broadway
Jericho 516-433-7448
Tex Stevens Sales Box 34493 Dallas 214-241-2574
Va John Hopkins Assoc 4520 Starr Jordan Dr
Annandale 703 280-2086
Wash Paratech Box 5427 Seattle 206 783-3900
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 11 Que 514 389-5914
Fr Equipments Scientifiques 35 Chemin des Roses
92 Suresnes 772 15 18
GB Wessex Electronics Ltd Baldwin St
Bristol 0BR 2 26-952

AO INSTRUMENTS CO ANALYTICAL INSTR DIV
200 S GARRARD BLVD RICHMOND
CAL 94804 .... 415 235-9110
C COLISTA EMP 150 ENG 8

A O K TOOL CORP 82-21 SUTTER AVE OZONE PARK
N Y 11417 212-835-2740
EMP 4 ENG 1 $100-$250M
Conn Robt H Horen Co 72Chambers St Fairfield
Ill Hodgkinson Assoc 1141 Ranch Rd Lake Forest
Mich Tecnetics 724 N Rochester Rd Clawson

APAHOUSER CORP OF N E 1312 BOYLSTON ST
BOSTON MASS 02215 .... 617 KE 6-1223
J GATELY EMP 80 ENG 2 $1,000-$2,500M

A P CIRCUIT CORP 865 WEST END AVE NEW YORK
N Y 10025 .... 212 222-0876
D ELLERN
ADV PG 267

Va Schibley Assoc, Inc 10604 Warwick Ave
Fairfax 591-3008
BC Canadian Dynamics 8264 St George St
Vancouver 325-6014

APEX ELECTRONICS, INC 100 8TH ST PASSAIC
N J 07055 .... 201 773-1220
M DOROTA EMP 50 ENG 1 $500-$1,000M

APEX MACHINE CO 3000 NE 12TH TERR
FORT LAUDERDALE FLA 06150 .... 305 566-1572
A CONINGSBY EMP 30 ENG 5
NY Apex Machine Co 14-21 118th St
College Point .... FL 8-2010

APEX WIRE & CABLE CORP
380 VANDERBILT MOTOR PKWY HAUPPAUGE
N Y 11787 .... 516 273-3322
S FORTINO EMP 40 ENG 3 $1,000-$2,500M
Cal D Z Cook Co 1480 Egbert Ave
San Francisco 415-822-6033
Ga C C Myrick Jr Kennedy & Elm Sts NW
Atlanta 404-522-8953
Ill Pearson-Becker Co 643 N Kedzie Ave
Chicago 312-826-2600
Mass Shapiro Sales Co 44 Lee Rd Needham .. 617-449-0432
Mich Hoffman Bros 2301 Clay Ave Detroit . 313-TR-3-7550
Ohio A C Koenig 1508 E 45 St Cleveland ... 216-237-5908
Pa David D Bleiman Co 444 Fairmount Ave
Philadelphia 215-627-1800

API INDUSTRIES INC 666 INDUSTRIAL DR
ELMHURST ILL 60126 379-1777
R GIESEL EMP 700 ENG 10 OVER $10,000M

API INSTRUMENTS CO 11655 CHILLICOTHE
CHESTERLAND OHIO 44026
TWX 810-427-9230 .... 216 729-1611
R PUGSLEY EMP 650 $5,000-$10,000M
ADV PG 363
Cal API Instruments Co 5770 N Rosemead Blvd
Temple City 287-0941
Colo Bowden Eng & Sales Co Denver 255-7144
Ga API Instruments Co 175 W Wieuca Rd NE
Atlanta 252-2445
Ill API Instruments Co 207 S Emerson St
Mt Prospect 392-5770
Kan Thunderbird Eng Co 4014-A W 95th St
Prairie Village 642-7220
Mass API Instruments Co 14 Temple St
Framingham Centre 873-9741
Mich API Instruments 22784 Orchard Lake Rd
Farmington 477-2770
Minn Robert W Marshall Co 6106 Excelsior Blvd
Mnpls 929-0457
Mo Thunderbird Eng Co 400 Brookes Dr
Hazelwood 731-4343
NJ API Instruments Co 162 Rt 208 Oakland ... 337-6163
NM Hytronic Msmts Inc 206 San Pablo SE
Albuquerque 268-3941
NY KLM Assoc 8 Bear Hill Dr Palmyra 597-9776
Pa API Instruments Co 3545 Chester Pike
Newtown Square 353-0772
Tex Carey-Wolf Co Box 12425 Fort Worth 738-1702
Wash Comptronics 3220 16th Ave W Seattle 284-4842
Can Brian Engineering Ltd 2445 Duncan Rd
Montreal 9 Que 735-1671

APM-HEXSEAL CORP 44 HONECK ST ENGLEWOOD
N J 07631 TWX 13-3403 .... 201 569-5700
C CZAPINSKI EMP 50 ENG 2
Ariz Howe & Howe 4209 N 18th St Phoenix . 602-264-7972
Cal Jack Logan & Assoc 801 Mahler Rd
Burlingame 415-697-6100
Colo Electronic Component Sales, Inc
4783 S Quebec St Denver 303-771-6200
Conn Gerber Sales Co Box 2917
New Haven 203-SP-7-6279
Fla Buchanan & Abrams Assocs 1512 E Concord Ave
Orlando 305 423-8995
Ill Hill & Gray Inc 2 Salt Creek La
Hinsdale 312-325-4810
Ind Val Skol Sales Inc 510 Ft Wayne Bank Bldg
Ft Wayne 219-742-9122
Kan Penzner Assoc, Inc 5600 W 95th St
Overland Park 913-DU-1-0004
Md Nat Kronstadt Assoc 817 Silver Spring Ave
Silver Spring 301-585-6141
Mass Gerber Sales Co 176 Second Ave
Waltham 617-891-8040
Mich C B Jensen & Assoc 26711 Woodward Ave
Huntington Woods 313-399-0900
Minn Servco 521 S 7th St Minneapolis 612-FE-9-8611
Mo Penzner Assoc, Inc 400 Brooks La
Hazelwood 314-731-4334
NM Electronic Component Sales, Inc
209 San Pablo SE Albuquerque 505-256-3663
NY Friedman-Smith Elctn Sales 519 S 5th Ave
Mt Vernon .... MO 4-4866
Ohio Val-Skol Sales Inc 12417 Cedar Rd
Cleveland Hts 216-462-2822
Pa Tyler Griffin Co 46 Darby Rd Paoli 215-647-1550
Tex Robert P Votteler 3508 Greenville Ave
Dallas 214-TA-3-2320
Utah Electronic Component Sales, Inc 445 E 2nd South
Salt Lake City 801-355-5327
Wash Farwest Agencies 12410 S E 32nd St
Bellevue 206-SH-7-1515
Can A Deskin Sales Corp 1565 Louvain St W
Montreal, Que 514-384-1420
For Lindor Intl Corp 10 E 40th St
New York, NY 212-MU-5-6740

APOGEE CHEMICAL INC DE CARLO AVE RICHMOND
CAL 94804 415-233-4684
J MARGULIS EMP 50 ENG 6 $1,000-$2,500M

APOLLO CORP 5-1 TOGOSHI 6-CHOME
SHINAGAWA TOKYO JAPAN 03-786-2001
M KOHMOTO EMP 250 ENG 20 $1,000-$2,500M

APPAREILLAGE ELECTRIQUE CEHESS
68 AVE DE CHOISY PARIS FRANCE 707-7509
M DOIGNON EMP 300 ENG 4
For Soc Luso Electrica
Calcade Do Marques de Abrantes 11-13
Lisboa 2 .... PPC 668061 (5 Lignes)
For Ets P. Valere-Chochod 16, rue de Briey
Casablanca 607-41/42
Ger Haacke & Sohne Gr Reichenstra 27
Hamburg 11 .... 33 49 48
Ital Dell'Acqua Via S Venerio 12 Milano 32 20 53
Swed Olaf Klevestav AB Box 601 Hagersten 6
Stockholm
Belg Lacoppe 15 Rue Gabrielle Bruxelles 18 ...... 44 76 82
Spn S A M E N Marquer del puerto 6,3 Aptdo 953
Bilbao

APPLACHIAN ELECTRONIC INSTRUMENTS INC
810 W MONROE AVE RONCEVERTE
W VA 24970 .... 304 647-5855
C NICKELL EMP 65 ENG 3 $500-$1,000M
NY Toyomenka, Inc 2 Broadway New York .... DI 4-6130
GB Appalachian Meiners Devices Ltd 25/35 City Rd
London .... MON 2272
Aust Sewmaco Pty Ltd 116 Bouverie St
Carlton, N.3 .... 34 4045

APPLETON ELECTRIC CO
1701 W WELLINGTON AVE CHICAGO
ILL 60657 .... 312 EA 7-7200
P DARBY EMP 2000 ENG 50 OVER $10,000M
Ala J Cooley 2305 Arlington Birmingham ...... AL 1-5400
Ariz C Evans Box 1614 Scottsdale 947-5054
Cal P Dolan 1331 'T' St Sacramto 442-5913
Cal H Buegel 365 De Haro San Francisco 626-7922
Colo D Ward 842 Walnut Denver 244-4888
Conn F Allen 24 Birchwood Rd Seymour 888-9669
Fla D Adams 1026 E Henry Tampa 237-6241
Ga R McDaniel 1316 Logan Cir NW Atlanta 355-1580
Haw R Wallace 1204 Waimanu Honolulu 507-135
Ill W J Hayes 12108 Lake Forest Dr Dunlap ... 243-7833
Ind C Davis 4002 Meadows Indianapolis 546-7890
Ky J McGuire 4115 Blossomwood Louisville 459-5315
La B Slimmer 100 Maumaus Ave New Orleans . FO 6-4007
Me J J Morris Co Box 878 Portland 773-9553
Md R Fairbanks 511 N Charles St Baltimore ... PL 2-2666
Mass G Jones 555 High St Westwood .... DA 6-5440
Mich M Vaughan 18040 James Couzens Detroit . UN 3-7785
Minn J Burnham 529 S 7th St Minneapolis ..... FE 5-5702
Mo E W Stohlmann Jr 2001 Big Bend St Louis . MI 7-6622
Neb M D Patton 33 Kiewit Plaza 3555 Farnam
Omaha 344-4588
NJ H Brennan, Jr 829 Wyoming Ave Elizabeth .. 289-8188
NY E A McNeill 48-49 33rd St LIC .... EX 2-8515
NC Louis Lichtefeld 4872 Hawkwood Tr
Winston-Salem 723-8017
Ohio B Fellows 5744 Indianola Ave Worthington .. 885-0545
Okla R Simmons 5316 S Rockford Tulsa ...... WE 9-4912
Ore D Olson 3541 SW Beaverton Hwy Portland .. 246-8505
Pa P Meisel 11 Dell Dr Irwin .... PO 1-8840
SC J Rodney Jordan Box 10387 Federal Sta
Greenville 233-0083
Tenn D Hester 3329 Popular Ave Memphis 327-7837
Tex E E Fort 5409 W 7th St Lubbock SW-9-5641
Wash L Kepler 1033 Sixth Ave S Seattle ...... MA 2-5740
Wis R McGee 2961 Humbolt Rd Green Bay .... HE 7-9181
For Henry Stern & Co 183 S Central Hartsdale, N Y

APPLIED CONTROL CO 98 E LINDSLEY RD
CEDAR GROVE NJ 07009 .... 201 256-5655
W MEREL EMP 11 ENG 3 $100-$250M

APPLIED DEVICES CORP 112-03 14TH AVE
COLLEGE POINT N Y 11356
TWX 710 582-2641 .... 212 HI 5-4200
V DOWER EMP 420 ENG 60 OVER $10,000M
Ala W Johnson 902 Bob Wallace SE Huntsville .. 536-7797
DC J Clair 1629 K St NW Washington 296-3087
Wash E Gottschalk 16415 NE 20th Bellevue SH6-7541

APPLIED DYNAMICS, INC 2275 PLATT RD
ANN ARBOR MICH 48106
TWX 810 223-6050 .... 313 791-4444
C MOORES EMP 410 ENG 33 $5,000-$10,000M
Ala Applied Dynamics, Inc 3322 S Memorial Hwy
Huntsville 883-2710
Cal J D Kennedy Co 770 Welch Road Palo Alto .. 327-0413
Md Ron Davies Assoc Box R Bethesda 652-6330
Mass Applied Measurements, Inc 86 Hayward Rd
Acton 263-2766
Mich Chandler Assoc 32401 W 8 Mile Rd Livonia .. 476-5800
NY Travco Assoc, Inc 142 Mineola Ave
Roslyn Hgts 621-3223
Can B H McGregor Box 156 - Sta H Toronto 13 . 0X 9-5521
Den Scaniameter 11 Nytorv Copenhagen
GB Van Rietschoten & Houwens' 22 Park St
Croyden Surrey
Neth Van Rietschoten & Houwens' 2-6 Egmondstr
Rotterdam
Jap Tokyo Aircraft Instr Co, Ltd
1600, Izumi, Komae-Machi
Kitatama-gun, Tokyo
Swed Salen & Wicander
Fack Sundbyberg 3 Vretenvagen 4 Salna
Belg Konig & Hartman 53 Rue Gachard Brussels
Isrl J Pekelman Import Trading House Ltd Box 1278
Tel-Aviv
Aust Philips Electrical Pty, Ltd 69-79 Clarence St
Sydney

APPLIED ELECTRO MECHANICS INC 2350 DUKE ST
ALEXANDRIA VA 22314 .... 703 548-2166
H BROWN EMP 100 ENG 7 $500-$1,000M

APPLIED ELECTRONICS COWAN RD BURLINGAME
CAL 94010 415-697-2701
R HETRICK

APPLIED ENGINEERING PRODS DIV SAMARIUS INC
26 E MAIN ST ANSONIA CONN 06401
TWX 710 451-2495 .....203 735-8686
A GUEST EMP 150 ENG 2 $1,000-$2,500M

Cal	Progress Electronics 1738Colorado Ave Santa Monica	213-479-8884
Fla	Orbe Inc 4110 Central Ave St Petersburg	813-894-0687
Mass	Reptron, Inc. 110 Great Rd Bedford	617-275-8585
Mo	Boweng 10414 Oak Ave St Louis	314-429-7327
NM	ALS Electronics Box 11626 Albuquerque	505-268-9600
NY	Fairmount Elctn Sales Corp 60 Smith St Farmingdale	516-694-8200
Pa	Heller-Freedman Assoc Box 391 Ardmore	215-649-3679
Tex	Elgin B Robertson Inç 1339 Plowman Ave Dallas	214-942-8486
Can	J G Weiss Ltd 5725 Monkland Ave Montreal 28, Que	514-489-6887

APPLIED MAGNETICS CORP, COMPUTER MEMORIES DIV 75 ROBIN HILL RD GOLETA
CAL 93017 TWX 910 334-1195 .....805 964-4881
H BAILEY EMP 800 ENG 65 OVER $10,000M

Ala	Col-Ins-Co, Inc Box 4246 Huntsville	539-1771
Ariz	Thorson Co 2505 E Thomas Rd Phoenix	956-5300
Colo	Thorson Co 300 E Hampden Ave 315 Englewood	789-1841
Fla	Col-Ins-Co, Inc Box 13189 Orlando	423-7615
Ga	Col-Ins-Co, Inc 200 Carrington Way Marietta	422-8327
Ill	Cozzens & Cudahy 901 W Devon Ave Rosemont	825-1144
Ind	Cozzens & Cudahy 44 Kirk Dr Indianapolis	244-2456
Md	L G White & Co 1110 Fidler Lane Silver Spring	585-3141
Mass	B & W Assoc B St Burlington	275-9177
Mich	Cozzens & Cudahy 127 Edmund St Royal Oak	585-5159
Minn	Cozzens & Cudahy 7710 Computer Ave Minneapolis	920-1022
Mo	Cozzens & Cudahy 10534 Natural Bridge Rd St Louis	423-1234
NJ	Graydon-Sherman Inc 230 Madison Ave Morristown	538-9246
NM	Thorson Co 5921 B Lomas Blvd NE Albuquerque	265-5665
NY	Graydon-Sherman Inc Davis Bldg Fayetteville	637-9861
NC	Col-Ins-Co, Inc Box 5597 Winston-Salem	765-3650
Ohio	Cozzens & Cudahy 735 S Court St Medina	725-5660
Okla	S E I Inc 2015-C S Lakewood Tulsa	835-2481
Tex	S E I Inc 621 Meadows Bldg Dallas	363-1671

APPLIED MAGNETICS CORP DRUM & DISC HEAD DIV 75 ROBIN HILL RD GOLETA CAL 93017
TWX 910-334-1195 .....805 964-4881
D GILLUM EMP 800 ENG 65 OVER $10,000M

Ala	Col-Ins-Co Inc Box 4246 Huntsville	539-1771
Ariz	Thorson Co 2505 E Thomas Rd Phoenix	956-5300
Cal	King Assoc 1092 W Evelyn Ave Sunnyvale	738-2570
Colo	Thorson Co 300 E Hampden Englewood	SU 9-1841
Fla	Col-Ins-Co Inc Box 13189 Orlando	423-7615
Ga	Col-Ins-Co Inc 200 Carrington Way Marietta	422-8327
Ill	Holmes & Assoc 306 Busse Park Ridge	692-2101
Mass	B & W Assoc 'B' St Burlington	275-9177
Minn	Hamilton Grayden & Flemmer Inc Hamilton Rd Hopkins	941-1120
NJ	Graydon-Sherman Inc 230 Madison Ave Morristown	JE 8-9246
NM	Thorson Co 5921 B Lomas Blvd N E Albuquerque	265-5665
NY	Graydon-Sherman Inc Davis Bldg Fayetteville	637-9861
NC	Col-Ins-Co Inc Box 5597 Winston-Salem	765-3650
Ohio	Ashby Assoc 4130 Linden Ave Dayton	252-5627
Okla	S E I Inc 2015-C S Lakewood Tulsa	835-2481
Tex	S E I Inc 621 Meadows Bldg Dallas	363-1671

APPLIED MAGNETICS CORP, MAGNETIC TAPE HEAD DIV 75 ROBIN HILL RD GOLETA CAL 93017
TWX 910-334-1195 805-964-4881
W GRAHAM EMP 800 ENG 65 OVER $10,000M

Ala	Col-Ins-Co Inc Box 4246 Huntsville	539-1771
Ariz	Thorson Co 2505 E Thomas Rd Phoenix	956-5300
Cal	King Assoc 1092 W Evelyn Ave Sunnyvale	738-2570
Colo	Thorson Co 300 E Hampden Ave 315 Englewood	SU9-1841
Fla	Col-Ins-Co Inc Box 13189 Orlando	423-7615
Ga	Col-Ins-Co Inc 200 Carrington Way Marietta	422-8327
Ill	Holmes & Assoc 306 Busse Park Ridge	692-2101
Mass	B & W Assoc B St Burlington	275-9177
Minn	Hamilton Grayden & Flemmer Inc Hamilton Rd Hopkins	941-1120
NJ	Graydon-Sherman Inc 230 Madison Ave Morristown	JE8-9246
NM	Thorson Co 5921 B Lomas Blvd N E Albuquerque	265-5665
NY	Graydon-Sherman Inc Davis Bldg Fayetteville	637-9861
NC	Col-Ins-Co Inc Box 5597 Winston-Salem	765-3650
Ohio	Ashby Assoc Inc 4130 Linden Ave Dayton	252-5627
Okla	S E I Inc 2015-C S Lakewood Tulsa	835-2481
Tex	S E I Inc 621 Meadows Bldg Dallas	363-1671

APPLIED MICROWAVE LAB, INC ANDOVER ST ANDOVER MASS 01810
TWX 617 475-8686 .....617 475-8500
S KING EMP 38 ENG 7 $500-$1,000M

Ala	W A Brown & Assoc 1314 Buford St NW Huntsville	539-6884
Cal	Blair Assoc 421 N Brookhurst St Anaheim	635-1350
Cal	Kipp Assoc 90 Stadler Dr Woodside	415-851-0123
Colo	Walter Engrg Assoc 880 Bonnie Brae Blvd Denver	303 777-5585
Fla	W A Brown & Assoc 222 Weber Ave Orlando	425-5505
NJ	G Curtis Engel & Assoc 210 S Broad St Ridgewood	201-444-1400
NY	B D Hummel Co 2224 Maynard Ave Utica	732-2370
NC	W A Brown & Assoc Winston-Salem	725-5384
Ohio	Ridgway East Inc 4654 Michael Ave North Olmstead	216 777-6600
Tex	Spacetronics 4515 Prentice St Dallas	EM 8-1215
Utah	Walter-Powers Assoc 2422 Camino Way Salt Lake City	801 277-5174
Can	Microwave Specialty Co, Ltd 8490 LaFrenaie St Montreal, P Q	324-1780
For	Emec, Inc 55 E Old Country Rd Hicksville	516 931-3700

APPLIED PERIPHERAL SYSTEMS INC
7120 HARWIN DR HOUSTON TEX 77036 .713-785-5040
L LAYCOCK EMP 50 ENG 3 UP TO $100M

Cal	T J Shiell Assoc Menlo Park	415-323-6404
Colo	Industrial Systems Denver	303-244-5613
Fla	Dickerson Engrg Sales Co Eau Gallie	305-254-1591
Mass	ITM Assoc Sudbury	617-443-8414
Mont	Industrial Systems Billings	406-252-6671
NJ	JJS Assoc Mountainside	201-233-4562
Okla	Lucas Controls Co Tulsa	918-743-7557
Pa	Diversified Devices King of Prussia	215-265-7925
Tex	Linco-Electromatic Inc Midland	915-694-9644
Va	Dynarep Arlington	703-536-5088
Wyo	Industrial Systems Casper	307-265-4052

APPLIED RESEARCH AUSTIN INC BOX 9406
AUSTIN TEX 78756 .....512 465-9526
J FLYNN EMP 5 ENG 1 UP TO $100M

APPLIED RESEARCH, INC 76 S BAYLES AVE
PORT WASHINGTON N Y 11050
TWX 510-223-0822 .....516 883-5700
C COSTAS EMP 90 ENG 12 $1,000-$2,500M

Ala	Currie Aerospace Assoc Inc Box 1424 Huntsville	536-5650
Cal	3 DBM Inc 5388 Sterling Ctr Dr Westlake Village	213-889-2300
Fla	Currie Aerospace Assoc Box 13229 Orlando	855-0843
Ill	Berndt Assoc 6414 W Belmont Ave Chicago	312-283-0713
NM	Electronic Enterprises 5206 Constitution Ave NE Albuq	256-1585
NY	Salsbury Assoc Inc 331 W John St Hicksville	938-1080
Pa	Holdsworth & Co 8 Smedley La Newtown Square	215 356-8550
Tex	Texas Avionics Co 4515 Prentice St Dallas	214 368-3566
For	EMEC Inc 55 E Old Country Rd Hicksville, NY	

APPLIED RESEARCH LABS 9545 WENTWORTH ST
SUNLAND CAL 91040
TWX 910-492-1492 .....213 352-6011
L EIKREM EMP 344 ENG 14

Cal	Applied Research Labs Box 259 Walnut Creek	933-0620
Ga	Applied Research Labs 720 Longwood Dr NW Atlanta	404 351-2681
Ill	Applied Research Labs 905 W Hillgrove Ave La Grange	312 352-5990
Md	Applied Research Labs 4811 Leeds Ave Baltimore	301 247-2880
Mass	Applied Research Labs 235 Bear Hill Rd Waltham	617 899-3460
Mich	Applied Research Labs 20200 W Outer Dr Dearborn	565-6633
NJ	Applied Research Labs Box 1203 Englewood Cliffs	201-871-3073
Ohio	Applied Research Labs 19 Atterbury Blvd Hiram	216-569-7555
Pa	Applied Research Labs 107 Terrace Ct Dr Pittsburgh	412-881-1600
Tex	Applied Research Labs 1307 Comanche Richardson	214 213-1596
Fr	FICA Rt de Levis St-Nom Le Mesnil St Denis S & O	923-0881
Ger	Applied Research Labs Graf-Adolfstr 80 4 Dusseldorf	20031
GB	Applied Research Labs Wingate Rd Luton, Bedfordshire	53474
Swed	Applied Research Laboratories, Inc Nordiska AB, Gardsvagen 4 Solna	82 56 50
Swit	Applied Research Labs Ave Montchoisi 9 1000 Lausanne	021/26 8383
Aust	ARL Pty Ltd 82 Alexander St Crow's Nest NSW	

A P T ELECTRONIC INDUSTRIES LTD
CHERTSEY RD BYFLEET SURREY ENGLAND ...41131
S STRINGER EMP 500 ENG 10 $2,500-$5,000M

A P W CO INC 72 W MAIN ST ROCKAWAY
N J 07866 .....201 627-0643
A PFEIL EMP 17 $100-$250M

NY	Abbott-Gordon Assoc 3939 Wicks Ave Seaford	516 SU 1-5256
Pa	W D Staats 2766 Murray Ave Cornwells Heights	215 ME 9-5231

AQUADYNE INC 414 MAIN ST EAST FALMOUTH
MASS 02536 .....617 548-7777
K HENDERSON EMP 5 ENG 2 UP TO $100M

ARACON ELECTRONICS INC 344 E 49TH ST
NEW YORK N Y 10017 212-752-8020
H SALTZMAN EMP 10 ENG 1 $100-$250M

Ariz	Shefler-Kahn Co 2017 N 7th St Phoenix	602-258-7893
Cal	Ewing-Foley Inc 900 N San Antonio Rd Los Altos	415-941-4525
Conn	Gerber SalesCo Inc 31 Broadway New Haven	203-777-6279
Ga	Bill Brown Co Box 407 Tucker	404-939-7075
Ill	Bernard Golbus & Assoc	
Ind	Thomas & Sukup Inc 2060 E 54th St Indianapolis	317-251-4574
Mass	Gerber Sales Co Inc 176 Second Ave Waltham	617-891-8040
Mich	Shalco Inc 23529 Woodward Ave Ferndale	313-547-4771
Mo	Venco Inc 8115 Troost Kansas City	816-444-0683
NY	Lectro-Met Sales Assoc 1 Barstow Rd Great Neck	516-466-3030
Pa	Nebco Assoc 1974 Gregory Ave Monroeville	304-344-1111
Tex	Texport Co 2411 Farrington St Dallas	214-631-6270
Wash	Dave Miller Sales 2319 N 45th St Seattle	206-632-7070

ARCO ELECTRONICS DIV. LORAL CORP.
COMMUNITY DR GREAT NECK N Y 11021
TWX 510 223-0804 .....516 HU 7-0500
EMP 250 ENG 10

Cal	Arco Pacific Div 3945 Bohannon Dr Menlo Park	415-324-1356
Ill	Arco Electronics Div 75 Gaylord St Elk Grove Village	312-439-8100
Tex	Arco Electronics, Inc 1610 Industrial Ct Arlington	817-277-2231

ARCO S P A CORA SEMPIONE 73 MILANO ITALY .389867
G CROCE EMP 700 ENG 22 $5,000-$10,000M

ARDEL CORP 619 JUSTIN AVE GLENDALE
CAL 91201 .....213 245-9255
E HARRINGTON EMP 17 ENG 6 $250-$500M

AREMCO PRODUCTS INC BOX 145
BRIARCLIFF MANOR N Y 10510 .....914 762-0685
H SCHWARTZ EMP 15 ENG 2 $250-$500M

Ariz	C D Assoc Box 15566 Phoenix	
Cal	J Delaney 3324 E Vine Ave Orange	
Fla	Gra-Mar Inc 3113 Lawton Rd Orlando	
Ill	J Cook 303 Hazelwood Dr Naperville	312 355-8448
Tex	R Marston Box 1006 Richardson	

ARENBERG ULTRASONIC LAB, INC 94 GREEN ST
JAMAICA PLAIN MASS 02130 .....617 JA 28640
D ARENBERG EMP 20 ENG 3 $100-$250M

Jap	Hakuto Co Ltd 1 Kotohira-Cho Shiba Tokyo	501 3168

A R F PRODUCTS, INC GARDNER RD RATON
N M 87740 TWX 910 984 0561 505-445-3665
A MACISZEWSKI EMP 200 ENG 25
$2,500-$5,000M

Colo	R & D Lab 2559 75th St Boulder	443-4844
Ill	ARF Products Inc Box 566 Glen Ellyn	312-858-2397
NM	ARF Products Inc Box 1757 University Park	524-0760

ARGONAUT ASSOCIATES, INC BOX K BEAVERTON
ORE 97005 .....503 CY 2-3149
E MACPHERSON EMP 17 ENG 4

Cal	Mauldin Co 441 California Ave Palo Alto	415 326-5291
Colo	D E Bond Assoc 5670 E Evans Ave Denver	756-1234
DC	Martin F Whitcomb Washington	TU 9-1245
Md	Whitcomb Assoc 730 Deepdene Rd Baltimore	RE 7-0763
NM	D E Bond Assoc Box 11331 Albuquerque	247-3442
Can	Megatronix Ltd 954 Downsview Rd Downsview	783-3329
For	H W Kessel SA Apartado 552 Lima	
Ger	Omni Ray GmbH Nymphenburgerstr 164 Munchen 19	
Ital	Silverstar Ltd 21 via Delle Stelline Milano	
Jap	Hakuto Co, Ltd Box 25 Tokyo Central	
Swit	Omni Ray AG Dufour Str 56 Zurich 8	
Ind	Electronic Enterprises Ltd New Charni Rd Bombay	
Isrl	Racom Electronics Co Ltd 6 Rupin St Tel-Aviv	

ARGOS PRODUCTS CO, INC 600 S SYCAMORE ST
GENOA ILL 60135 815-784-5118
A HOYNE EMP 100

Ark	Dick Bellew Sales Co 1005 W 4th St El Dorado	UN 3-8325
Cal	Wes Alderson Co 8548 Washington Blvd Culver City	UP 0-1030
Colo	Koether-Cox Co 1325 S Inca St Denver	PE 3-5561
Conn	J Cormier 6 Gaywood Dr Waterbury	756-8766
Fla	Murphy & Cota 712 W Vassar Ave Orlando	424-2167
Ga	Murphy & Cota 586 Armour Cir NE Atlanta	875-2525
Haw	Gene Piety Factors Inc 160 Mokauea St Honolulu	810-185
Ill	G McL Cole Co 6514 W Higgins Rd Chicago	SP 4-3535
Ind	Southern Sales Co 105 Lakeshore Dr Angola	665-3961
Ky	Southern Sales Co 212 Republic Bldg Louisville	583-6902
La	Dick Bellew Sales, Inc 3017-D 18th St Metarie	833-6496
Mass	Coakley, Boyd & Abbett, Inc 1424 Highland Ave Needham	444-5470
Mich	Butchart-Rathsburg & Assoc 16637 E Warren Ave Detroit	882-1717
Minn	William Engelbretson Co 906 Ottawa Ave St Paul	CA 2-2338
Mo	Clemenson-Larrabee Co 3709-A Summit Kansas City	WE 1-0657
NJ	Finlay Sales Co, Inc 45 N Broad St Ridgewood	652-0088
NY	Callahan-Ferguson Co 107 Greenhedge Dr Camillus	HU 8-5518
NC	Murphy & Cota Box 6365 Greensboro	273-6288
Ohio	Neal Bear Corp 3435 Streetsboro Rd W Richfield	OL 9-3331
Ore	B J Wallig 3292 Sunnyview Ave NE Salem	363-6445
Pa	NEBCO Assoc Inc 1974 Gregory Ave Monroeville	824-2111
Tex	Ernest L Wilks Co Box 34466 Dallas	242-5321
Wash	M K Widdekind Co 815 W Ewing Seattle	AT 4-8020
Wis	G McL Cole Co 150 S Marquette St Madison	244-1623
For	Roburn Agencies Inc 431 Greenwich St New York, NY	WO 6-2130
BC	Emerson Short 1156 Beachwood Crescent Vancouver	YU 7-5565

ARIES INDUSTRIES INC 534 W 182ND ST GARDENA
CAL 90247 .... 213 321-3110
V ORTLOFF EMP 12 ENG 2

ARISTO-CRAFT DISTINCTIVE MINIATURES
314 FIFTH AVE NEW YORK N Y 10001 .. 212 279-9036
M HUBERT EMP 50 ENG 4

ARISTO GRID LAMP PRODUCTS INC 65 HARBOR RD
PORT WASHINGTON N Y 11050 .... 516 767-6577
EMP 12 ENG 1 $250-$500M
Mass Cordell Eng Inc 210 Broadway Everett . 617 289-4200
NJ C Siskind 501 Couse Rd Neptune 201 775-7159

ARITECH CORP 130 LINCOLN ST BRIGHTON
MASS 02135 617-254-2990
P LABRIE EMP 25 ENG 5 $100-$250M
Cal RDP Instruments Inc 1338 S Atlantic Blvd
Los Angeles 213-263-9441
Del Bonn Assoc 2 Edison Ave
Cherry Hill N J 609-795-0600
Fla Jaeger Assoc Inc 999 Woodcock Rd
Orlando 305-841-1511
Md K-G Electronics Inc 11151 Viers Mill Rd
Wheaton 301-946-4055
Mass Micronic Assoc Box 162 Cochituate ... 617-653-8229
Mich Electro Sales Assoc 15324 Mack Ave
Detroit 313-886-2280
Nev RDP Instruments Inc 999 Commercial St
Palo Alto Cal 415-328-6666
NJ Bonn Assoc 266 Lake Ave Metuchen ... 201-549-9573
NY Bonn Assoc Box 592 Great Neck 516-427-4328
Ohio Electro Sales Assoc 335 E 200th St
Cleveland 216-486-1140
Pa Electro Sales Assoc 201 Penn Ctr Blvd
Pittsburgh 412-371-8497
Tex Vidal Electronics Co 3403 High Bluff Dr
Dallas 214-241-4491
Fr Antares Div Electronique B P 66
92 Levallois Perret
Ger Wacker GMBH Stettenstr 9 6 Frankfurt
GB Litton Prec Prod Intl 503 Uxbridge Rd
Hayes Middlesex
Neth Litton Prec Prod Intl 16 Rue du Mussee Brussels 1
Ital Metroelettronica 20135 Milano Viale Cirene 18
Jap Matsushita Elec Trading Co Ltd
Box 288 Osaka Central
Kawaramachi Higashi-ku Osaka
Swed M Stenhardt AB Grimstagatan 89
Stockholm-Vallingby
Swit Litton Prec Prod Intl Gubelstr 28 8050 Zuerich

ARIZONA MODULAR ELECTRONIC SYSTEMS
BOX 3072 TEMPE ARIZ 85281 602-252-8212
W VAUGHN EMP 21 ENG 3 UP TO $100M
Cal R H Muenzer Co Box 587 S San Francisco .. 588-1703
Mass Assoc Electronics 119 Great Rd Bedford 275-9020
NM Space Systems Sales 1401 Valencia SE
Albuquerque
Pa Charles McGowan 1863 Cleveland Ave
Abington 659-1788
Tex G Weinrich & Assoc 11554 E Northwest Hwy
Dallas DA1-2800
Utah Space Systems Sales Box 89 Bountiful

ARK ELECTRONICS CORP 624 DAVISVILLE RD
WILLOW GROVE PA 19090 .... 215 OL 9-4121
S ETKINS EMP 20 ENG 5 $100-$250M
Fla Gra-Mar, Inc 3113 Lawton Rd Orlando . 305 841-2330

ARK-LES SWITCH CORP 51 WATER ST
WATERTOWN MASS 02172 .... 617 924-2330
G BOULE JR EMP 500 ENG 20 $5,000-$10,000M
Ala Applebee-Church Inc 13 Office Park Cir
Mountain Brook 879-4417
Cal Hansen & Assoc 1663 Blake Ave
Los Angeles 225-8114
Colo Electronic Sales, Inc 995 S Clermont
Denver 756-4148
Fla J J Galleher Co Box 1376 Clearwater ..... CL 3-7706
Ga Applebee-Church Inc Box 13485, Sta K
Atlanta 875-7244
Ill Stevens Engineering Co 5306 W Lawrence Ave
Chicago .... PE 6-0432
Ind Neal Engineering Co 3720 N College Ave
Indpls .... WA 5-2364
Iowa Charles Thomason 904 American Bldg
Cedar Rapids .... EM 2-0619
La Ross & Pethel Inc 3170 Florida Blvd
Baton Rouge 348-7206
Mass Representatives Corp 10 High St Boston ... HA 6-0541
Mich R C Dakin Co 1520 N Woodward Ave
Bloomfield Hills 647-2262
Minn J B Wright & Assoc 4817 Royal Oaks Dr
Hopkins 335-7833
Mo C B Fall Co 317 N 11th St St Louis ...... CH 1-2433
NY Chas Avery & Assoc Box 87 Rye 914-937-3633
Ohio Neal Engineering Co Box 3052 Dayton 426-3774
Okla Don Shuhart Co 310 Thompson Bldg Tulsa . LU 2-5520
Pa Shelmar Electronics Corp Box 254 Glenside . TU 7-2294
SC Applebee-Church Inc 2817 Millwood Ave
Columbia 256-6057
Tex Don V Shuhart Co 4509 Greenville Ave
Dallas .... EM 3-5436
Va Royelec 605 Krise Bldg Lynchburg 703-846-7117
Wis Gordon Hatch Co 635 S 28th St Milwaukee . BR 1-3021
Can Smith & Stone Ltd Georgetown, Ont

ARLIN MFG CO INC 239 INDUSTRIAL AVE E
LOWELL MASS 01851 .... 617 454-9165
J MITCHELL

ARMCO STEEL CORP 703 CURTIS ST MIDDLETOWN
OHIO 45042 .... 513 425-6541
EMP 38439 OVER $10,000M
Sales Offices located in principal cities of U

ARMEC CORP 195 W HILLS RD
HUNTINGTON STATION N Y 11746 .... 516 HA 7-7787
W ALLISON EMP 10 ENG 2 UP TO $100M

ARMEL ELECTRONICS, INC 1601 75TH ST
NORTH BERGEN N J 07047
TWX 201 868-0069 .... 201 869-4300
V PASQUALINO EMP 85 ENG 2
Cal C B Rush & Assoc 1830 W Olympic
Los Angeles .... DU 8-7111
Md R A Wafer Assoc 3809 Victoria Ave
Baltimore 301 655-1565
Mass Brookdale/Richter Engrg Inc 348 Lake Ave
Newton Highlands

ARMITE LABORATORIES 1845 RANDOLPH ST
LOS ANGELES CAL 90001 .... 213 587-7744
V BERNDT EMP 36 ENG 4 $500-$1,000M
Alas Technical Sales Co Box 3-297 Anchorage ... 272-4801
Cal C L Norton Co 1394 Lowrie Ave
S San Francisco 589-8931
Haw Giles & Co 1724 Kalauokalani Way Honolulu .. 900-165
Ill Dahly Tool Co 4939 W Fullerton Ave
Chicago .... ME 7-3221
Ind Southern Sales Co 503 N Grant St
Bloomington .... ED 2-4287
Iowa Hodgkin Pipe & Supply 5422 1st Ave
Moline, Ill 762-8613
Kan Pensinger's 5914 59th Terr Mission ... 913-262-5444
La Gregory Palmer 6818 Louis XIV St
New Orleans 488-1119
Mass Philip A Gahm Co 1568 Commonwealth Ave
Boston .... AS 7-4830
Mich Bernard Phillips 3144 Woodstock Dr Detroit . 862-1290
Minn Ritchie Eng Co 999 E 79th St Minneapolis .. 866-3393
Mont Hugo Fuhs Box 547 Chester
NY Custanite Corp 1225 Utica Ave Brooklyn ... NA 9-0555
Ohio Apex Bearings Sales Agency 86 Owen Brown St
Hudson 653-6031
Ore Herbst Sales Co 2035 SW 58th Ave Portland
Pa T M Dell, Jr 411 Wynnewood Plaza
Wynnewood 642-3166
Tenn Wm Hargrave & Assoc 4699 Leatherwood Rd
Memphis 682-4912
Tex Esch & Assoc Inc 4623 Gulf Frwy Houston . WA 8-3357
Utah Brandon Co 1400 S State St Salt Lake City . 487-2812
Can Frank T Ross & Sons Ltd Box 248
West Hill Ont 282-1108
For Marketing Masters Box 4216 Bierut Lebanon
For Soc De Reps Sorbessa L da
Rua Tenente Valadim 21-4 D A Porto
Den Gottfred Petersen Assensvej 2 Middelfart .. 09 41 1266
Ger Schneider & Co GmbH N Bolzstr 7 Stuttgart . 29 40 43
GB Constructional Prods (Chadderton) Ltd James St
Chadderton .... Main 1999
Neth Contivema N.V. G. W. Burgerplein 7 Rotterdam
Jap Tsugami Trading Corp
23-1 2-Chome Shinbashi Mina Tokyo 105 . 433-5231
Nor Andersen & Odegaard Fred Olsensgaten a Oslo
SAfr J B Steele & J D Matson Pty Ltd Box 130
Knysna, Cape Prov 293
NZ H J Asmuss & Co, Ltd 17-21 Graham St
Auckland, C 1

ARMSTRONG BROS TOOL CO 5200 W ARMSTRONG
CHICAGO ILL 60646
TWX 910 221-0957 .... 312 RO 3-3333
Cal Armstrong Bros Tool Co 67 Eleventh St
San Francisco .... UN 1-5837
NY Armstrong Bros Tool Co 177 Lafayette St
New York .... CA 6-5670

ARMSTRONG CORK CO LANCASTER PA 17604
TWX 717 560-4405 .... 717 397-0611
R COLLISTER EMP 16000 OVER $10,000M

ARMSTRONG PRODUCTS CO INC
ARGONNE RD, BOX 657-EB WARSAW IND 46580
TWX 810 298-0790 .... 219 267-3226
M ROTHSCHILD EMP 40 ENG 3 $1,000-$2,500M
Cal J A Mullally 2728 Dorothy Pl Orange .. 714-639-2659
Kan Thro Industrial Sales Co 2110 W 75th St
Prairie Village 362-2533
Minn D A Schultz Co 801 SE 8th St Minneapolis .. 339-7701
NY G A Treiber 785 Hunt La Manhasset ... 516-627-4866
NY Punt Inc 66 S Tyson Ave Floral Park ... 516-352-1742
NC Candor Co Bethania 919-924-1480
Tex Texport Co 2411 Farrington St Dallas 631-6270
Tex Texport Co 8811 Gaylord Houston 464-2828
Can Anbak Sales Canada Ltd 3208 Lenworth Dr
Cooksville Ont 416-625-1061
Can Anbak Sales Canada Ltd Box 101
Ile Perrot Sud Que 514-453-6375

ARNO ADHESIVE TAPES, INC BOX 301
MICHIGAN CITY IND 46360 219-879-0281
J SCHOLL EMP 250 ENG 4 $500-$1,000M
Cal Arno Adhesive Tapes Inc 4754 E 49th St
Los Angeles 583-1091
DC Arno Adhesive Tapes Inc 3916 48th St NW
Washington 363-1270
Ga Arno Adhesive Tapes Inc 2415 Fairburn Rd SW
Atlanta 344-6070
Ind Arno Adhesive Tapes Inc 3009 W Sample
South Bend 289-5333
Mass Arno Adhesive Tapes Inc 295 Forrest Ave
Cohasset 383-1107
Mich Arno Adhesive Tapes Inc 21246 W 7 Mile Rd
Detroit 255-0360
Minn Richard Douglas Inc 905 N 5th St
Minneapolis 333-8381
Mo Arno Adhesive Tapes Inc 1632 Central
Kansas City 421-0652
NY Arno Adhesive Tapes Inc 231 Murray Hill Pkwy
E Rutherford, N J 933-8950
NC Arno Adhesive Tapes Inc 3809 Weona
Charlotte 523-2020
Ohio Arno Adhesive Tapes Inc 13610 Puritas
Cleveland .... WI 1-9145
Ore Vincent J Hall Co 230 E Burnside St
Portland 232-3151
Tex Arno Adhesive Tapes Inc 2701 Cullen St
Fort Worth 336-8101
Wash Arno Adhesive Tapes Inc 8604 40th Ave NE
Seattle 525-5573
Wis Arno Adhesive Tapes Inc 3846 W Wisconsin Ave
Milwaukee 933-2541
Can Arno Adhesive Tapes 4480 Chesswood Dr Sec 4
Toronto 630-2196
For United Export Corp Box 147
South Bend, Ind 282-2375

ARNOLD ENGINEERING CO BOX G MARENGO
ILL 60152 TWX 910 642-2790 .... 815 568-2000
C FRYLING EMP 1100
ADV PG 196
Cal Arnold Engrg Co 701 Welch Rd
Palo Alto 415-DA-6-9302
DC Arnold Engrg Co 7004 Tilden La
Rockville Md 301-881-0060
Ind Arnold Engrg Co U B Bldg Huntington .. 214-356-5224
Mass Arnold Engr Co Box 309 Lexington ... 617-VO-2-2804
Mich Arnold Engrg Co 1304 W Michigan Ave
Jackson 517-ST-4-5663
Minn Arnold Engrg Co 7601 Wayzata Blvd
Minneapolis 612-545-1494
NJ Arnold Engrg Co 610 E Palisade Ave
Englewood Cliffs 201-LO-7-4640
NY Brace-Mueller Huntley 2000 Military Rd
Buffalo 716-TR-7-8700
NC Arnold Engrg Co 204 N Person St
Raleigh 919-828-3270
Ohio Arnold Engrg Co 3570 Warrensville Ctr Rd
Shaker Hgts 216-283-7580
Tex Southwest Electronic Ind 621 Meadows Bldg
Dallas 214-EM-3-1671
Wis Arnold Engrg Co 4604 N Wilson Dr
Milwaukee 414-964-8060
Can El-Met-Parts Ltd 55 Head St
Dundas, Ont 416-628-6366
For Sylvan Ginsbury Ltd 72 W 45th St
New York, N Y 212-687-3213

ARNOLD ENGINEERING CO PACIFIC DIV
1551 E ORANGETHORPE AVE FULLERTON
CAL 92631 .... 714 TR 1-1560
F KINNEY EMP 75
Cal Arnold Engineering Co 701 Welch Rd
Palo Alto .... DA 6-9302

ARNOLD MAGNETICS CORP 11264 PLAYA CT
CULVER CITY CAL 90230
TWX 910-343-6468 .... 213 870-7014
R OHL EMP 100 ENG 5 $500-$1,000M
Cal Kanematsu Gosho Inc 606 S Hill St
Los Angeles 213 620-1640
Fla Wm M Jones Co 2317 E South St
Orlando 305 424-6298
Ga Wm M Jones Co 2666 Redding Rd NE
Atlanta 404 261-8275
Kan Aire-Borne Elctns 7759 Loma Vista Dr
Kansas City 816 761-9550
Md Wm M Jones Co 1107 Echo Ct N
Towson 301 823-5721
NH Engineering Assoc of N E 319 Lincoln St
Manchester 603 623-7294
NJ Wm M Jones Co 332 S Forklanding Rd
Maple Shade 609 662-0840
NY Natl Atlantic Corp 50 E 42 St
New York 212 697-2584
Ore J E Edstrom 1220 SW Morrison St
Portland 503 227-5311
Can Electrodesign, Ltd 9124 St Lawrence Blvd
Montreal 514 389-5914
Fr Tranchant Electronique
19,21 rue Madame de Sanzillon Clichy, Seine
GB Roberts Elctns Ltd 17 Hermitage Rd Hitchin Herts
Swed Robt E O Olsson AB Box 165 Motala

ARRA, INC 15 HAROLD CT BAY SHORE NY 11706
TWX 510 227-6231 .... 516 231-8400
P BLEIFER EMP 60 ENG 4
Ala Theall Corp Box 3122 Huntsville 852-1525
Cal Thorson Co 6824 Melrose Ave Los Angeles . WE 7-0790
Colo Engineering Rsch Assoc 231 Detroit St
Denver 377-8306
Fla Theall Eng Sales Co Box 922 Maitland 647-4469
Ill Feller Assoc 3065 University Ave
Highland Park 433-3646
Kan Impala Inc 5424 N 95th St Kansas City 299-9622
Md Doss Electronics Inc 6660 Security Blvd
Baltimore 944-1900
Mass Micronic Assoc Box 162 Cochituate
Mo Impala Inc 47 Vlg Sq Shop Ctr Hazelwood .. 837-3100
NM Bowden Engr & Sales Co 2633 Texas NE
Albuq 299-0473
NY Tesco Assoc 114 Miles Ave Syracuse ...... GR 4-3291
NC Theall Corp Box 11435 Winston-Salem 725-9932
Pa Holdsworth & Co Box 71 Lansdowne ...... MA 6-8300
Tex Thorson Co 7700 Carpenter Frwy Dallas 861-4423
Wash Thorson Co 909 NE 43 St Seattle ME2-0710
For EMEC 160 Terminal Dr Plainview, NY .... WE 1-3700
Jap Shoshin Shoji Koisha Ltd Box Nihonbashi 173
Tokyo 241-2861

ARTISAN ELECTRONICS CORP 5 EASTMANS RD
PARSIPPANY N J 07054 .... 201 887-7100
R PARKER EMP 165 ENG 12 $2,500-$5,000M
Ala Brennan Assoc Box 1062 Huntsville 852-5295
Cal Biztek Co 10639 Riverside Dr
North Hollywood 213-766-4890
Cal Repex 2015 Latham St Mtn View 415-969-9200
Cal Mar-Land Enterprises Box 101
Arcadia 213-681-9440
Colo Beta Technical Sales 4858 S Acoma
Englewood 303-781-3271
Conn Zaslow Sales Co 6 Newberry Rd
Bloomfield 203-242-7781
Fla Brennan Assoc Box 5006 Clearwater .. 813-446-5006
Fla Brennan Assoc Box 8489 Fort Lauderdale .. 587-8077
Ga Brennan Assoc Box 372 Tucker 404-469-8324
Ill Production Sales Co 1925 N Harlem Ave
Chicago 312-237-8920

Kan Technical Reps Inc 809 Sheridan Circle Olathe ... ST 2-3775
Md T H Closs Co 21 W Pennsylvania Ave Towson ... 301-825-4445
Mass Zaslow Sales Co, Inc 339 Middlesex St Lowell ... 617-458-8452
Mass Zaslow Sales Co, Inc 371 Howard St Northboro ... 393-8150
Mich Luebbe Sales Co 20905 Greenfield Rd Southfield ... 313-357-0355
Minn Tec Sales 9906 Chicago Ave S Minneapolis ... 612-884-1180
Mo Technical Reps 7049 Lanpher La Hazelwood ... JA 1-1000
NJ Warren C French & Co 36 Hampton Dr Berkeley Hts ... 201-FA2-5350
NY Technical Liaison Corp 3095 Lawson Blvd Oceanside ... 516-764-9003
NY Louis G Marchese Assoc 999 Ridge Rd E Rochester ... 716-342-7664
NY Bassin Technical Sales Co 52 Fayette Rd Scarsdale ... 914-SC3-3334
Ohio W J Brauer & Assoc Box 305 Wickliffe . 216-943-0601
Pa Tech Parts 81 Old York Rd Willow Grove ... 215-659-1788
Pa W J Brauer & Assoc Box 8466 Pittsburgh .. 921-3213
SC Brennan Assoc Box 871 Aiken ... 649-7100
Tex A P Kine Co 6950 Winchester Dallas ... 214-348-9535
Wash Cane-Topp Co 13547 S E 26th St Bellevue ... 206-746-5750
Wis Gentron Co 6000 W Oklahoma Milwaukee ... 414-543-8110
Can J H Darcy Ltd 51 Abbott St N Smiths Falls Ont ... 613-283-2465
Can J H Darcy, Ltd 51 Abbott St Smith Falls, Ont ... 283-2465

ARTOS ENGINEERING CO 15600 W LINCOLN AVE
NEW BERLIN WIS 53151 ... 414 782-3300
H RANDAR EMP 206 ENG 5 $2,500-$5,000M
Conn Artos Engineering Co 65 Research Dr Stamford
Fla MacGregor Assoc 1817 Fox Circle Clearwater
Ga MacGregor Assoc 3473 Northlake Way Doraville
Ill W Baird 8659 Gregory La Des Plaines
Can Barmac Supplies Ltd 339 Olivewood Rd Toronto ... 239-7303
Fr Etabs Horstmann 54 Rue St Maur Paris 11e . 797-3389
Ger Gustav Bruckner 8630 Coburg-Neuses Coburg
GB Lebret Engineering Ltd 3 St Marys Grove Richmond Surrey ... RIV 1289
Neth Fabritius Schutter Postrekening 52144 Delden
Ital Novasider SpA Via San Francesco dao Paulo 15/17 Turin
Jap Kyokuto Boeki Kaisha Ltd 4, 2-chome, Otemachi, Chiyoda-ku Tokyo
Nor Andersen & Nord Kirkeveien 30 Hovik, Oslo
Swit J H Briegel Inc Thurgauerstr 60 Zurich
Aust Astonic Imports 655 Nicholson St N Fitzroy Vic

ARTRONIC INSTRUMENT CO 11232 TRIANGLE LN
SILVER SPRING MD 20902 ... 301 949-1131
M PUGH

ART WIRE & STAMPING CO 227 HIGH ST NEWARK
N J 07102 ... 201 621-7272
P STRAZZA EMP 150 ENG 5
ADV PG 727
Ariz Jack Hagestad Box 1469 Scottsdale ... 945-8415
Cal E C Miller Co 3030 Bridgeway Sausalito ... 332-4760
Cal Corbett-Smith Co 7340 E Florence Ave Downey ... 861-0985
Ind Hoster Assoc 1627 W 75th Pl Indianapolis ... 317 251-2566
Kan Louis Bruns Co 2210 N 50th Terr Kansas City ... AT9-5242
Mich Mid-Continental Sales Co 71 South St Battle Creek ... 965-5054
Minn R O Bittrick Co 183 So Chatsworth St Paul . 226-6178
Mo Bill White 514 Parkwood Ave Kirkwood ... 965-1115
NC Manufacturers Sales Co Box 20005 Greensboro ... 274-2474
Tex P J Scanlon Co Inc Box 70 Richardson ... AD 1-4661

ARVEE ENGINEERING CO BOX 3759 TORRANCE
CAL 90510 ... 213 373-1324
R ALLEE EMP 1 ENG 1 UP TO $100M
NY Herbert Shprentz Co 126 Deertrack La Irvington ... 914-591-7970

ARVEY CORP 3500 N KIMBALL AVE CHICAGO
ILL 60618 TWX 910 221-1322 ... 312 463-1400
F HOLMES EMP 2000 ENG 5
Cal Burleigh Co 1709 W 8th St Los Angeles . 213 483-0335
Fla Wynn Sales & Engr Co 38 Old Ivy Rd N E Atlanta ... 404-233-7437
La Coastal Sales Co Box 13444 New Orleans ... 504-525-7181
NJ Arvey Corp 300 Communipaw Ave Jersey City ... 201 333-5000
Tex IBL Eng & Sales Inc 219 Preston Royal Ctr Dallas ... 214 EM 3-2921
GB Munzig Intl Inc McGraw-Hill House Maidenhead, Berks ... MAI 20260
Jap Munzig Intl Japan, K K 15-1, Nishi Shimbashi, 1-chome Minato-ku, Tokyo ... 503-4751
Swed Tel Inter Aktiebolag Filipstadsbacken 48 Stockholm-Farsta 1 ... 08/64 18 00
Swit Munzig Intl, Inc 6 Av de Frontenex 1207 Geneva ... 022 35 84 14

ARVIN MAGNETICS THIRTEENTH ST COLUMBUS
IND 47201 TWX 812-372-8209 ... 812-372-7271
D PUTERBAUGH

ARVIN SYSTEMS INC 1771 SPRINGFIELD ST
DAYTON OHIO 45403 ... 513 254-6177
R WATSON EMP 60 ENG 15
Cal Western Technical 8644 Wilshire Blvd Beverly Hills

Conn Astro Tek Assoc 49 Leavenworth St Waterbury ... 753-4129
Fla Jaeger Assoc, Inc 999 Woodcock Rd Orlando ... 841-1511
Mo Aerol Assoc 34 N Brentwood St Louis .. 314 725-5361
NY Aerol Assoc 170 Great Neck Rd Great Neck ... 516 487-9650
Ohio Tower Engineering 2801 Far Hills Dayton ... 513 298-1491

ARWOOD CORP ROCKLEIGH IND PARK ROCKLEIGH
NJ 07647 TWX 710 991-9756 ... 201 767-0600
S BOHN EMP 1800 ENG 70 OVER $10,000M
Cal Arwood Corp 18383 Railroad St City of Industry ... 213 965-1581
Conn Arwood Corp 415 Main St E Hartford .. 203-568-1515
Ga Arwood Corp 3599 Potomic Terr Atlanta ... 404 762-1534
Ill Arwood Corp 853 Dundee Ave Elgin ... 312-695-3630
Md Arwood Corp Box 4592 Baltimore ... 301 539-6191
Mass Arwood Corp Lakeside Off Park 7 Wakefield ... 617-245-5353
Mich Arwood Corp 3677 S LaPeer Rd Pontiac ... 313-391-1400
NJ Arwood Corp 2000 Spruce St Trenton .. 609 883-5050
NY Arwood Corp 365 S Main St Geneva ... 317-789-1122
Tex Arwood Corp El Patio E, 604 Ave H E Arlington ... 817 274-1012
Wash Houston Co 1738 4th Ave S Seattle ... 206 622-0750

ASHEVILLE-SCHOONMAKER MICA CO
900 JEFFERSON AVE NEWPORT NEWS
VA 23607 ... 703 244-7311
C BARRY EMP 300 ENG 2 $1,000-$2,500M
Cal Marwood Ltd 357 Ninth St San Francisco .. HE 1-7893
Cal Marwood Ltd 320 East 3rd St Los Angeles
Ill Asheville-Schoonmaker Mica Co 1608 N Meade Ave Chicago ... BE 7-7373
NY Asheville-Schoonmaker Mica Co 93 Worth St New York ... 966-4550
Ore Marwood Ltd 209 SW First Ave Portland
Wash Marwood Ltd 1714 First Ave S Seattle

ASHLAND ELECTRIC PRODUCTS, INC
32-02 QUEENS BLVD LONG ISLAND CITY
N Y 11101 ... 212-392-4010
T BREACH EMP 160 ENG 4 $1,000-$2,500M
Cal Wm J Purdy Co 770 Airport Blvd Burlingame ... 415-347-7701
Cal Chas L Repp Co 12121 Wilshire Blvd Los Angeles ... 213-477-4475
Conn H Lavin Assoc Box 921 Meriden ... 203-237-5527
Fla J F Griffin & Co 812 Lakeside Dr N Palm Beach ... 305-848-4617
Ill D Dolin Sales 3525 W Peterson Ave Chicago ... 312-588-3738
Minn R G Ragon Inc 1136 W Larpenteur Ave St Paul ... 612-488-6634
Mo J J Vondras & Co Box 10121 Lambert Field St Louis ... 314-837-0645
NY Ben H Tollefson & Assoc 110 Allens Creek Rd Rochester ... 716-271-4141
NY Jos N Sweeney Co 5 Fox Meadow Ct Woodbury ... 516-692-4222
Okla S Sargis 7125 N Laramie Ave Skokie .. 312-674-8606
Pa Danco Corp Germantown Pike & Quarry Hall Rd Fairview Village ... 215-275-2600
Tex The Berry Co Box 20461 Dallas ... 214-528-0461
Va Reynolds Cowardin Box 9764 Richmond . 703-266-3457

ASM CORP 525 TRUCK LANE BOX 860 SMITHFIELD
N C 27577 ... 919-934-3104
C SHAREK EMP 18 ENG 4 $100-$250M
Ariz Vinson Assoc 44 E Indian School Rd Scottsdale ... 602-947-7371
Cal Frauman Assoc Box 969 Menlo Park .. 415-322-8461
Cal M A Stolaroff Co 4622 W Slauson Ave Los Angeles ... 213-295-7781
Colo Vinson Assoc Inc 3600 S Lincoln Englewood ... 303-789-2203
Conn Henry Lavin Assoc Box 921 Meriden ... 203-237-5527
Fla William J Reasor & Assoc Box 12601 Palm Beach Gdns ... 305-848-0203
Ill Century Engrg & Sales Ltd Box 693 Joliet ... 815-725-3712
Iowa Thomas & Modrcin Assoc 890 17th Ave Marion ... 319-377-6261
Kan Thomas & Modrcin Assoc Box 189 Shawnee Mission ... 913-432-2131
La Gordon V Peck Co Box 8087 New Orleans ... 504-282-1553
Mass Henry Lavin Assoc Box 223 Needham .. 617-444-3446
Mich Sheridan Assoc Box 128 Lathrup Village ... 313-358-3333
Minn P J Codute & Co 4542 4th St N E Minneapolis ... 612-560-1222
Mo Thomas & Modcrin Assoc Box 545 Hazelwood ... 314-838-6446
NJ Harold Gray Assoc 20 Foster St Bergenfield ... 201-384-3643
NM Vinson Assoc Box 3295 Sta D Albuquerque ... 505-298-7442
NY Reed Electronics Inc 2815 Monroe Ave Rochester ... 716-473-2767
NC Jake Rudisill Assoc Box 4245 Charlotte ... 704-377-6901
Ohio Sheridan Assoc w8box 37646 Cincinnati ... 513-761-5432
Okla Gordon V Peck Co Box 15671 Tulsa ... 918-585-5853
Pa Danco Corp Box 245 Fairview Village .. 215-275-2600
Tex Gordon V Peck Co Box 18627 Dallas ... 214-328-3511
Wash Jon B Jolly Co Pier 59 Seattle ... 206-624-2152
Can John G Weiss Co Ltd 5725 Monkland Ave Montreal ... 514-489-6887
For Elbar Electronics Corp Box 660 Schenectady N Y ... 518-372-5841

ASSEMBLY-OVERLAND DIV RUCKER CO
3650 HOLDREGE AVE LOS ANGELES
CAL 90016 ... 213 870-9861
D RUMSEY EMP 150 ENG 10 $5,000-$10,000M
Cal G T Parker 471 Acalanes Sunnyvale ... 739-0640
La Renee Baus 19 Richmond Pl New Orleans ... 866-7734
Ohio E V Swenson 1112 Talbott Tower Dayton ... 223-4279
Tex C M McCulloh 2525 Ridgemar Blvd Fort Worth ... PE 7-3262
GB Michael Ross 15 Granville Ct, Jesmond Newcastle-on-Tyne

ASSOCIATED AMERICAN (AMACOIL) WINDING
MACHINERY INC 111 PLAIN AVE
NEW ROCHELLE N Y 10801
TWX 1-37466 ... 914 235-5050
K POPPE EMP 40 ENG 10
Cal Amacoil Machy Inc 504 Main St El Segundo ... 213-322-0320
Cal T Collins 110 First St Los Altos ... 415-948-8880
Colo Ward Electric Supply 1909 Blake St Denver ... 303-222-3541
Fla C J Garrigan 373 Iowa Ave Fort Lauderdale ... 305-584-7070
Ill Amacoil Machinery Inc 5935 W Grand Ave Chicago ... TU 9-0700
Ind EMF Co Inc 6135 W Belmont Ave Chicago Ill ... 312-889-8323
Mass D & P Engineering 13 Shore Dr Peabody ... 617-531-1120
Mich Murray A Percival Co 25511 Southfield Rd Southfield ... 313-356-5710
Minn D A Shultz Co 801 SE 8th St Minneapolis ... 612-FE9-7701
Mo H & R Sales & Engrg Co 3942 W Pine St St Louis ... 314-PA7-8741
NY H Zion 125 E 72nd St New York ... RH 4-3382
NY O G Lanzendorf 513 Cumberland Ave Syracuse ... 315 472-4195
NC F G Speidel Box 17661 Raleigh ... 919 787-9148
Ohio Orr Assoc 6510 Farnsworth Dr Parma . 216-TU5-1324
Ore C E Riggs Inc 422 NW 8th Ave Portland ... 503-226-3286
Pa Morris Sussman 7918 Heather Rd Elkins Park ... 215-224-3102
Wis Wakefield Krauthoff Co 5814 W Burleigh St Milwaukee ... 414 871-3381
Can Bayley-Milley Ltd 8 Taber Rd Rexdale Ont ... 416-743-5151

ASSOCIATED ENGINEERING & MFG CORP
GLEN RIDGE N J 07028 ... 201 743-8899
R FOX EMP 65 ENG 5 $500-$1,000M

ASSOCIATED RESEARCH, INC 3788 W BELMONT AVE
CHICAGO ILL 60618 ... 312 267-4040
R BARNARD EMP 65 ENG 11 $1,000-$2,500M
ADV PG 630
Alas Alaskan Sales 826 Whitney Rd Anchorage .. 272-6731
Ariz Engineering Sales Assoc Box 544 Scottsdale ... 945-5781
Cal Brenner-Fiedler & Assoc 7563 Melrose Los Angeles ... 651-4300
Fla Ludlum Assoc Co Box 48-1337 Miami ... 885-3611
Ga Holman-Lobsinger Co 3131 Maple Dr NE Atlanta ... 261-5238
Kan Cleaves-Bessmer Inc 5618 Raytown Rd Kansas City ... 353-6011
Mass Mancib Co A St at Middlesex Tpk Burlington ... 272-9450
Mich Electro-Mation Assoc 1137 Cole St Birmingham ... 564-6517
Minn Klass Co Inc 814 S Ninth St Minneapolis ... 338-8427
Mo Fitzgerald Sales Co 4 N 8th St St Louis ... 241-4066
Neb F C Clatterbaugh Co Box 6181, College View Sta Lincoln ... 489-5912
NJ Friedman Assoc 110 Halsted St East Orange ... 673-2500
NY H J Rittenhouse Co 291 Howland Ave Rochester ... 442-1380
NC Jake Rudisill Assoc 1225 Harding Pl Charlotte ... 377-6901
Ohio D & B Engineering Sales Co 7517 Winding Way Brecksville ... 526-3249
Pa Bollinger & Bradford PO Box 8088 Pittsburgh ... 561-2340
Tex J Y Schoonmaker Co Inc 2995 Ladybird La Dallas ... 357-8481
Wash Eicher-Richards Co 2727 N E Blakeley Seattle ... 523-7888
Wis Morris F Jacobs Co 2218 N Third Milwaukee ... 562-5690
Can George M Fraser, Ltd 180 Duncan Mill Rd Don Mills Ont ... 449-6600
Can Showalter Agencies 2510 4th St SW Calgary, Albta ... 269-6411
Can W Hobson & Assoc 1024Notre Dame St Lachine Que ... 637-1231
Ital M Vianello Via L Anelli 13 Milano ... 553081
SAfr R T Urquhart & Co (Pty) Ltd Box 584 Johannesburg ... 838-4511
BC Showalter Agencies Ltd 7573 Edmonds St Burnaby ... 524-1434
Belg S A Gentronias 80 Chaussee de Charleroi Brussels ... 373130

ASSOCIATED SPECIALTIES CO 1751 MAIN ST
OREFIELD PA 18069 ... 215 395-9172
V LAUDENSLAGER

ASSOCIATED TESTING LABS, INC 107 RTE 46
WAYNE N J 07470 TWX 710-988-5712 .. 201 256-2800
W LUKE JR EMP 225 ENG 40 $2,500-$5,000M
Ariz Engineering Sales Assoc 7155 E Thomas Rd Scottsdale ... 945-5781
Cal IFM - South 3455 Cahuenga Blvd Hollywood ... 213 469-1641
Conn E E Specialists Inc 281 Vera Rd Bristol ... 249-5654
Fla Roy Attaway Co 51 Robinson St Orlando ... 424-9983
Fla Roy Attaway Co 51 Robinson St Orlando ... 424-9983

Ill Midwest Electronic Sales 5707 W Division St Chicago 626-0030
Ind Midwest Electronic Sales 5462 E 40th St Indianapolis
Iowa Midwest Electronic Sls 2042 Franklin Ave, NE Cedar Rapids 362-4410
Kan Aero-Hill Sales 1635 Garland Ave Wichita 316 267-7167
Md Arnold Ratner Assoc, Inc 4928 St Elmo Ave Bethesda 657-2585
Mass E E Specialists Inc 111 Massachusetts Ave Boxborough 259-9200
Mich Electro Enterprises, Inc 15324 Mack Ave Detroit 886-2281
Minn Ed Melius & Assoc, Inc 3758 N Dunlap St Paul 488-7293
NY R P Kennedy Co, Inc 39 Saginaw Dr Rochester 271-6322
NC Radco Co 614 Nissen Bldg Winston Salem
Ohio Electro Enterprises, Inc 355 E 200th St Cleveland 486-7040
Pa Arnold Ratner Assoc Inc 301 York Rd Jenkintown .... TU 7-5250
Tex True Technology Co 12016 Fieldwood La Dallas 214 239-7741
Utah Cannon Engrg & Sales Co 2250 E 17th S Salt Lake City 485-9253
Wis Midwest Electronic Sales Inc 1317 Garfield Ave Waukesha .... LI 2-5129
For Cherd Viriyah Bhanij 320 Prasumane Rd Bangkok, Thai
For Jugolek Knez Mihajlova 1-3, Box 216 Belgrade, Yugo
For Laboratorium Strauss GmbH Neustiftgasse 36 Wien VII, Aus
Fr Radio Television Francaise 73 Ave De Neuilly Neuilly-Sur-Seine
GB Avo Intl Ltd 1 Torrington Pk London N12 2-6233
Jap Japan Avia Electns Ind Ltd 32, Nampeidai-Cho Shibuya-Ku, Tokyo
Braz Fornecedora De Material Med E Cientifico, S A, Rua Santa Luzia, 255-B Rio De Janeiro 1
Gr Nitrammon, Ltd 11A Pindarou St Athens 136
Ind Jafkay Engrg Corp, A C & R Div 216 Neelam Bombay
Isrl Racom Electronics Co, Ltd 74, Nordau Blvd Tel-Aviv
Aust Carba Australia, Ltd 679 Victoria St Abbotsford, N.9, Victoria

ASSOCIATED TESTING LABS INC, NEW ENGLAND
DIV NORTHWEST IND PARK BURLINGTON
MASS 01803 .... 617 BR 29050
R HERLIHY

ASSOCIATE GENERAL LABS INC
8934 W OGDEN AVE BROOKFIELD
ILL 60513 312-485-1135
A SCHROEDER EMP 5 ENG 2 $100-$250M
Cal R T Stevens 1421 Broadview Dr Glendale 213-747-9221
For Streuber & Lachicotte Inc 2116 Merrick Ave Merrick N Y 516-623-3883

ASTATIC CORP BOX 120 CONNEAUT
OHIO 44030 .... 216 599-6916
F LINTERN EMP 500
Cal William J Purdy 770 Airport Blvd Burlingame 415-347-7701
Colo Connors Inc 2241 Stacey Dr Denver 428-1575
Ga Hollingsworth & Still Inc 22 Executive Pk W N E Atlanta 404-634-6373
Haw Earl Assoc 1638 Kona St Honolulu 949-6953
Ill Jerry Golten Co Inc 4319 W Irving Park Rd Chicago 312-725-7870
Ind Edwin A Schulz Co 721 Sherwood Dr Indianapolis 317-255-1993
Mass Anderson Sales Co 177 State St Boston 617-CA7-2980
Mich Robert Milsk Co 19375 James Couzens Hwy Detroit 313-342-6660
Minn Mel E Foster Co Inc 228 S Cedar Lake Rd Mnpls 612-374-2612
Mo Maury E Bettis Co 3706 Broadway Kansas City 816-LO1-0772
NY Paston-Hunter Co 2002 Teall Ave Syracuse 315-437-2992
Ohio Mike Roth Sales Co 678 S Green Rd Cleveland 216-382-9090
Ore Dale G Weber Co Weatherly Bldg Portland 503-234-0686/7671
Pa Lowery Assoc 2801 W Chester Pike Broomall 215-EL6-5300
Tenn Cartwright & Bean 560 S Cooper Memphis 901-276-4442
Tex J Y Schoonmaker Co Inc 2295 Ladybird La Dallas 214-357-8481
Wis E A Dickinson & Assoc 3612 N Green Bay Ave Milwaukee .... CO 4-1080
Can Canadian Astatic Ltd 1820 Ellesmere Rd Scarborough Ont 416-291-6284

ASTRO COMMUNICATION LAB DIV AIKEN
INDUSTRIES 9125 GAITHER RD GAITHERSBURG
MD 20760 TWX 710-828-9706 .... 301 948-5210
C COSTOLO EMP 180 ENG 25 $2,500-$5,000M
Ala Astro Communication Lab 720 Woodbine Rd SE Huntsville 205 883-2301
Cal Astro Communication Lab 1720 W LaPalma Anaheim 714 635-1080
Can Tele-Radio Systems Ltd 1015 Finch Ave W Toronto Ont 416 635-5221
For Rocke International Corp 13 E 40th St New York N Y .... MU 9-0200

ASTRODATA INC 240 E PALAIS RD ANAHEIM
CAL 92803 TWX 714-776-3760 .... 714 772-1000
K POMMIER EMP 1100 ENG 250 OVER $10,000M

Ala Lee Assoc Inc 5R Traylor Island Huntsville 205 539-0761
Ariz Moxon Elctns Corp 15 N 40th Pl Phoenix 602 273-7363
Cal Moxon Electronics Corp 15 W 41st St San Mateo 415 345-7961
Cal Moxon Electronics Corp 2311 Pontius Los Angeles 213 272-9311
Colo BFA Inc 1309 S Inca St Denver 303 774-3301
Conn Instrument Assoc Inc 234 Murphy Dr Hartford 203 525-9367
Fla Lee Assoc Inc 200 E Marks St Orlando . 305 241-4445
Idah Comptronics Inc 3220 16th Ave W Seattle Wash 206-284-4842
Idah BFA Inc 1309 S Inca St Denver Colo .. 303-744-3301
Ill Engineering Services Co 6717 Vernon Ave St Louis Mo 314-726-2233
Kan Engineering Services Co 7924 A State Line Prarie Village 913-649-4000
La Lee Assoc Inc 5R Traylor Island Huntsville Ala 205-539-0761
La BFA Inc Box 50 Friendswood Tex 713-482-7563
Md Lee Assoc Inc 12250 Wilkins Ave Rockville 301 949-4800
Mass Instrument Assoc 30 Park Ave Arlington 617 648-2922
Mo Engineering Services Co 6717 Vernon Ave St Louis 314-726-2233
Mont BFA Inc 1309 S Inca St Denver Colo .. 303-744-3301
Mont Comptronics Inc 3220 16th Ave W Seattle Wash 206-284-4842
NJ Moxon Elctns Corp 151 Hackensack Hackensack 201-343-9490
NJ Moxon Elctns Corp 40 Coles Ave Cherry Hill 609 665-5444
NM BFA Inc 1238 Ortiz St S E Albuquerque 505-268-4387
NY SBM Assoc Inc 800 Linden Ave Rochester 716 381-8330
NC Lee Assoc Inc 825 Burke St Winston-Salem 919-724-2406
Okla BFA Inc 3216 E 21st St Tulsa 918-936-5295
Pa Moxon Elctns Corp 40 Coles Ave Cherry Hill N J 609-665-5444
Tex BFA Inc 708 W Euless Blvd Euless 817 283-4684
Wash Comptronics Inc 3220 16th Ave W Seattle 206 284-4842
Can BRH Assoc Ltd 6338 Victoria Ave Montreal 514 733-5331
Can BRH Assoc Ltd 1300 Carling Ave Ottawa 613 728-0113

ASTRODYNE INC 207 CAMBRIDGE ST BURLINGTON
MASS 01803 .... 617 272-3850
A MOWATT EMP 50 ENG 1 $500-$1,000M
Ariz R A Strassner Co 55 E Thomas Rd Phoenix .. 277-3921
Cal R A Strassner Co 3003 Glendale Blvd Los Angeles 666-4040
Cal R A Strassner Co 885 N Antonio Rd Los Altos 948-3334
Colo Beta Technical Sales 4858 S Acoma Englewood 781-3271
Fla Massey Assoc Box 13577 St Petersburg 347-6183
Ill Escor Assoc 6582 NW Hwy Chicago 763-4797
Iowa Escor Assoc 309 4th Ave SE Clarion 532-3218
La Gordon V Peck Co Box 8087 New Orleans ... 282-1553
Md Leff Sales 408 York Rd Towson 823-0774
Mass Harman Assoc 251 Harvard Brookline 232-6687
Mich Component Insulation Co 610 N Woodward Birmingham 644-0087
Minn Beta Engineering Co 128 Jackson Ave N Hopkins 938-2551
Mo Escor Assoc 4969 Bancroft St Louis 352-2027
NJ Leff Sales Assoc 5900 Westfield Ave Pennsauken 663-4025
NY Metro Technical Sales 103 Pinewood La Massapequa 748-1066
NY Tech-Mark Inc 101 Jefferson Ave Endicott . 748-7473
NC P J Nahser Co Box 432 Burlington N C 226-8053
Ohio Component Insulation Co 14235 Detroit Ave Cleveland 521-3570
Okla Gordon V Peck Co Box 15671 Tulsa 345-9809
Pa J W Knight 4 Longfellow Rd Pittsburgh 781-8304
Tex Gordon V Peck Co 210 Casa Linda Plaza Dallas 328-3511
Wash G M Gillett Box 99035 Seattle 284-3344
Can Tech Assoc Ltd 1262 Don Mills Rd Don Mills Ont 445-7490
For J P Intl Corp 1989 Summer St Stamford ... 348-2691

ASTRO ELECTRONICS, INC 1160 E ASH AVE
FULLERTON CAL 92631 .... 714 526-5581
S SCHREIBER EMP 35 ENG 3 $500-$1,000M

ASTRO INDUSTRIES, INC BOX 938
SANTA BARBARA CAL 93102 .... 805 963-3461
J WIESTER EMP 20 ENG 4 $500-$1,000M

ASTRO LAB 9371-D KRAMER AVE WESTMINSTER
CAL 92683 .... 714 839-0741
C FURGERSON EMP 5 ENG 2 UP TO $100M

ASTROLAB INC 4 MCCANDLESS ST LINDEN
N J 07036 .... 201 925-2252
J TOMA EMP 26 ENG 6 $500-$1,000M
Ill Communications Engrs 7106 N Western Ave Chicago 312-761-0548
Minn Howard W Carlson Co 100 N 7th St Minneapolis 612-336-2236
NY E W Stone Co 308 Merritt Ave Syracuse 315-469-6688
Tex P J Scanlon Co Inc Box 70 Richardson . 214-AD1-4661
Ital Motordiesel Box 116 Via Minizoni 5 La Spezia

ASTRO-METRIX CORP 125 W PROVIDENCIA ST
BURBANK CAL 91502 .... 213 849-4759
J FLOYD EMP 30 ENG 4 $500-$1,000M
Cal Mauldin Co 441 California Ave Palo Alto
NJ G Curtis Engel & Assoc 210 S Broad St Ridgewood
Wash Cane-Jessup Co Inc Box 250 Bellevue

ASTRONAUTICS CORP OF AMERICA 907 S FIRST ST
MILWAUKEE WIS 53204
TWX 910-262-3153 .... 414 671-5500
R SEINFELD EMP 475 ENG 180 OVER $10,000M
NY S Meyers 150 Broadway New York 962-0856
Ohio J Simpkins 319 Park Ave Lebanon 513-932-6751

ASTRO-SCIENCE CORP SUB TRACOR INC
9700 FACTORIAL WAY EL MONTE CAL 91734

ASTRO SEAL INC 1710 CHICO AVE S EL MONTE
CAL 91733 .... 213 686-0670
J WOOD EMP 25 ENG 2 $500-$1,000M
Ohio Frank J Campisano & Assoc 3985 Race Rd Cincinnati
Pa J M Fox Co 110 Airview Dr Irwin
Wash Ward M Doland Co 545 108th NE Bellevue 206-454-4952

ASTRO-SPACE LABS INC 110 WYNN DR
HUNTSVILLE ALA 35806
TWX 810-726-2111 .... 205 837-5830
R MAPES EMP 160 ENG 6 $1,000-$2,500M

ASTROSYSTEMS INC 6 NEVADA DR
NEW HYDE PARK N Y 11040
TWX 510-223-0411 .... 516 328-1600
N WHEATCROFT EMP 160 ENG 27
$5,000-$10,000M
Ala Kemp Instr Inc 4306 Governors Dr W Hunstville 205-837-4304
Cal Bill Wille 4341 W Commonwealth Ave Fullerton 714-523-0820
Colo D E Bond Assoc 2149 S Clermont St Denver 303 756-1234
Fla Fact-Tronics Inc Box 745 Cassel Berry . 305-838-5607
Ill Engineering Products 25W485 Geneva Rd Wheatin 312-653-6826
Md L G White & Co 1110 Fidler La Silver Spring 301-585-3141
Mass W E Weeton & Co Box 77 Needham ... 617-444-1012
Minn Engineering Prods 2119 Grand Ave St Paul 612-698-5531
Mo Kemp Engineering Co 10702 Manchester Rd St Louis 314-968-0300
NM D E Bond Assoc Box 11331 Albuquerque 505-247-3442
NY Decew Agency Inc Box F Sodus 315-HT3-3261
NC L G White & Co Box 2356 Winston-Salem 919-725-3612
Ohio Rep Corp 2077 Embury Park Rd Dayton 513-278-5885
Ore Showalter-Judd Inc 1445 NE Arrington Hillsboro 503 648-6372
Pa Denco 500 A E Godfrey Ave Philadelphia 215-725-9000
Tex Kemp Engineering Co 2618 Manana Dr Dallas 214-357-6663
Wash Showalter-Judd Inc 1806 S Bush Pl Seattle 206 324-7911
Can Turnelle Assoc Ltd 15 Glenmanor Dr Ottawa 1 Ont 613-224-2748
GB Litton Precision Prods Int Inc 95 High St Slough Bucks SLO-28267

ATES COMPONENTI ELETTRONICI SPA
VIA TEMPESTA, 2 MILANO ITALY
TWX 31481 4695651
E BARTOLOZZI EMP 900 ENG 85
$5,000-$10,000M
For G Abruzzese c/o Gedag Ullmannstr 46 Vienna XV 8553505
Den Industrial Electronics 23/25 Rosenvaengets Alle Copenaghen
Fr Tekimex 99 Faubourg-du-Temple Paris X ... 2053230
Ger R Breiden Weselerstr 22 4 Duesseldorf .. 0211-634214
GB Ates Comp Electronici S P A Boston Manor Rd Brentford London 01-560-000
Neth Geo CF Kauderer Electronic House Muiden .... (02942) 1342
Ital Ates Componenti Elet S P A Via Tempesta, 2 Milano 4695651
Nor Skandinavisk Elektronikk A/S Ebbellsgt I P O 129 Oslo 425873
SAfr Mts Desselss Pritchard & Nugget St Johannesburg 237911/12
Spn Unitronics Torre de Madrid Pl 12 of 9 Madrid . 2411496
Fin Oy Hermas Ab Arkadiankatu 18a Helsinki 10 .. 496314

ATHENA CONTROLS INC 2 UNION HILL RD
WEST CONSHOHOCKEN PA 19428 ..... 215 828-2490
W HARCUM EMP 12 ENG 5 $100-$250M
Cal Montgomery Bros Inc 1831 Bayshore Hwy Burlingame 415 697-6500
Cal Chas Meriam Co 5017 Telegraph Rd Los Angeles 213-269-8271
Colo Peterson Co 4949 Colorado Blvd Denver 303 388-6322
Fla Jack Barber Co 1813 Brentwood Dr Clearwater 813 442-8713
Ill Electric Thermal Sys Inc 211 N Lincoln Hinsdale 312 325-1960
Ind Electro Engrg & Sales Inc 6909 E 32nd St Indianapolis 317 547-5273
Kan Glenn F Beckett Co 7546 Troost St Kansas City Mo 816-361-4728
Md Mark Lund Assoc 2828 Mary St Falls Church Va 703-560-8400
Mass Chas T Morgan Co 500 Maple St Danvers 617 774-3215
Mich Wm C Fay Co 1204 N Woodward Royal Oak 313 543-9440
Mo Herdlein Instrument Supply Co 14831 Phelps Dr Bridgeton 314 865-2547
NJ PAR Assoc 339 Queens Ct Ridgewood .. 201-447-3722
NY Carlen Reps 3650 James St Syracuse .. 315-437-2921
NC Sloan Assoc 1409 E Boulevard Charlotte 704 372-4871

Ore Montgomery Bros Inc 1632 NW Johnson St
Portland 503 223-4197
Pa Research Appliance Co Rte 8 & Craighead Rd
Allison Park 412 961-0588
Tex John F Gaumer Co 3701 Piney Wood Dr
Houston .... 713 OV 6-3483
Va Sloan Assoc 4828 Morrison Rd
Richmond 703 358-4115
Wash Montgomery Bros Inc 911 Western Ave
Seattle 206 624-7297

ATKINS & MERRILL INC REINFORCED PLASTIC DIV
HAYES MEMORIAL DR MARLBORO MASS 01752
TWX 710-347-0389 .... 617 485-8000
R MAKIN EMP 100 ENG 10 $250-$500M

ATKINS TECHNICAL, INC
106 STENGEL & ARCHER RD GAINESVILLE
FLA 32603 .... 305 372-3518
R ATKINS EMP 15 ENG 3

ATKOMATIC VALVE CO INC 141 S SHERMAN DR
INDIANAPOLIS IND 46201
TWX 027-345 317-357-8421
A RICHARDSON EMP 27 ENG 3
Ala Chas F Wheelock & Assoc 3606 6th Ave S
Birmingham 205-595-1172
Ariz Bews & Wallace Co 2515 E University Dr
Phoenix 602-275-4496
Cal Brenner-Fiedler & Assoc 7563 Melrose Ave
Los Angeles 213-651-4309
Colo Berry Co 2636 S Sheridan Blvd Denver . 303-936-1694
Conn Pond Technical Sales 3013 Dixwell Ave
Hamden 203-288-6278
Fla Control Center Inc 1013 E Montana St
Orlando 305-841-3781
Ga Rittelmeyer & Co 150 Nassau St N W
Atlanta 404-524-1531
Ill Smith & MacKay 9224 S 54th Ct
Oak Lawn 312-723-4300
Ind M W Lowe 4823 Round Lake Rd Indpls . 317-251-1513
Iowa Quint-Cities Service Engrg Co Brady & Mt Joy
Davenport 319-391-5410
Ky Richard Equip Co 4211 Norbourne Blvd
Louisville 502-895-8060
La Pneumatic & Hydraulic Co 2500 North St
Baton Rouge 504-343-6693
Mass Pump Equip & Engrg Co 79 Prospect St
Somerville 617-666-4444
Mich L W Jeffries Co 22020 Ryan Rd
Warren 313-755-6162
Minn w8a-Tu-Zee Inc 1879 University Ave
St Paul 612-646-6383
Mo Zeppenfeld & Co Box 3763 Kirkwood .. 314-822-2333
NY Gale Engineering Co 200 Madison Ave
New York 212-684-3874
NC Mec-Tric Control Co 4110 Monroe Rd
Charlotte 704-376-8552
Ohio Commercial Elec Prods Corp 1738 E 30th St
Cleveland 216-241-2886
Pa John C Whiddett Co 7716 W Chester Pike
Upper Darby 215-528-6400
Tex Southwestern Controls 5633 Southwest Fwy
Houston 713-666-2801
Va H M Summerell Co 104 S Foushee St
Richmond 703-644-0361
Wash Greaves Co 4411 23rd Ave W Seatlle .. 206-284-0660
Wis D E Riley Corp 7832 W Burleigh St
Milwaukee 414-871-4040
For Ferreteria Electra Ltda Apdo Aereo 1349 Cali Col
Den Ditz Schweitzer St Kongensgade 59 Copenhagen
Fr Automation-Service-Access 67 Blvd de Clichy
Paris 19e
Ger Pneutex Firma E Baurman K G Bergstr
Neth Masten-Wright Holland N V Halstr 3 Apeldoorn
Ital Cosmotecnica S N C Via Del Bollo 4 Milano
Jap Yashima Exp & Import Co Ltd
9-1 Akaska 3 Chome Tokyo
Nor Lauritzen & Thommessen A S Gladengveien 3b
Oslo 5
SAfr R H Harriss Pty Ltd 28-32 Harry St
Robertsham-Johannesburg
Swit Tecalto Ltd Dufourstr 153 Zurich 8134
Belg N V Servitec S A Pierstr 5 Asrtselaar
Braz W E R D U P Rua Olga 139 Bonsucesso
Rio de Janeiro G B
Ind Bali Intl Agencies Palton Rd Mohatta Market Bldg
Bombay 1-BR
Isrl Kim Sales Ltd 127 Shalma Rd Tel-Aviv
Aust M E Mack & Co Pty Ltd Box 136 Box Hill Vic

ATLANTIC INDIA RUBBER CO 571 W POLK ST
CHICAGO ILL 60607
TWX 910-221-0026 .... 312 427-8290
E RYAN EMP 325 ENG 5 $2,500-$5,000M
Colo J Ryan 2295 E Asbury Denver 722-2214
Conn Pfannkuch & Co 935 White Plains Rd
Trumbull 268-4950
Fla R E Koldhoff Box 5066 Clearwater 531-6915
Ill Hanco 5316 W Irving Park Rd Chicago 545-4506
Iowa J T Hersey 2120 SE Greenwood Dr
Cedar Rapids .... EM 2-2031
Mich Pebco 286 Penobscot Bldg Detroit 965-7947
Minn Wm Magnuson 9001 S Interstate 35 W
Minneapolis 888-9292
Mo Smith-moschner & Co
6025 Chippewa at Hampton St Louis .... FI 1-1177
NY S D Christie Assoc 175 Fifth Ave New York . OR 4-9010
Ohio Purchasing, Inc 104 Wintergreen Hill
Painesville 357-5182
Pa C E Heyde Box 378 Devon .... MU 8-8833
Tenn Perfection Sales 6115 Robertson Rd
Nashville .... CY 1-2251
Wis G K Tollaksen 610 Main St Racine .... ME 2-2345

ATLANTIC INSTRUMENTS & ELECTRONICS, INC
50 HUNT ST WATERTOWN MASS 02172 . 617 926-2400
R DOWNEY EMP 30 ENG 3 $500-$1,000M

ATLANTIC LAMINATES INC 174 N MAIN ST
FRANKLIN N H 03235
TWX 603-934-5210 .... 603 934-5736
M AMALFITANO EMP 18 ENG 3 $500-$1,000M
Ind D-M Assoc Box 324 Noblesville 317 773-1766
Mass Circuit Lines Assoc Box 261 Groton 617 448-5280
NJ Krone Assoc 19 Christy Dr Warren 201-469-3553
Pa Danton Assoc 102 Montrose Ave
Rosemont 215-525-7311
Can Eldon Controls Ltd 815 43rd Ave
Lachine Que 514-634-2428

ATLANTIC OPTICAL MOULDING CO 87 ELLIS ST
DUDLEY MASS 01571 .... 617 943-1746
J KRYSIAK EMP 5 ENG 1 UP TO $100M

ATLANTIC SEMICONDUCTOR INC
905 MATTISON AVE ASBURY PARK
N J 07712 .... 201 775-1827
C DEE EMP 160 ENG 8 $1,000-$2,500M
Cal Components Unltd 1020 Corp Way Palo Alto
Colo R G Bowen Co Inc 1440 S Santa Fe Denver
Ill M & S Sales Co 4750 N Milwaukee Ave
Chicago 545-1771
Md Tomco Sales Co Long Point on the Severn
Crownsville
Mass Conti-younger Assoc 181 W St Waltham
Mich Norwood Scruggs Co 2221 Arbor Hills Rd Jackson
Minn Wenco Sales Inc 7728 Morgan Ave S Mnpls
NJ Paul Sweeney Co 750 Kensington Ave
Plainfield 757-4523
NM C T Carlberg & Assoc 2611 Quincy NE
Albuquerque
NY FReudman-Brick Assoc 1 W Terrace Rd
Great Neck
Ohio Robert Mayne & Co 2412 Far Hills Ave Dayton
Wash Al Smith Co 405 166 SE Bellevue 622-2212

ATLANTIC TECHNOLOGY CORP
7TH & NEW HAMPSHIRE SOMERS POINT
N J 08244 .... 609 927-5501
J MCDONNELL EMP 50 ENG 15 $500-$1,000M

ATLANTIC ULTRAVIOLET CORP 24-10 40TH AVE
LONG ISLAND CITY N Y 11101 .... ST 4-6106
J MONE EMP 7 ENG 2 $1,000-$2,500M

ATLAS COIL CORP 63 MAIN ST ANSONIA
CONN 06401 .... 203 735-4628
R KAYE EMP 28 ENG 5 $250-$500M

ATLAS CONTROLS DIV ATLAS ENGRG CO INC
10 CHENEY ST DORCHESTER MASS 02121
TWX FAX-FUL 617 445-0180
J BUCKLER EMP 125 ENG 5 $500-$1,000M
Cal Technical Liaison Co 1626 Centinela Ave
Inglewood 213-670-6971
Colo H P Daigle Co 2785 N Speer Blvd Denver ... 433-0026
Fla Perrott Assoc 1607 Forsyth Rd Orlando . 305 275-1132
Mo Gordon Fixman Eng Co 8160 Stanford Ave
St Louis 314 725-5219
Can Conway Elec Enterprises 88-90 Arrow Rd
Weston, Ont 244-5655

ATLAS ENGINEERING CO, INC 10 CHENEY ST
DORCHESTER MASS 02121 TWX GWS .. 617 HI 5-7100
R ANTHONY EMP 110 ENG 11 $2,500-$5,000M
Fla Perrott Assoc 501 Park Ave N Winter Park . 647-3038
Mass Ralph Anthony 59 Boston-Rock Rd Melrose . NO 5-8124
NY Kahgan Sales Corp 556 Pennisula Blvd
Hempstead 538-2300

ATLAS ENGINEERING CORP 26 CUSTER ST
WEST HARTFORD CONN 06110 .... 203 246-5651
C SCHECTMAN EMP 25 ENG 1 UP TO $100M

ATLAS SOUND DIV AMER TRADING & PROD CORP
10 POMEROY RD PARSIPPANY
N J 07054 .... 201 887-7800
J PALMIERI EMP 200 ENG 7 $2,500-$5,000M
Cal F W Moulthrop & Assoc 1530 E 12th St
Oakland 261-7676
Cal Bassett & Moore 12045 Magnolia Blvd
N Hollywood 766-2117
Colo Gordon Moss Electronics Inc Box J Greeley .. 353-1452
Fla Cartwright & Bean 779 John Anderson Dr
Ormond Beach 677-3480
Fla Cartwright & Bean 20100 NE 25th Ct
N Miami Beach 945-2962
Ga Cartwright & Bean 3223 Cain's Hill Pl NW
Atlanta 237-2273
Ill Bruce Cumming & Assoc Inc 6029 W Belmont Ave
Chicago .... ME 7-3770
Ind Thomas & Sukup Inc 2060 E 54th St
Indianapolis .... CL 1-4574
Kan Koenig-Myers Assoc Box 374
Shawnee Mission .... HE 2-8300
La Cartwright & Bean 1812 Bullard Ave
Metairie 887-0482
Md Lowery Assoc 6200 Annapolis Rd Hyattsville . 773-4977
Mass Jim Piper Assoc 10 Haven St Dover 449-1144
Mass Jim Piper Assoc 20 Winslow St Plymouth ... 746-6522
Mich Robert Milsk Co 19375 James Couzens Hghwy
Detroit 342-6660
Minn Clark R Gibb Co 1311 W 25th St
Minneapolis .... FR 7-1200
Mo Koenig-Myers Assoc 2721 Beloit Dr Bridgeton
NY Paston-Hunter Corp 200 Teall Ave
Syracuse 437-2992
NY Irv Brown Co 401 Kingston Ave Brooklyn ... HY 3-1379
NC Cartwright & Bean 625 Harwyn Dr
Charlotte 537-7965
Ohio F A Daugherty Co 6025 Mayfield Rd
Cleveland 449-1122
Ore Northwestern Agencies 3950 S Elmran Dr
Lake Oswego 636-5779
Pa Cooper-Daugherty Sales Co 112 Oakwood Rd
McMurray 941-6473
Pa Lowery Assoc 2801 W Chester Pike
Broomall .... EL 6-5300
Pa Lowery Assoc 1501 Allison St Harrisburg ... 233-0917
Tenn Cartwright & Bean 560 S Cooper St
Memphis .... BR 6-4442
Tex J Y Schoonmaker Co 2995 Ladybird Lane
Dallas 357-8481
Tex J Y Schoonmaker Co 107 Winnetka
San Antonio .... DI 2-0251
Wash Northwestern Agencies 4130 First Ave S
Seattle .... MA 3-8882
Wis Bruce Cumming & Assoc Inc 5537 N Argyle Ave
Milwaukee 372-7650

ATLAS WIRE & CABLE CO. INC. 72 N BROADWAY
YONKERS NY 10701 914-969-5158
S HILLMAN EMP 10 ENG 2
ADV PGS 75,723

ATLEE CORP 2 LOWELL AVE WINCHESTER
MASS 01890 .... 617 729-5800
W CARROLL EMP 50 ENG 4 $500-$1,000M
Cal Dorado Electronics Inc 13615 Victory Blvd
Van Nuys 213-873-4124
Fla Floyd Fausett & Co Inc 685 Selkirk Dr
Winter Park 644-6672
Ga Floyd Fausett & Co Inc 2264 Melinda Dr NE
Atlanta 633-3561
Ill Ellinger Sales Corp 6580 N Northwest Hwy
Chicago 763-1570
Iowa Ellinger Sales Corp 309 Fourth Ave Clarion .. 532-3218
Md Callas Electronics 6409 Frederick Ave
Baltimore 744-7711
Mo Ellinger Sales Corp 4969 Bancroft St Louis . FL 2-2027
NJ A L Livera & Assoc 2 Green Village Rd
Madison 201 377-3220
NY A L Livera & Assoc 275 Warner Ave
Roslyn Heights 516 484-2374
Ohio Deo Volente & Assoc 4240 Eaglehurst Rd
Toledo 882-2830
SC Floyd Fausett & Co Inc Stony Point
Greenwood 451-7847
Tex Lee Sales Co 747 Sherman St
Richardson 214 231-6149
Can Kaytronics Engrg 5800 Monkland Ave
Montreal 28 Que 514-489-9335
Can Kaytronics Engrg 1806 Avenue Rd
Toronto 12 Ont 416 789-1991
Neth Acowi 4 Nassau Odijckstr Hague 245685
Ital Gimas Via Marco Greppi Milan 57-8471

ATMAR ENGRAVING CO INC 91-31 121ST ST
RICHMOND HILL N Y 11418 .... 212 846-2700
M WITTMAN EMP 45 ENG 2 $500-$1,000M
Mass Tech-Line Co Box 34 Needham
Mo Suor Sales Corp 8115 Troost Kansas City
Tex Lawrence Sales Box 1038 Richardson

ATMOSPHERICS INC 4981 E DAKOTA FRESNO
CAL 93727 .... 209 291-4161
T HENDERSON EMP 10 ENG 2 UP TO $100M

ATOHM ELECTRONICS MILITARY & COMMERCIAL
PRODS DIV 3020 EMPIRE AVE BURBANK
CAL 91504 TWX 910 498-2204 .... 213 842-4811
D DOCKRAY EMP 180 ENG 8 $2,500-$5,000M
Ala Young & Lawrence Assoc 2901 Governors Dr SW
Huntsville 539-6575
Ariz Hytronics Measurement 1017 N 3rd St
Phoenix 253-6104
Cal AAA Sales 2556 Chicago St San Diego 279-8140
Colo Hytronics Measurement 4940 E 39th Ave
Denver 388-4081
Fla Young & Lawrence 601 N New York Ave
Winter Park 647-6929
Ga Technical Industries 3456 Hardy Ave
Atlanta 404 451-3177
Ill Repwood Inc 260 Sunset Ave Glen Ellyn 469-2344
Ind Tri-State Mktg Inc 3220 Broadway
Fort Wayne 422-0821
Iowa Howard R Brown Sales Co 3400 Indian Rd SE
Cedar Rapids 366-0635
Mich Skip Greiner Assoc 15318 Mack Ave Detroit . 882-7570
Mo Technical Marketing Inc 2050 Woodson Rd
St Louis .... HA 7-3600
NY S F Foster Co 2806 Hennaberry Rd Pompey . 677-3333
Ohio Tri-State Mktg, Inc 1717 Section Rd
Cincinnati 631-5060
Pa Arnold Assoc 2 Ryers Avenue Cheltenham ... 279-8140
Tex Robert Sales 9704 Lanward Dr Dallas 348-4283
Tex Texport Co 8811 Gaylord Houston
Wash C Lyle Reeve Mktg Assoc Box 7087 Seattle . 542-5889
Wis Repwood Inc 8019 N 50th St Milwaukee ... 354-5161

ATOMERGIC CHEMETALS CO DIV
GALLARD-SCHLESINGER CHEMICAL MFG CORP
584 MINEOLA AVE CARLE PLACE
N Y 11514 .... 516 ED 35600
M BLUM EMP 25 ENG 5 $2,500-$5,000M
Cal Ron Geller 10767 Rose Ave No 43
Los Angeles 213-836-2777
Ill Wm E Phillips, Inc 435 N Michigan Ave
Chicago 644-9611
Ohio Aertronic Assoc Inc 5899 Huberville Ave
Dayton 253-8144
Can Aldert Chemicals Ltd 110 DuPont St
Toronto 922-0823

ATOMIC LABS, DIV CENCO INSTR CORP
2600 S KOSTNER CHICAGO ILL 60623 .. 312 277-8300
L MILLER EMP 10 ENG 1 $500-$1,000M

ATOMITE ELECTRONICS CORP 119 PLEASANT AVE
ROOSEVELT N Y 11575 .... 516 MA 3-3100
R THAW EMP 20 ENG 1 $250-$500M

ATR ELECTRONICS, INC 300 E 4TH ST ST PAUL
MINN 55101 .... 612 222-3791
A GOFFSTEIN

AUBURN MFG CO PEASE AVE & STACK ST
MIDDLETOWN CONN 06457 ....203 346-6631
M WEINER EMP 75 ENG 1 $1,000-$2,500M
Cal Pritchard & Haney Co Box 102 Los Altos ...941-2240
Fla Wm F Newman 1391 21st St SW Largo
Ind Bob Carpenter & Assoc 4328 Dodge Ave
Ft Wayne 748-7813
Mich Alfred R Dixon & Assoc 4346 Woodward Ave
Royal Oak ....JO 6-3160
Mo A O Woerner & Sons 4030 Chouteau Ave
St Louis ....FR 1-2780
NY Stephen Lamb Assoc 60 E 42nd St
New York ....MU 7-6854
Ohio Ralph M Nelson & Co 801 Marshall Bldg
Cleveland ....CH 1-4581
Va Chas Legg Box 36 Roanoke ....DI 3-4229

AUBURN PLASTICS, INC MCMASTER ST AUBURN
N Y 13022 ....315 253-5325
C FLEMING EMP 265 ENG 7

AUBURN SPARK PLUG CO, INC 89 YORK ST AUBURN
N Y 13022 ....315 252-9501
J SMITH EMP 130 ENG 10 $1,000-$2,500M

AUDIO ACCESSORIES, INC GILSUM
N H 03448 ....603 352-2320
R BERNIER EMP 10 ENG 1 $100-$250M
Cal Koessler Sales Co 2010 W Burbank Blvd
Burbank 849-5716
NY S Glassman Assoc Inc 28 Prestwick Terr
Glen Cove 676-1039
For M Simons & Son Co Inc 150 Broadway
New York, N Y 227-5513

AUDIO DEVICES INC SUB CAPITOL INDUS
100 RESEARCH DR GLENBROOK CONN 06906
TWX 710-581-2895
R VAUGHAN EMP 500 OVER $10,000M
Cal Audio Devices Inc 1426 Flower St Glendale ..245-6587
Colo R G Bowen Co 721 S Broadway Denver 722-4641
Fla Hollingsworth & Still 1010 Executive Ctr Dr
Orlando 241-5401
Ga Hollingsworth & Still 3098 Piedmont Rd
Atlanta 261-5838
Haw EDP Products 2060 Amanu St Pearl City
Ill Audio Devices Inc 7321 N Hamlin Ave
Skokie 583-4161
La Cartwright & Bean Inc of Tenn 1812 Bullard Ave
Metaire 834-8312
Md Audio Devices Inc 8605 Cameron St
Silver Spring 585-4845
Mich Burcaw-Cowan & Co 18236 W McNichols Rd
Detroit 533-7700
Minn Heimann Co 5603 Lyndale Ave, S
Minneapolis 827-5457
NM C T Carlberg & Assoc 2611 Quincy St NE
Albuquerque 265-1579
NY Audio Devices Inc 1790 Broadway New York .246-1225
NC Hollingsworth & Still 6717 Woodstock Dr
Charlotte 523-3327
Ohio Neal Bear Corp 3435 Streetsboro Rd
W Richfield 659-3331
Pa A S Burke & Co Box 576 Donora
Tenn Cartwright & Bean 560 S Cooper St
Memphis 276-4442
Tex John Fitzgerald 8282 Park Pl Blvd Houston .649-7182
Utah R G Bowen Co 31 S 3rd St E Salt Lake City .467-5128
Wash Ron Merritt Co 1320 Prospect St Seattle ...682-7337
Can Alex L Clark Ltd 3751 Bloor St W
Islington, Ont 231-330
For Rocke International 13 E 40th St
New York, NY 689-0200
For Melco International 74 Fifth Ave New York
Fr Audev S. A. R. L. Vetraz-Montoux B.P. 206
(74) Annemasse, France
Swit Audio Devices Inc 34, Rue de Athenee
1206 Geneve
BC Electro-Tec Marketers Inc 1624 W 3rd St
Vancouver 736-6377

AUDIO DYNAMICS CORP PICKETT DISTRICT RD
NEW MILFORD CONN 06776 ....203 354-3911
EMP 100 ENG 9 $1,000-$2,500M
Ala J F Russell Sales Co Box 20092
Birmingham 822-2196
Cal Meyer Ross & Fleming 113 10th St
San Francisco 431-0652
Fla Bill Wylds Co 6820 SW 6th St
Pembroke Pines 468-3264
Ill Heinz Thiele Co 6611 N Clark St Chicago ...465-2622
Ind Shamrock Electronic Sales Co 5750 N Ewing
Indianapolis 251-7669
Md Charles Lienau Co 11411 Amherst Ave
Wheaton 949-6464
Mass Jim Piper Assoc 10 Haven St Dover 449-1144
Mich Dan Neumaier Assoc 27610 Schoolcraft
Livonia 425-8686
Minn Ray Ripley & Assoc 6838 Pillsbury Ave S
Mnpls 866-8682
NY Robt C Randall Assoc 114 Woodland Dr
Baldwinsville 652-5147
Pa James H Podolny Co 5912 Penn Ave
Pittsburgh 441-0800
Tex Hank Lieberman Sales Co Box 66216
Houston 526-3431
Wash Fleehart & Sullivan 3826 Woodland Pk Ave N
Seattle 633-4979
Can William Cohen Corp 8900 Park Ave
Montreal Que 382-2132
For Universal Trading Des Voex Rd C Hong Kong
Fr Audio Electronics Intl 14 Rue de St Marceaux
Paris
GB KEF Electronics Tovil Maidstone Kent
Neth Transtec Molenlaan 218 Rotterdam
Ital Audio via Goffredo Casalis Turin
Jap Imai & Co Ltd 6 Ichigaya Tomihisacho
Shinjuku, Tokyo
Swed Harry Thellmod Hornsgatan 89 Stockholm

Swit Egli Fisher & Co Gott Hardstr 6
Claridenhof, Zurich
Belg Televic Electronics 80 Izegemstr
Kachtem (WVI) Roulers
Aust J H Reproducers 199 Waverly East Malvern, Vic

AUDIO EQUIPMENT CO DIV WALTER KIDDE & CO
INC 75 HARBOR RD PORT WASHINGTON
NY 11050 516-883-5111
E ACUNTO EMP 80 ENG 4 $500-$1,000M

AUDIO INSTRUMENT CO INC 311 MOUNTAIN RD
UNION CITY N J 07087 ....201 864-4542
A ADAMS EMP 12 ENG 4 UP TO $100M
Ill Loren F Green & Assoc 5218 W Diversey Ave
612 781-1611
Wash M K Widdekind Co 815 W Ewing St
Seattle 206 284-8020
Can Alex L Clark Ltd 3751 Bloor St W Toronto .BE 1-3303
For Rocke Intl Corp 13 E 40th St
New York, NY ....MU 9-0200

AUDIO MAGNETICS CORP 14600 S BROADWAY
GARDENA CAL 90247 TWX 67-4311 ....213 321-6841
R ALLEN EMP 400 ENG 20 $5,000-$10,000M
Alas W P Watson 307 1/2 Glacier Ave W Fairbanks
Ariz Southwest Marketing Box 15233 Phoenix ..959-5210
Cal Hermalko 11040 W Santa Monica Blvd
Los Angeles 272-2197
Colo Norberg Price 1071 So Gaylord Denver 733-0540
Fla Henry Fine 1051 E 14th St Hialeah 885-3419
Ga R W Taylor Box 7794 Atlanta 577-1290
Ill Sheldon Schak Assoc 5717 N Elston Ave
Chicago 763-7020
Kan Howard O Roach & Assoc 3500 W 75th
Prairie Village 432-3700
Md A Parkett 7805 Winterberry Pl Bethesda ...365-1196
Mass Keene Sales Co 156 Broad St Lynn 595-1001
Mich Manny Charach Assoc 10434 W 7 Mile Rd
Detroit 341-9366
Minn G & C Assoc 7505 Hwy 7 Minneapolis 935-7878
NJ A Trachtenberg 133 Dumas Rd
Cherry Hill 609 428-3306
NY Herbert Schiller Assoc 142 Hillturn La
Roslyn Heights
Ohio Lapine Sales Co 2415 Fenwick Rd Cleveland .321-8358
Tex S & P Assoc 2100 Stemmons Frwy Dallas ..RI 7-1417
Wash P & G Assoc 1015 Republican St Seattle ...682-6880

AUDIOSEARS CORP SOUTH ST STAMFORD
N Y 12167 ....518 652-7305
G MAHLER EMP 100 ENG 2 $1,000-$2,500M
NJ Mech-Elec Sales Co 16 S Main St Medford .654-8209
NY James Somers Assoc 527 S Main St
Geneva 315-789-2238
Pa James Somers Assoc 1221 Woodhill Dr
Gibsonia 412-391-5309

AUDIOTRONICS CORP 7428 BELLAIRE AVE BOX 151
NORTH HOLLYWOOD CAL 91603 ....213 877-1308
C MUSSON EMP 175 ENG 5 $5,000-$10,000M
Cal Western A V Reps 2141 W La Palma
Anaheim 714 635-5252
Ill Vern Schultz & Assoc Box 4 Crystal Lake ...459-2333
NJ Audio Visuals Corp 6 Pompton Ave
Cedar Grove 239-5777
Tex Branum Co, A V Div Box J Richardson.....AD 1-6148

AUDIO VOX INTERCOM INC 9720 WAVERLY ST
MONTREAL 357 QUE 381-2741
EMP 16 ENG 2

AUDN CORP 323 UNION ST HAMBURG
N Y 14075 ....716 649-0703
P DONOGHUE EMP 25 ENG 5 $250-$500M

AUGAT, INC 33 PERRY AVE ATTLEBORO MASS 02703
TWX 710-391-0644 ....617 222-2202
E REDGATE EMP 250 ENG 6 $2,500-$5,000M
ADV PG 575
Cal Paul F Wiley Co 1632 Silverlake Blvd
Los Angeles 663-8028
Cal David Ross Co 534 El Camino Real
San Carlos 591-4411
Colo Gordon Moss Electronics Inc Box J Greeley ..353-1452
Fla H R Gross & Co Box 4607 Clearwater 446-6649
Ga Craft Assoc Co Box 11716 Atlanta 237-2282
Ill R M Krueger Co, Inc 5755 W Irving Park Rd
Chicago 282-8444
Ind R O Whitesell & Assoc Inc 6620 E Washington
Indnpls 359-5374
Kan Thos L Dowell Co Inc 7208 W 80th
Overland Park 913 649-6069
Md Daniel & Co Box 124 Lutherville 825-3330
Mass Stan Pierce Inc 24 Linden St Norwood 762-3164
Mich Hilltronics Inc 13720 Puritan Ave Detroit ...342-3242
Minn Mel Foster Co Inc 228 S Cedar Lake Rd
Mnpls 374-2612
NY Midstate Rsch Sales Inc 327 Wellesley Rd
Syracuse 478-8314
NY D Sonkin Assoc 10 Fiske Pl Mt Vernon 668-9809
NC Powertronic Inc Box 403 Thomasville 476-4257
Ohio Allen Nace Co Inc Box 156 Brecksville 526-4323
Ore C K Shanks & Assoc Box 25385 Portland ...292-5656
Tex John B Guenther Inc 4533 N Central Expwy
Dallas 214 528-6286
Can Whittaker Electronics Ltd 42 Howden Ave
Ottawa 5 613-224-1221

AUL INSTRUMENTS INC 139-30 34TH ROAD
FLUSHING NY 11354 ....212 886-0600
E SAUL EMP 40 ENG 6 $250-$500M
Ohio McShane 114 Trails End Dr Medina 725-4283

AULT, INC 3501 48TH AVE N MINNEAPOLIS
MINN 55429 TWX 029-693 ....612 588-0556
L PRINCE EMP 175 ENG 7 $2,500-$5,000M

AURICORD DIV SCOVILL MFG 35-41 29TH ST
LONG ISLAND CITY N Y 11106 ....212 361-7400
L WERNER EMP 35 ENG 4 $1,000-$2,500M
Cal Bassett & Moore 12045 Magnolia Blvd
N Hollywood 213 877-7129
Conn N P M Assoc 522 E Putnam Ave
Greenwich 203-869-4955
Ill W S Patterson Co 5604 N Western Ave
Chicago 312-AR 1-3774
Minn Dossett Engrg Inc 128 Jackson Ave
Hopkins 612-938-3332
Tex I B L Engrg & Sales Inc 219 Preston Royal Ctr
Dallas 214-EM 3-2921
For Emec Inc 55 E Old Country Rd
Hicksville Ny 516-WE 1-3700

AU-TENNA SYSTEM CO 27 PINE ST NEW CANAAN
CONN 06840 ....203 966-4489
J GRAY UP TO $100M

AUTH ELECTRIC CO, INC 34-20 45TH ST
LONG ISLAND CITY N Y 11101 201-786-9000
R RAYMOND EMP 275 ENG 3 $2,500-$5,000M
Ala C E Parker Co Brownell Bldg
Birmingham 205-322-7108
Ariz Ralph Morgan 132 E Stetson Dr
Scottsdale 602-946-6575
Ark C B Young Co 414 Pulaski St
Little Rock 501 374-9311
Cal Communications System Inc 2241 Quesada Ave
San Francisco 415 648-5485
Colo Jim Dawson Co 536 Kalamath St
Denver 303 255-7194
Conn A W Seiffert Co 20 Beech Tree Dr
Wethersfield 203-529-3364
Fla Fred Gross Sr Box 996 Coral Gables ...305 666-8769
Ga Secom Systems 3130 Maple Dr NE
Atlanta 404-261-8935
Haw J J Harding Co 2825 Valena St Honolulu.....561-771
Ill Custom Electrical Systems Box 593
Skokie 312 679-1425
Ind Electrical Equip Co 1617 Montcalm St
Indianapolis 317 632-4376
Iowa Midwest Equip Co of Iowa 1163 24th St
Des Moines 515 255-3116
Ky Fron-Paran Assoc 1941 Bishop La
Louisville 502 451-6769
La Jim Laubersheimer Assoc Box 51323
New Orleans 504 282-4696
Mass D & F Sales Co Inc J F Kennedy Sta Box 9135
Boston 617 547-4451
Mich A J Riopelle Co 15631 Riverside Dr
Livonia 313 427-9114
Minn Dan D Heimer Agency 12864 Fillmore NE
Anoka 612-781-7144
Mo Merten Co 6881 Sni-A-Bar Rd
Kansas City 816 921-3979
Neb Electrical Specialties Co
Box 14042, W Omaha Sta Omaha ...402 393-5535
NY Hunter & Bell 858 Main St Buffalo 716 882-2210
NC Purser London & Edwards Inc Box 4328
Charlotte 704-333-7549
Ohio Verne La Salle Co 2630 St Clair Ave
Cleveland 216 241-3788
Okla Marshall Joy Box 16723
Oklahoma City 405 843-7396
Ore Erskine Electric Sales 1592 S W Dellwood Ct
Portland 503 644-9014
Pa Stewart Assoc Inc 1008 Washington Blvd
Pittsburgh 412 441-5252
Tex Texas Sales Reps 2422 Tangley St
Houston 713 523-1675
Wis John La Tona Co 6110 W Lincoln Ave
Milwaukee 414 321-5010
For G M Alegria GPO Box 1957 Hato Rey, PR ...765-2442

AUTOCON INDUSTRIES, INC 995 UNIVERSITY AVE
ST PAUL MINN 55104 ....612 645-0721
G TESTIN EMP 240 ENG 17
Ark McCallister Equip Co 1414 W Fourth St
Little Rock 375-4474
Cal James O Gierlich Co 314 Rosecrans Ave
Manhatten Beach 772-4434
Cal Ambrosini & Chalmers Co 2041 Pioneer Ct
San Mateo 341-7415
Colo Slaybaugh-Thompson Co 8646 W Colfax Ave
Denver 238-4379
Fla J W Marcheret & Assocs 2451 Brickell Ave
Miami 371-8084
Ga A A Wickliffe Co 1677 Tullie Cir NE Atlanta .634-7391
Ill McGuire & Assoc, Inc 615 Milwaukee Ave
Des Plaines 729-2338
Ind M C Wetterlin Co 1903 E 64th St
Indianapolis ....CL 5-3194
Iowa Automatic Systems Co Box 787 Ames 232-4770
La Parson & Sanderson Co 1700 Lake Ave
Metairie 834-1330
Md Durling Electric Co 301 E 25th St
Baltimore ....HO 7-5560
Mass Systematic Mfg Inc 1200 Soldiers Field Rd
Boston 782-7440
Mich H V Burton Co 13801 W 8 Mile Rd Detroit ..864-9490
Minn Prest Co 706 Cleveland Ave S St Paul 690-1537
Miss Hugh K Hart 5740 Beechwood Dr Jackson ..362-5957
Mo Midwestern Equip Co 2108 W 75th St
Shawnee Mission 362-7068
Mo Ulmer Equipment Co 214 S Kirkwood Rd
St Louis ....YO 5-4653
NJ R F Goodwin Assoc 51 Upper Montclair Plaza
Upper Montclair 744-8121
NM Applied Products Co Box 11385-Sta 'E'
Albuquerque 298-8611
NY Tek-Sales Inc 1157 Fairport Rd Fairport ...381-8110
NC Interstate Utility Sales Inc 611 Templeton Ave
Charlotte 377-2636
Ohio J P Bergren Co Box 18077 Cleveland 932-9445
Ohio H P Thompson Co 4866 Cooper Rd
Cincinnati ....TW 1-4414
Ore David Fry Co Box 3803 Portland ....CA 6-3903
Pa Tele-Data Controls Box 564 Furlong 348-2727

Pa Electrical Engrd Prods Inc 501 Castle Shannon Blvd Pittsburgh 561-7667
Tenn Dickey Engineering Co 622 King St Knoxville 524-8641
Tex Kaylor Engineering Co 6711 Bellfort Blvd Houston 645-4211
Tex Powell & Roberts, Inc 112 Fresno San Antonio ..... PE 5-9123
Utah Con-Tro-Flo Co 5846 Shangri La Salt Lake City 278-3126
Wash Clair Stebbins Co Box 66417 Burien 246-1170
Wis Allan Engineering Co 4031 W Kiehnau Ave Milwaukee 353-5070
Can Telcon Controls Ltd 12 Lockport Ave Toronto ..... BE 9-3167
For Peruvian Trading Corp Ltd S A Av Alfonso Ugarte 899 Lima Peru
For Felix Montes & Cia 8a Calle 3-27 Zona 1 Guatemala City
For Especialidades Hidraulicas E Ind, C A Apdo 61141 Caracas, Vene
For United Equip Corp Box 784 Hato Rey, PR
For Y Chen & Co Ltd Box 1313 Taipei Taiwan
Arg Dismatec S A Esmeralda 961-6 H Buenos Aires
Braz Mesbla S A Rua Do Passeio 42/56 Rio De Janeiro
Mex I M I, S A Campeche No 367 Mexico DF
NZ Forgan Jones Ltd CA Box 9197 New Market Auckland

AUTO-CONTROL LABS DIV RUCKER CO
5251 W IMPERIAL HWY LOS ANGELES
CAL 90045 ..... 213 678-4934
E RAVIN EMP 120 ENG 30 $2,500-$5,000M

AUTODYNAMICS INC 399 MANTOLOKING RD
BRICK TOWN N J 08723 201-477-4050
R KUEDERLE EMP 10 ENG 4 $100-$250M
Ala Educational Sys Inc Box 2026 Birmingham 205-822-8941
Cal J D Kennedy Co 2750 Sands Hills Rd Menlo Park 415-854-6536
Colo J D Kennedy Co 1459 Detroit St Denver 303-322-0190
Conn Geo H Birchall Assoc Box 823 Danbury . 203-943-2271
Fla D C Jaeger Corp 999 Woodcock Ave Orlando 305-841-1511
Ill Johnson Engrg & Sales Co 120 E Ogden Ave Hinsdale 312-325-2272
Ind Measurement Instr Inc 1635 N Gent Ave Indpls 317-631-0909
Ky Measurement Instr Inc 6506 Strawberry La Louisville 502-426-1116
Mass Geo H Birchall Assoc Box 103 Wellesley 617-235-2989
Mich Measurement Instr Inc 25657 Southfield Rd Southfield 313-352-2144
Minn Automation Services Corp 4815 W 77th St Minneapolis 612-920-7241
NJ Geo H Birchall Assoc Box 196 Cherry Hill 609-667-0811
NY Measurement Technology Inc 295 Northern Blvd Great Neck 516-482-3500
Ohio Measurement Instr Inc 2074 Arlington Ave Columbus 614-488-9753
Pa Measurement Instr Inc 908 Perry Hwy Pittsburgh 412-366-1906
Tex Unidyne 5700 Savoy La Houston 713-782-0218
Wash J D Kennedy Co 2124 S W 170th Seattle 204-242-8024
WVa Measurement Instruments Inc 1323 Virginia St E Charleston 304-344-9431
Can Ahern & Soper Inc 844 Caledonia Rd Toronto 416-789-4325
For Coppas Intl UK Ltd Riverside Dr Mitchem Surrey 01-640-0553

AUTOMATED BUSINESS SYSTEMS DIV LITTON
INDUS 600 WASHINGTON AVE CARLSTADT
N J 07072 ..... 201 935-2200
Ohio Automated Bus Sys Ref Lib 58 N Court St Athens

AUTOMATED MEASUREMENTS CORP 515 11TH ST
OAKLAND CALIF 94607 415
R H RAGSDALE EMP 30 ENG 6 UP TO $100M
Ala Gentry Assoc Inc 2109 W Clinton Ave Huntsville 534-9771
Ariz E-H Research Labs 2842 E Cholla Phoenix
Conn Instrument Dynamics Inc 345 N Main St West Hartford
DC Sonco 4720 Montgomery La Washington
Fla Gentry Assoc Inc 2517B E Colonial Dr Orlando 424-0730
Ga Gentry Assoc Inc 960 Somerset Dr NW Atlanta 233-3816
Ill Cozzens & Cudahy Inc 9501 W Devon Ave Rosemont 312 825-1144
Mass Instrument Dynamics Inc Wakefield Ind Park Wakefield 648-2922
Minn Cozzens & Cudahy Inc 7710 Computer Minneapolis 910 576-2740
Mo Cozzen & Cudahy Inc 10534 Natural Bridges Rd Edmundson 314 423-1234
NJ SBM Assoc 1519 Stuyvesant Ave Union
NY SBM Assoc 800 Linden Ave Rochester
NC Mekco Assoc 100 B Lindsey St Burlington
Ohio Cozzens & Cudahy Inc 735 S Court St Medina
Pa SONCO 107 Town Ctr Rd King of Prussia
Tex E-H Research Labs 13333 N Central Expwy Dallas

AUTOMATED SPECIALTIES A TELEDYNE CO
BOX 888 CHARLOTTESVILLE VA 22902
TWX 510-587-5469 ..... 703 973-3311
D LANGE EMP 310 ENG 33 $2,500-$5,000M
Cal Miner & Assoc Inc 2500 W Compton Blvd Redondo Beach 772-6311
Wash Testco Boeing Field Seattle 762-8220

AUTOMATIC CLERICAL SYSTEMS INC
389 N FAIR OAKS AVE PASADENA
CAL 91103 ..... 213 SY 5-7205
E PETRE EMP 24 ENG 3 $100-$250M
Wash Western Electronics Co 717 Dexter Ave N Seattle AT-4-0200

AUTOMATIC COIL CO DIV DESIGNATRONICS, INC
76 E 2ND ST MINEOLA N Y 11501
TWX 510-222-5889 ..... 516 741-7070
J RUBENFELD EMP 80 ENG 5 $500-$1,000M

AUTOMATIC DATA PROCESSING OF MASS INC
1050 COMMONWEALTH AVE BOSTON
MASS 02215 617-731-1000
A KRANSELER EMP 125 ENG 35 $1,000-$2,500M
Fla Automatic Data Processing of Fla 2525 SW 27th Ave Miami 305-444-8257
NJ Automatic Data Processing 405 Rte 3 Clifton 201-472-1000
NY Automatic Data Processing 50 Broadway New York 212-425-8940
Pa Automatic Data Processing of Pa 12th & Walnut Sts Phila 215-WA5-9360

AUTOMATIC ELECTRIC CO 400 N WOLF RD
NORTHLAKE ILL 60164
TWX 910-226-1975 ..... 312 562-7100
W GAGE EMP 14000 OVER $10,000M
Ariz Dorton Ent Inc Box 1297 Scottsdale 946-6213
Ark Dick Bellew Sales Inc 1005 W 4th St El Dorado 863-8325
Cal Automatic Elec Co 4741 Laurel Canyon Blvd No Hollywood 766-5203
Colo Gossard & Assoc Inc 12159 W Dakota Ave Denver 985-0602
Conn Automatic Electric Co 1200 High Ridge Rd Stamford 329-0981
Fla R F Willett Co 1260A S Highland Clearwater 446-0075
La Dick Bellew Sales Inc 3018 18th St Metairie 833-6496
Mass Automatic Electric Co 1644 Massachusetts Ave Lexington 862-6464
Mich Automatic Electric Co 18505 W 8 Mile Rd Detroit 538-6040
Minn Automatic Electric Co 7600 Hwy 7 Minneapolis ..... WE 5-3481
Mo Automatic Electric Co 7581 Manchester Trafficway Kansas City ..... EM 3-7030
NY Automatic Electric Co 1039 Monroe Ave Rochester ..... GR 3-1823
Ohio Automatic Electric Co 4848 W 130th St Cleveland 267-6288
Pa Automatic Electric Co 551 W Lancaster Ave Haverford 525-7575
Tex Automatic Electric Co 8920 Premier Row Dallas ..... ME 1-3105
Va Automatic Electric Co 6201 Leesburg Pike Falls Church 533-0636
Wash C B Parsons & Co 5319 4th Ave S Seattle 762-7373

AUTOMATIC EQUIPMENT CORP
1653 CENTRAL PKWY CINCINNATI
OHIO 45214 ..... 513 241-3233
R KLAUS EMP 21 ENG 2
Fla J Stonhouse 1221 Mardon Ave Sarasota 355-1455
Mich John Bishop 24801 Five Mile Rd Detroit ..... KE 8-0595
Minn Barker-Hammer Assoc 4944 Xerxes S Minneapolis 926-7117
NJ Sensory Inc 7 Maple St Morristown ..... JE 8-7661
Ohio Stuart Shiffer 9900 Royalton Cleveland 237-5655
Tenn F L Nelms Box 6116 Nashville 291-1789
Tex Elmer Garnsey 1023 Fidelity Bldg Dallas 747-7846
Can Electro Design Ltd 9124 St Lawrence Montreal 389-5914
GB H G Aquino 22-24 Ritherdon London S W

AUTOMATIC METAL PRODUCTS CORP
315-323 BERRY ST BROOKLYN
N Y 11211 ..... 212 EV 8-6057
P LAX EMP 450 ENG 31
Cal Ed Landa Co 2288 Westwood Blvd Los Angeles 272-9525
Fla Kirkwood Assoc 1701 Pinellas Pt Dr St Petersburg 391-8452
Ill PGM Component Sales 5642 W Diversey Chicago 622-8183
Kan Inland Assoc 6047 Howe Dr Mission ..... EN 2-2366
Mass B & W Assoc 189 B St Burlington 275-9177
Mich R C Nordstrom & Co Box 32 Lathrup Village . 353-0210
NJ J Onore 555 Winchester Ave Union ..... EL 5-0474
NY Bowser & Sapecky 4317 E Genessee St Dewitt 446-5920
NC Murphy & Cota 1106 Burke St Winston-Salem 724-0750
Ohio Frank J Campisano 3985 Race Rd Cincinnati ..... MO 2-1616
Tex Lawrence Sales Co Box 1038 Richardson AD5-5504
Utah Arrowhead Sales Corp 1966 West 6255 S Salt Lake City 298-2751
Wash Ray Over Sales Box 593 Bellevue GL4-4551
Can Ben Manis Assoc 6600 St Urban St Montreal 274-8271

AUTOMATIC RADIO SALES INC 2 MAIN ST
MELROSE MASS 02176 ..... 617 321-2300
B HOUSMAN EMP 500 ENG 12 OVER $10,000M

AUTOMATIC SIGNAL DIV LAB FOR ELECTRONICS,
INC REGENT ST NORWALK
CONN 06856 ..... 203 838-4791
E MOGREN EMP 350 ENG 50 $5,000-$10,000M
Cal Automatic Signal Div 5618 Geary Blvd San Francisco 415 387-5080
Cal Automatic Signal Div 3011 W Lomita Blvd Torrance ..... 213 DA 5-1820
Cal Automatic Signal Div 3112 O St Sacramento 916 452-1401
Fla Automatic Signal Div 1407 Fairway Dr Tallahassee 904 224-0521
Ga Automatic Signal Div 3420 Whipple Ave Atlanta 404-766-3783
Ill Automatic Signal Div 142 N Austin Blvd Oak Park 312-383-1383
Tex Automatic Signal Div 2516 Jacksboro Hwy Forth Worth 817 626-3078
Can LFE-Automatic Signal, Ltd 3055 Universal Dr Mississauga Ont 416-625-5853

AUTOMATIC SWITCH CO 50-56 HANOVER RD
FLORHAM PARK N J 07932
TWX 710-986-8528 ..... 201 966-2000
R TAYLOR
Ala Automatic Switch Co 25 W Oxmoor Rd Birmingham 205-879-1656
Ariz Barney H Hartley Box 4381 Phoenix 602-AL8-2552
Cal Automatic Switch Co 5945 E Washington Blvd L A 213-685-7551
Cal Paul S Everley Co, Inc 335 S Van Ness Ave San Francisco 415-431-2295
Colo Clyde P Elliott Co 661 Delaware St Denver 303-255-2844
DC Automatic Switch Co Natl Press Bldg Washington 202-628-6561
Fla Industrial Specialties Sales 3021 Azeele Tampa 813-876-1480
Ga Automatic Switch Co 174 W Wieuca Rd, NE Atlanta 404-255-9436
Haw Honiron Inc Box 3140 Honolulu 512011
Ill Automatic Switch Co 1800 Third Ave Rock Island 309-786-9664
Ill Automatic Switch Co 2450 S Wolf Rd Des Plaines 312-827-5594
Ind C M Buck & Assoc 1802 E 46th St Indianapolis 317-251-1281
La Automatic Switch Co 319 Citrus Rd New Orleans 504-737-0642
Md Sid Dubinsky Assoc 302 E Federal St Baltimore 301-837-1199
Mass Automatic Switch Co 149 California St Newton 617-527-8230
Mich Carman Adams Inc 17360 W 8 Mile Rd Southfield 313-444-1070
Minn Pierre Lenmark Co 6504 Walker St Minneapolis 612-929-2631
Mo C O Leaver Co 2800 S Brentwood Blvd St Louis 314-WO8-1500
Mo Duncan Sales & Engrg Inc 7546 Troost Ave Kansas City 816-JA3-2908
Neb C R Bangh 524 W O W Bldg Omaha 402-341-4232
NJ Automatic Switch Co 1500 Kings Hwy Cherry Hill 609-HA9-0300
NM Ralph B Black Co 1025 Hermosa Dr SE Albuquerque 505-265-0144
NY John C Cox Co 4548 Main St Buffalo 716-839-3432
NC Purser, London & Edwards, Inc 1317 E 4th St Charlotte 704-ED3-7549
Ohio McNay Equip Co Inc 4850 Cooper Road Cincinnati 513-891-7122
Ohio Anderson-Bolds, Inc 10001 Carnegie Ave Cleveland 216-229-4700
Okla Aljo Sales Inc 1501 East Sixth St Tulsa 918-LU5-5705
Ore Automatic Switch Co PO Box 14384 East Branch Portland 505-281-5059
Pa Continental Sales & Engrg Co 211 Nelbon Ave Pittsburgh 412-241-5660
Tex Automatic Switch Co 3100 West Alabama St Houston 713-523-6801
Tex Automatic Switch Co 8609 NW Plaza Dr Dallas 214-369-8451
Utah Control Equipment Co 265 Crossroads Sq Salt Lake City 801-487-7741
Va Automatic Switch Co 3600 W Broad St Richmond 703-359-0708
Wash Automatic Switch Co 400 108th Ave NE Bellevue 206-GL4-6157
Wis Grant E Beverly Co Inc 5856 N Port Washington Rd Milwaukee 414-962-2294

AUTOMATIC TIMING & CONTROLS, INC
KING OF PRUSSIA PA 19406 ..... 215 265-0200
W PARKER EMP 225 ENG 25 $2,500-$5,000M
Ala Control Equip Co 2830 S 19th St Birmingham ..... TR 9-8211
Ariz Portis & Assoc Inc 132 E Stetson Dr Scottsdale 947-4379
Cal Time-Trol Inc 7732 Burnet Ave Van Nuys ..... TR 3-5151
Colo Electronic Sales Inc 4783 S Quebec Denver . 771-6300
Fla Control Equip Co Box 1857 Daytona Beach . 252-7086
Ga Control Equip Co Inc 3166 Maple Dr NE Atlanta 237-1688
Ill Rockford Controls Co 21 W 181 Hill Ave Chicago 469-6016
Ky Air-Hydro Power Co 4400 Bishop La Louisville 451-1000
La Williams Equip Co 7012 Magnolia Ct Metairie 888-2427
Md Jobe & Co Inc 2857 Greenmount Ave Baltimore 235-3502
Mass Cowperthwait & Brodhead 570 Hillside Ave Needham Hgts ..... HI 4-9410
Mich H H Barnum Co 1300 Rickett Rd Brighton 229-2961
Minn Volco Co 831 S 6th St Minneapolis ..... FE 6-6631
Mo Duncan Sales Engrg 7546 Troost Ave Kansas City 523-2908
NJ Norman Bragar Co, Inc 1060 Broad St Newark 622-4300
NM Stepco 5102 Grand Ave NE Albuquerque 256-9893
NY Niagara Electric Sls Co 505 Delaware Ave Buffalo 886-4000
NC Brown & Morrison 1900 E 7th St Charlotte ..... ED 3-0774
Ohio Anderson-Bolds, Inc 10001 Carnegie Ave Cleveland 229-4700
Okla Paul King Co 840 N Fulton Tulsa ..... TE 6-2501

Ore J A Tudor & Assoc Inc 14 NE Tillamook Portland 288-5154
Pa Woessner-McKnight Co 640 Allenby Ave Pittsburgh 244-1240
Tenn Engineered Instrs Inc 2367 Lamar Ave Memphis .... FA 4-3871
Tex Gettys-Eads-Adair, Inc 8020 Westglen Dr Houston 781-3005
Utah Control Equip Co 2255 S 2nd W Salt Lake City 487-7741
Va Jobe & Co Inc 2508 Grenoble Rd Richmond .. 282-6508
Wash J A Tudor & Assoc Inc 2605 Western Ave Seattle .... MU 2-7444
Wis Automation Engineering Co 12740 N River Rd Mequon 242-1520
Can Automatic Tmg & Cont of Can Ltd 524 Ellesmere Rd Scarborough Ont 293-8243
Can Assoc Instr & Controls Ltd 9265 Charles De Latour St Montreal, Que 384-7211
Can N L Haney Agency Ltd 727 Wall St Winnipeg, Man 786-6756
BC Southwell Controls Ltd 1332 Powell St Vancouver 255-9141

AUTOMATION COMPONENTS, INC
SHORT & CEMETERY STS PECKVILLE PA 18452
TWX 510-656-3673 .... 717 489-7508
R BOVARD EMP 175 ENG 3 $1,000-$2,500M
Fla Tech-Rep Assoc Box 2095 Melbourne .. 305 723-9140
Ill William Swinke 3014 Colfax St Evanston ... 248-4343
Ind Southern Sales Co 105 Lakeshore Dr Angola 219 665-3961
Mass New England Elctn 590 Washington St Canton 617 828-4835
NJ A Wetterhahn Co 4420 Crescent Blvd Pennsauken 662-1611
NJ A Morin Assoc 472 Eleventh St Palisades Park .... WI 4-4608
NY Robt J Hummel 2224 Maynard Ave Utica 315 732-2370

AUTOMATION DEVELOPMENT CO
9905 W JEFFERSON BLVD CULVER CITY
CAL 90230 .... 213 838-7346
B ANGWIN EMP 25 ENG 4 $250-$500M
Cal Davidson Assoc 2920 Nebraska Ave Santa Monica 213 451-5761
Cal Long & Assoc 505 Middlefield Rd Redwood City 415-369-3324
Ga J E Joyner Box 10678 Atlanta 404 758-7496
Ill Perhats Assoc 1280 Burr Oak La Barrington 312 381-6360
Ind Richard Scales Assoc 550 Sommers Ave Wabash 219 563-4886
Mo East Coast Engrg Sales Co 7108 Woodrow Ave St Louis 314 385-1700
NY East Coast Engrg Sales Co 1405 Northern Blvd Roslyn 516 621-7500
Okla T J Ray Co Box 45191 Tulsa 918 627-1515
Wash J K Dooley Co Inc 4110 Stone Way N Seattle 206 632-1618

AUTOMATION DYNAMICS CORP
35 INDUSTRIAL PKWY NORTHVALE
N J 07647 .... 201 768-9200
C BARLOW EMP 40 ENG 10
Ala Reynolds & Assocs 904 Bob Wallace Ave Huntsville 536-1941
Fla Reynolds & Assoc 408 Strawbridge Ave Melbourne 727-3205
Ga Reynolds & Assocs 175 W Wieuca Rd NE Atlanta 252-5360
Ill Loren F Green Assoc 5218 W Diversey Chicago 286-6824
Md Ara Assoc 7805 Old Georgetown Rd Bethesda 657-2585
Mich Twin Region Elctn Sales 29563 Northwestern Hwy Southfield 358-4480
Minn Loren F Green Assoc 6225 University Ave NE Mnpls 781-1611
NY Cane Technical Sales 555 E Boston Post Rd Mamaroneck 698-4411
NC Reynolds & Assocs 412 W Market Greensboro 275-3725
Ohio Twin Region Elctn Sales 21010 Center Ridge Rd Cleveland 331-7650
Pa Ara Assoc 301 York Rd Jenkintown 887-5250
Wash Delta Mark 16325 Phantom Lake Way Bellevue 747-4875
Wis Loren F Green Assoc 830 Plateau Waukesha 786-2180

AUTOMATION INDUSTRIES INC MATLS
EVALUATION GRP SHELTER ROCK RD DANBURY
CONN 06810 TWX 710-456-2235 ...... 203 748-3581
J MULLER
Cal Automation Ind Inc 9822 Everest St Downey 213 773-6133
Colo Automation Ind Inc Box 950, Ind Pk Boulder 303 443-6011
Conn Automation Ind Inc Box 8 R 12 Gales Ferry 203 464-7912
Ga Automation Ind Inc 24 Executive Pk W N W Atlanta 404-636-0155
Ill Automation Ind Inc 5381 Otto Ave Rosemont 312 671-1670
Mich Automation-Forster Facility 2555 S State Rd Ann Arbor 313 665-4407
Mo Automation Ind Inc 9567 Page W Bldg St Louis 314-426-7654
Ohio Automation Ind Inc 5530 Pearl Rd Parma 216 884-3550
Pa Automation Ind Inc Box 245 Phoenixville 215-933-8961
Tex Automation Ind Inc 10210 Monroe Dr Dallas 214-351-5381
Wash Automation Ind Inc 512 Strander Blvd Seattle 206-CH-5823

Can Canadian Automation Testing Ltd 64 Prince Andrew Pl Don Mills Ont ... 416-447-5588
Can Canadian Automation Testing Ltd 8080 Jarry St E Ville d Anjou Que ... 514-353-1770

AUTOMATION MANAGEMENT, INC 69 MILK ST
WESTBORO MASS 01581 .... 617 366-4423
W ALDEN EMP 5 ENG 1 UP TO $100M

AUTOMATION PRODUCTS, INC 3030 MAX ROY ST
HOUSTON TEX 77008 .... 713 UN 9-1485
Q BAKER

AUTOMATION PRODUCTS MFG INC
2600 N W 1ST AVE BOCA RATON
FLA 33432 .... 305 391-1881
F FEIRN EMP 12 ENG 2 $250-$500M
Cal Tucul Engrg 6402 Crenshaw Blvd Los Angeles 213-750-0338
Conn Winn Engrg Box 177-Glenville Sta Greenwich 203-531-8927
Ill VBS Assoc 6969 N Western Ave Chicago 312-743-3311
Ohio P De Pould Co 4051 Rollingview Dr Cleveland 216-744-4461
Tenn Fluidaire Co 1123 Church St Nashville . 615-254-0443
Tex Butler & Land Inc Box 8085 Dallas 214-361-6631
Va Meridian Electronics 1001 W Broad St Richmond 703-355-6521
Can R & C Sales Ltd 64 Shaft Rd Rexdale Ont ... 247-6274

AUTOMECH ASSOCIATES, INC
159 WASHINGTON AVE NORTH HAVEN
CONN 06473 .... 203 239-2233
A STATKUM EMP 10 ENG 1 $100-$250M

AUTONETICS DIV NORTH AMERICAN ROCKWELL
CORP 3370 MIRALOMA AVE ANAHEIM
CAL 92803 714-632-8111
E ETHELL EMP 22183 ENG 4315 OVER $10,000M
Ala Autonetics Div 3322 S Memorial Pkwy SW Huntsville 205-881-2200
Cal Autonetics Div 8939 S Sepulveda Blvd Los Angeles 213-776-4320
DC Autonetics Div 1629 K St NW Washington 202-296-6933
Mass Autonetics Div 594 Marrett Rd Lexington 617-861-9592
NJ Autonetics Div Holiday Off Bldg Monmouth Park Hwy Rt 36 West Long Branch 201-222-5500
Ohio Autonetics Div 118 W First St Dayton . 513-461-4823
Pa Autonetics Div 65 West St Rd Warminster 215-672-5450
Tex Autonetics Div Frito Lay Bldg Exchange Pk Dallas 214-357-4553
Va Autonetics Div 2013 Cunningham Dr Hampton 703-838-3200
Wash Autonetics Div 1200 5th Ave Seattle .. 206-623-7417

AUTONUMERICS INC 51 STATE ST WESTBURY
NY 516-333-9888
W PONEMON EMP 25 ENG 5 $250-$500M
Conn R C Benn & Co Indian Cave Rd Ridgefield 203-438-8492
Del International Machine Tool Sys 109 Jenkins Avenue Lansdale 215-855-1110
NJ Speedycut Co 58 River Edge Rd Bergenfield 201-385-7616
NY A C Colby Machy Co 226 E Jericho Tpke Mineola 516-747-1551
Pa Intl Machine Tool Systems 109 Jenkins Ave Lansdale 215-855-1110

AUTO-SWAGE PRODUCTS, INC 751 RIVER RD
SHELTON CONN 06484 .... 203 929-1401
D BRENTON EMP 110 ENG 5 $1,000-$2,500M
Ariz E E Black Box 939 Scottsdale 602 947-2007
Cal Hansen & Hartfield Inc 1663 Blake Ave Los Angeles 213 225-8114
Colo Harry P Daigle Co 2785 N Speer Blvd Denver 303 433-0226
Conn Andrew Peasco Box J Marion 203 628-4694
Fla R F Carlson Co 3900 S Lockwood Ridge Dr Sarasota 813 922-2462
Ind Neal Engineering Co 3720 N College Ave Indianapolis 319 925-2364
Ky Neal Engineering Co 2305 Taylorsville Rd Louisville 502 459-7330
Mass Representatives Corp 10 High St Boston
Mich C B Jensen & Assoc 26711 Woodward Ave Royal Oak 313 544-3700
Minn Charles Vander Voort Inc 1279 Osage St St Paul 218 489-5222
Mo R F Carlson Co 8721 Manchester Rd St Louis 314 961-4485
NJ A Brown Box 218, Long Beach Br Beach Haven 492-2869
NY Lewis Lord Tibbetts Rd New Hartford
Ohio Neal Engineering Box 3052 Dayton 513 253-6971
Va Dyneers 113 Northpoint Dr Williamsburg 703 229-3612
For Lang & Zysk 20 Vesey St New York, N Y ... 227-1743

AUTO-TROL CORP 6621 W 56TH AVE ARVADA
COLO 80002 .... 303 421-5670
T BARNES EMP 75 ENG 12 $1,000-$2,500M
Can Datagraphics 1300 Carling Ave Ottawa Ont 613-722-8736
Mex Casa Struck Av Obrero Mundial 338 Mexico City 43-99-90

AUTOTRONICS INC 2700 DAVIS BLVD JOPLIN
MO 64801 TWX 910 774-4510 .... 417 SU 1-1812
J LAWSON EMP 50 ENG 2 $1,000-$2,500M
Cal E E Enterprises 5901 Nobel Ave Van Nuys .. 787-5360
Iowa Harold Kirkland & Assoc 286 Tomahawk Trail SE Cedar Rapids 363-6425
Md R P Luce & Co Inc 607 Cranbrook Rd Cockeysville
Mass Gallagher Sales Co Box 343 Medway
NJ R P Luce & Co Inc 30 Locust Ave Berkeley Hgts 464-6440
NY R P Luce & Co Inc 1300 Jericho Tpk New Hyde Park 437-4550
Pa R P Luce & Co Inc 8717 Patton Rd Philadelphia 884-8365
For Dage Corp 757 Main St Stamford Conn

AUTOTRON, INC 3629 N VERMILION ST DANVILLE
ILL 61832 TWX 910-244-1455 .... 217 446-0650
W GIESESKE EMP 30 ENG 3 $1,000-$2,500M
Ariz L C Brandt Co Box 15010 Phoenix 959-3837
Ark Jim R Masterson 1922 S Vicksburg Fort Smith 646-7756
Cal J M Krotozyner 420 Market St San Francisco 982-4636
Cal Electro Components Dist Co 122 S Mission Rd Los Angeles 264-7100
Colo Ryall Electric Supply Co 2627 W 6th Ave Denver 222-7723
Conn White Sales Co Inc Box 122 Berlin 224-0423
Fla J Sprock Sales Co 3521 W Broward Blvd Ft Lauderdale 587-3792
Ill R Edward Stemm Inc 17 W 480 Lake St Addison 279-2440
Mass White Sales Co Inc 20 Chestnut St Needham 444-3676
Mich Basic Service Corp 16544 Plymouth Rd Detroit 837-8820
Minn R Edward Stemm Inc 2713 Lyndale Ave Mnpls 822-8404
Mo Automation Specialties Inc 215 E 27th St Kansas City 421-6646
Mo Richard Greene Co 1830 S Hanley Rd St Louis 644-2666
Neb Agric & Indust Supply Inc 10820 Frances St Omaha 391-9651
NY T Ferguson Sales Co Box 3893 Rochester .. HU 2-7757
NY Ferguson-Wulfetange Sales Co 129 Fiordon Rd Dewitt .... GI 6-3330
NY Crane & Egert Corp 146 Meacham Ave Elmont 488-2100
NC Electro-Rep Assoc Inc 128 W 30th St Charlotte 333-0451
Ohio James Murray & Assoc 3985 Race Rd Cincinnati 662-1616
Ohio C A Robinson Co Inc 5010 Mayfield Rd Cleveland 381-9049
Pa Tyler Griffin Co 46 Darby Road Paoli 644-7710
Tex Southland Engry & Sales 5810 Schumacher La Houston 782-4575
Utah Don W Stuart 2999 S 2nd St Salt Lake City 466-8605
Wash C B Parsons & Co 5319 4th Ave S Seattle .. 762-7373
Can Higginson Equip Sales 1131 Pettit Rd Burlington, Ont 634-1888
For C H Stone 205 W Wacker Dr Chicago, Ill ... 726-7725

AUTO-VOX INC 160 CARILLON QUEBEC CITY
QUE 529-9271
R SIMARO EMP 40 ENG 2

AUTRONICS CORP 180 N VINEDO AVE PASADENA
CAL 91107 TWX 213-449-2854 .... 213 681-3545
EMP 35 ENG 4 $500-$1,000M
Ariz Thorson Co 2505 E Thomas Rd Phoenix . 602 956-5300
Cal Thorson Co 2443 Ash St Palo Alto 321-2414
Cal Thorson Co 6824 Melrose Ave Los Angeles .. 937-0790
Cal Thorson Co 444 Olive St San Diego 298-8385
Cal Thorson Co 2114 N Broadway Santa Ana ... 547-6206
Colo Thorson Co 300 E Hampden Ave Englewood . 789-1841
Md R P Luce & Co Inc 19 E 21st St Baltimore .. 752-8200
NJ R P Luce & Co Inc 30 Locust Ave Berkeley Heights 464-6440
NY R P Luce & Co Inc 1300 Jericho Tpke New Hyde Park 437-4550
Pa R P Luce & Co Inc 8717 Patton Rd Philadelphia 884-8365
Tex Thorson Co 7700 Carpenter Frwy Dallas 631-5440
Tex Thorson Co 3312 Marquardt Houston 771-3504
Wash Thorson Co 909 NE 43rd St Seattle 632-0710

AVA ELECTRONICS & MACHINE CORP 416 LONG LA
UPPER DARBY PA 19082 .... 215 MA 6-9100
B VANELLA EMP 20 ENG 2
Cal L Grant Snyder Co Mfg 1418 N Highland Ave Hollywood 213 469-6278
Fla Wm F Hemminger Co Box 2506 Port Charlolte 813-625-6050
Ill Imcor 7550 Oak Park Ave Niles 312-647-0044
Ind Midland Sales Co 146 E 44th St Indianapolis 317-283-1727
Md Dipro Inc Box 1427, 11657 Adie Rd Maryland Height 314 432-3444
Minn J E M Anderson Co 5231 Humboldt Ave S Minneapolis 612 823-6459
Mo R W Farris CO 1815 Baltimore Ave Kansas City .... 816 HA 1-1751
NJ Bixon Assoc Box 305 Fair Lawn 201 797-5356
NY Electronic Sales Rep 207 Rosedale Rd Yonkers .... 914 SP 9-7330
Pa Mustico 312 Bewley Rd Havertown .... HI 6-1961
Wash Wm Lanphear 4031 Stoneqay N Seattle .. ME 3-4900
For Southern Intl Sales Box 1896 San Juan
BC Emerson Sales Ltd 1859 W 4th Ave Vancouver 733 3525

AVANTEK INC 2981 COOPER RD SANTA CLARA
CAL 95051 .... 408 739-6170
A ACKER EMP 80 ENG 12 $1,000-$2,500M
Ala Mekco Assoc Huntsville 205-881-3721
Ariz Thorson Co Phoenix 602-956-5300
Cal Thorson Co 6824 Melrose Ave Los Angeles .. 937-0790
Colo Thorson Co Englewood 303-789-1841
DC E-A Inc Washington 301-783-7319
Fla Mekco Assoc Orlando 305-841-2215
Ill Berndt Assoc Chicago 312-283-0713
Kan Poly-Onics Inc 4434 W 90th Ter Leawood .. 648-4173
Md E-A Inc 1406 Shoemaker Rd Baltimore 825-2385
Mass Tritek Co 165A Bedford St Burlington 272-4550

Mo Poly-Onics Inc 47 Vlg Sq Shopping Ctr Hazelwood 837-0597
NJ Maloy-Stagnitti 4 Horizon Rd Fort Lee .201 224-6911
NM Thorson Co Albuquerque 505-265-5655
NY Ossmann Component Sls Corp 39 Saginaw Dr Rochester 442-3290
NC Mekco Assoc Burlington 919-226-7177
Ohio Rep/Corp 2077 Embury Park Rd Dayton ...278-5885
Tex Thorson Co 7700 Carpenter Frwy Dallas 631-5440
Wash Thorson Co 1767 15th Ave S Seattle 325-5000

AVCO AEROSTRUCTURES DIV BOX 210 NASHVILLE TENN 37202 TWX 810-371-1635 ......615 254-9551
H RITTER EMP 4100 ENG 150
Cal R J Bowman 8939 S Sepulveda Blvd Los Angeles 213 776-4170
DC T A Duncan 1025 Connecticut Ave NW Washington 202-659-6840
Ohio R B Uhle 379 W First St Dayton 513 223-5129

AVCO BAY STATE ABRASIVES DIV 12 UNION ST WESTBORO MASS 01581
TWX 710-392-1193 ....617 366-4431
E AUKER EMP 1200 ENG 50 OVER $10,000M
Cal Avco Bay State Abrasives 4405 E Olympic Blvd Los Angeles 213-264-0106
Conn Avco Bay State Abrasives 7 New City St Essex 203 767-1139
Ga Avco Bay State Abrasives Box 9905 Atlanta 404 233-4017
Ill Avco Bay State Abrasives 3701 W 49th St Chicago ....312 FR 6-6677
Mich Avco Bay State Abrasives 25600 Princeton Ave Dearborn Hghts ....313 LO 5-8870
Ohio Avco Bay State Abrasives 9550 Granger Rd Cleveland ....216 LU 7-1484
Pa Avco Bay State Abrasives 1691 Washington Rd Pittsburgh ....412 LO 3-1144
Tex Avco Bay State Abrasives 6830 Wynnwood La Houston 713 864-7746

AVCO BAY STATE ABRASIVES DIV INDUS PRODS SUB DIV 12 UNION ST WESTBORO MASS 01581
TWX 617 366-7874 ....617 366-4431
R PELLETIER EMP 20 ENG 5

AVCO ELECTRONICS DIV 2630 GLENDALE-MILFORD RD CINCINNATI OHIO 45241 TWX 513 482-9129 ....513 563-6000
E MORGAN EMP 2286 ENG 300 OVER $10,000M

AVCO-EVERETT RESCH LAB DIV AVCO CORP 2385 REVERE BEACH PKWY EVERETT MASS 02149 ....617 389-3000
L RITTENBERG EMP 775 ENG 222
Ala Physimetrics Inc Huntsville 205-881-4965
Cal Johnson Assoc Los Angeles 213-934-0700
Conn Northeast Assoc Stamford 203-329-0012
Ga Physimetrics Inc Atlanta 404-237-8278
Ill Brooks Engrg Co Chicago 312-944-1227
Mass Northeast Assoc Marblehead 617-595-1000
Minn Brooks Engrg Co Stillwater 612-439-7222
NJ E C Smith & Assoc Summit 201-273-8881
NM Southwestern Eng & Equip Co Albuquerque 505-265-6775
NY E C Smith & Assoc New York 212-682-6890
NC Physimetrics Inc Charlotte 704-372-3179
Tex Southwestern Eng & Equip Co Dallas ..214-363-6501

AVCO SYSTEMS DIV 201 LOWELL ST WILMINGTON MASS 01887 TWX 710-347-693 617-657-5111
J ATANASOFF EMP 2000 ENG 627 OVER $10,000M
Ala AED 4807 Bradford Dr Huntsville 205-837-6500
Cal AED 8939 S Supulveda Blvd Los Angeles 213-776-4170
DC AED 1025 Connecticut Ave Washington 202-659-6840
Fla AED Box 626 Walton Beach 404-243-6514
Ga AED Box Drawer XX Warner Robins ...912-922-1571
Mass AED Lowell Ind Pk Lowell 617-452-8961
NJ AED Box 147 Colts Neck 201-462-9090
Ohio AED 2630 Glendale-Milford Rd Cincinnati 513-563-6000
Tex AED 1730 Farm Rd Houston 713-488-2293

A V ELECTRONICS, INC 240 S TEILMAN AVE FRESNO CAL 93706 TWX 355-448 .....209 233-5861
B EVERSON EMP 150 ENG 10 $5,000-$10,000M
Mass A V Electronics Inc 78 Main St Northampton 413 584-6764

AVELLA CUSTOM CASE CO 381 ARMSTRONG AVE JERSEY CITY N J 07305 201-435-9405
EMP 5 ENG 0 UP TO $100M

AVIATION ELECTRIC LTD 200 LAURENTIEN BLVD ST LAURENT, MONTREAL QUE
TWX 05-267-659 ....514 744-2811
EMP 1000 ENG 100
BC Aviation Electric Pacific Ltd Intl Airport Vancouver

AVIATION INSTRUMENT MFG CORP 9033 MONROE RD HOUSTON TEX 77034 713-944-8562
C HOLT EMP 200 ENG 8 $5,000-$10,000M

AVIEL ELECTRONICS, INC 150 W CYPRESS AVE BURBANK CAL 91502
TWX 910-498-2207 213-846-9302
J D MOORE EMP 15 ENG 2 $250-$500M

AVIEN, INC 58-15 NORTHERN BLVD WOODSIDE N Y 11377 TWX 710-582-2640 ....212 932-4600
S BENEROFE EMP 115 ENG 14 $1,000-$2,500M
Ohio E V Swenson 1112 Talbott Tower Dayton ...223-4279

AVIONICS, INC 1915 BENDIX DR SOUTH BEND IND 46628 ....219 232-7988
O BERGERON EMP 140 ENG 4 $1,000-$2,500M

AVIONICS LTD BOX 200 NIAGARA-ON-THE-LAKE ONT 416 468-3632
J MITCHELL EMP 15 ENG 2

AVISUN CORP 21 S 12TH ST PHILADELPHIA PA 19107 TWX 215 569-9873 ....215 LO 8-5520
W MOELLER EMP 1000 ENG 30 OVER $10,000M
Ga G Howington Box 80547 Atlanta 938-9135
Ill M Mokas 3601 W Devon Ave Chicago 539-2121
NJ E Vaughan 701 Palisades Ave Englewood Cliffs 524-5666
NC D Clere 1300 Baxter St Charlotte 372-3020
Ohio J Vitangeli 389-1/2 Dorwill Dr Akron 644-7771
Pa F Fallon 21 S 12th St Philadelphia ....LO 8-5520
Can Avisun Western Ltd 250 Bloor St E Toronto, Ont 920-2711
Can Avisun Western Ltd 85 Metropolitan Blvd Pointe Claire Que 697-1892

AVO LTD AVOCET HOUSE DOVER KENT ENGLAND ....DOVER 2626
J MINISTER EMP 850 ENG 50
NY Gen-Com Div Whittaker Corp 80 Express St Plainview
Ala Physimetrics Inc Huntsville 205-881-4965
Cal Johnson Assoc Los Angeles 213-934-0700
Conn Northeast Assoc Stamford 203-329-0012
Ill Brooks Engrg Co Chicago 312-944-1227
Mass Northeast Assoc Marblehead 617-595-1000
Minn Brooks Engrg Co Stillwater 612-439-7222
NJ E C Smith & Assoc Summit 201-273-8881
NY E C Smith & Assoc New York 212-682-6890
NC Physimetrics Inc Charlotte 704-372-3179
Tex Southwestern Eng & Equip Co Dallas ..214-363-6501

AVTEL CORP 1130 E CYPRESS ST COVINA CAL 91722 TWX 910-584-1311 ....213 331-0661
J WHITE EMP 85 ENG 11 $2,500-$5,000M
Ariz PLS Assoc 365 N 6th Ave Phoenix 602-258-0067
Cal Power Conv/Control Co 348 Tejon Pl Palos Verdes Estates 213-375-3679
Colo PLS Assoc 7895 E Prentice Englewood .303 771-0140
DC Intl Tech Pdts 1250 Connecticut Ave NW Washington 202-223-5520
Fla Cain & Co 3112 W Kennedy Blvd Tampa 813-876-1233
Ill Cain & Co 1203 Ironwood Dr Mt Prospect 312-253-3578
Md Cain & Co 7515 Annapolis Rd Hyattsville 301-459-6400
Mass Cain & Co 45 Essex St Melrose 617-665-8600
NY Cain & Co 324 First St Liverpool 315-457-4871
Ohio Cain & Co 2485 Lipton Rd Columbus ...614-861-2119
Tex Cain & Co 8609 NW Plaza Dr 334 Dallas 214-369-2897
Wash Al Smith Co 405 166 SE Bellevue 206-746-6770

AVTRON MFG, INC 10409 MEECH AVE CLEVELAND OHIO 44105 ....216 641-8310
EMP 115 ENG 20 $1,000-$2,500M
Ala Craft Assoc Co Box 1053 Huntsville 837-0221
Ga Craft Assoc Co Box 11716, Northside Sta Atlanta 237-2282
Wash James Findlay Co 10237 Main St Bellevue ..454-5200
Wis L Luke Box 795 Appleton 739-3238
Can Aircraft Appl & Equip Ltd 585 Dixon Rd Rexdale, Ont 244-5506

AXEL ELECTRONICS, INC 134-20 JAMAICA AVE JAMAICA N Y 11418
TWX 710 582-2618 ....212 AX 1-3900
J O'DONNELL EMP 200 ENG 21 $1,000-$2,500M
ADV PGS 87,266
Ariz Mercury Engrg Sales Box 3130 Scottsdale 602 945-1927
Cal Universal Components Co 2330 Westwood Blvd Los Angeles 213 474-1537
Cal Winco Sales Box 881 Mountain View ...415 961-8510
Fla J F Griffin & Co 536 Marlin Rd N Palm Beach 848-4617
Ga J E Joyner & Assoc Box 10678 Sta A Atlantic 404 758-4496
Mass Westwood Assoc Box 168 Weston 617 891-7810
Mich R T Matthews & Co 20441 James Couzens Hwy Detroit 313 835-3434
NY M J Del Grosso 2328 Seymour Ave Bronx ..OL 4-3947
NY Tech-Mark, Inc 101 Jefferson Ave Endicott .748-7473
Ohio Whelan Corp 2975 Far Hills Ave Dayton 298-9997
Ohio L D Bruno Kettering Br, Box 2044 Dayton ..434-1847
Pa Griffin, Campbell, Inc 25 Skippack Pike Ambler ....MI 6-7535
Tex Texport Co 2411 Farrington St Dallas ..214 631-6270

AXION CORP 6 COMMERCE PARK DANBURY CONN 06810 ....203 743-9281
P POWERS EMP 35 ENG 5 $1,000-$2,500M
Ala R C McMillan Co 703 Watts Dr SE Huntsville 536-1969
Ariz Allen Assoc Box 3091 Papago St Scottsdale .945-5781
Cal R H Muenzer Co Box 997 Redwood City 369-8283
Conn Instr Dynamics of Conn 345 N Main St West Hartford 233-5503
Fla g p i instruments Box 536 Winter Park 647-5722
Ill Solid State Elctns 1921 N Harlem Ave Chicago 889-8033
Md Parnell Sales Co 69 Main St Reisterstown ...833-6444
Mass Instrument Dynamics Inc Wakefield Md Pk Wakefield 245-5100
NJ Pro-Mark Inc 16 Sherman St Wayne 696-6500
NY J Lazor Assoc 39 Saginaw Dr Rochester 473-8337
Pa Diversified Deviles Inc Box 241 King of Prussia 265-7925
Tex Crockett Engrg Box 47287 Dallas 637-6120
Den E Friis-Mikkelsen A/S 51 Krogshojvej Bagsvaerd
Fr Technique et Produits Cite des Bruyeres Rue Carle-Vernet 92 Sevres
Ger Karl Suss K.G. Christophstr 1 8 Munich 22
GB E P A K Assoc 73 Cherry Orchard Rd Croydon
Ital Hulss & Capelli Via G Lazzaroni, 4 Milan
Jap Kanematsu-Gosho (USA) Inc 1 Whitehall St New York, N Y
Swed AB Salwensonic Kungsgaten 1 Halmsted
Belg R J Gassner & Co 177, Ave Louise Brussels

AZIMUTH ELECTRONICS RTE 10, BOX 463 DENVILLE N J 07834 ....201 361-0085
K JOHNSEN EMP 16 ENG 4 $100-$250M
Ariz E J Foley Assoc 3840 N Jokake Dr Scottsdale 945-2666
Mass A & M Electronic Reps Inc 16 Eaton Sq Needham 444-6170
Tex Loss Co Box 30063 Dallas 214-368-2758
Can Railway & Power Eng Corp Ltd 3745 St James W Montreal, Que 933-6241
For Machine & Products Co 52 Wall St New York, N Y ....WH 4-4370
Fr Mesure Et Controle Electroniques 84 Rue Aes-Entrepreneurs Paris 15
Jap Taiyo Shoji Co Inc 9-2, 5-Chome Shimbashi Minato-Ku, Tokyo

BABCOCK ELECTRONIC CORP 3501 HARBOR BLVD COSTA MESA CAL 92626
TWX 910-595-1517 ....714 540-1234
D BAGLEY EMP 1000 ENG 85 OVER $10,000M
Ala Babcock Electronics Corp Sahara Office Pk Huntsville 881-3780
Ariz BFA Corp 4710 N 16th St Phoenix 264-6536
Cal R F Assoc 800 San Antonio Rd Palo Alto 327-5531
Colo BFA Corp 1309 So Inca Denver 744-3301
Mass Babcock Elctns Corp 6 Blossom Hill Rd Winchester 662-7700
NM BFA Corp 1238 Ortiz SE Albuquerque 268-4387
Okla BFA Corp 3216 E 21st St Tulsa 936-5495
Tex BFA Corp Box 50 Friendswood 482-7563
Va Babcock Electronics Corp 1499 Jefferson Davis Hwy Arlington 684-5070

BABCOCK ELECTRONICS, RELAY DIV 3501 HARBOR BLVD COSTA MESA CAL 92626 ....714 540-1234
T MCKERLIE $5,000-$10,000M
Ariz Southwest e/m Engrg Inc 8341 N 7th St Phoenix 602 944-1521
Cal Ed Landa Co 2288 Westwood Blvd Los Angeles 213 879-0770
Fla G F Bohman Assoc 6990 Lake Ellenor Dr Orlando 305-855-0274
Ill Carlson Electronic Sales 7448 N Harlem Ave Chicago 312 774-4812
Ind G & H Sales Co Box 2268 Ft Wayne ...219 744-3072
Kan Palatine Engrg Sales Inc 7520 W 63 St Overland Park 913-262-5643
Md Biechler Assoc 202 W Penna Ave Towson 301 825-8222
Mass Kitchen & Kutchin 17 Waltham St Lexington 617 862-8230
Mich G & H Sales Co 24001 Southfield Rd Southfield 313 358-1910
Minn Carlson Electronic Sales 2500 39th Ave NE Minneapolis 612 788-4111
Mo Palatine Engrg Sales Inc 8622 St Charles Rock Rd St Louis ...314 426-7055
NJ Hy-Rel Electronic Sales 753 Bergen Blvd Ridgefield 201 945-7511
NM Data Handling Co 209 San Pablo SE Albuquerque 505 268-0928
NY Ossmann Component Sales Corp 39 Saginaw Dr Rochester 716-442-3290
NC Bill Henry Assoc Box 6097 Charlotte ...704-375-5831
Ohio G & H Sales Co 7215 Market Pl Cincinnati 513 761-6185
Ore Arneson Assoc 200 NE Canyon Rd Beaverton 503 646-3416
Pa Biechler Assoc Box 414 Narberth 215 667-1827
Tex Aymond Co 4340 N Central Expwy Dallas 214 827-8043
Wash Arneson Assoc 5950 Sixth Ave S Seattle 206 762-7664
Can Samuel C Hooker Ltd 144 Ronald Dr Montreal, Que 514 488-9114
Fr AEMGP 115 Ave J B Clement Boulogne s/Seine 825-96-20
Ger Bodamer GmbH 8022 Grunwald, Bei Munchen Keltenstr 2a 471862
GB Laurentide Elctns Ltd 52 Morley Rd Basingstoke Hants ....Bas 5330
Jap Shoshin Shoji Kaisha Ltd Box Nihonbashi 173 Tokyo 2223423
Swed AB Gosta Backstrom Box 12089 Stockholm 12 54-03-90

BABCOCK & WILCOX CO REFRACTORIES DIV OLD SAVANNAH RD AUGUSTA GA 30903
TWX 810-755-4022 ....404 798-8000
W CRESON EMP 1200 ENG 150 OVER $10,000M
Cal E Suddarth 813 S Fremont Alhambra ..213 283-6625
Ga R Powell 1315 Candler Bldg Atlanta ...404 522-5387
Ill Babcock & Wilcox Co 29 S LaSalle St Chicago 312 236-6546
Ky Babcock & Wilcox Co Box 21155 Louisville 502 363-2657
Mass Babcock & Wilcox Co 140 Federal St Boston 617 542-6823
Mich Babcock & Wilcox Co Northland Towers E Southfield 313 353-6440
NY Babcock & Wilcox Co 161 E 42nd St New York 212 687-6700
Ohio Babcock & Wilcox Co 1367 Illuminating Bldg Cleveland 216 781-4381
Pa Babcock & Wilcox Co 7805 McKnight Rd Pittsburgh 412 931-4490
Tex Babcock & Wilcox Co 2990 Richmond Ave Houston 713-528-2895
Wash Babcock & Wilcox Co 305 Norton Bldg Seattle 206 622-1496

Can Standard Refractories Ltd 1185 Walkers Line Burlington, Ont 416 637-2333
Can Standard Refractories Ltd 3285 Cavendish Blvd Montreal Que 514-482-2643

BACHARACH INSTRUMENT CO 625 ALPHA DR
PITTSBURGH PA 15238
TWX 710-664-2085 .... 412 782-3500
R WALSH EMP 300

BACON INDUSTRIES, INC 192 PLEASANT ST
WATERTOWN MASS 02172 .... 617 926-2550
R CASS EMP 17 ENG 3 $250-$500M
Cal McDonald Assoc Inc Box 1312 Torrance 213 378-8322
Wis Great Lakes Rubber & Supply Inc 3118 N Teutonia Ave Milwaukee 414 374-4300
For Terminal Radio Intl, Ltd 3 W 61st St New York 212 246-2133

BADGER METER MFG CO 4545 W BROWN DEER RD
MILWAUKEE WIS 53223 414-355-0400
V BROWN EMP 1200 ENG 150 OVER $10,000M
Cal Badger Meter Mfg Co 536 N Vincent Covina 213-332-7583
NJ Badger Meter Mfg Co N Park Dr & Airport Hwy Pennsauken 609-665-5430

BAER CO, N S 11 MONTGOMERY ST HILLSIDE
N J 07205 .... 201 688-2250
S NETTE

BAFCO INC 80 SECOND ST PIKE SOUTHAMPTON
PA 18966 215-355-3818
A FUCHS EMP 25 ENG 7 $250-$500M
Ohio G-Systems Sales Inc 329 Grants Trail Dayton 513-433-2347

BAILEY CO 5919 MASSACHUSETTS AVE
WASHINGTON D C 20016 .... 301 656-2625
M RICKARD EMP 5 ENG 2 $100-$250M
Cal A F Sales Engrg Inc 94 S Los Robles Ave Pasadena 213 681-5631
Kan Leemark Engineers Inc Box 6175 Leawood . NI 8-0124
Md Whitcomb Assoc 730 Deepdene Rd Baltimore 301 889-1245
Mass Bilowich Enterprises 109 Warren St Watertown 617 926-0490
Mo Leemark Engineers Inc 2001 Big Bend Blvd St Louis .... MI 7-4545
NY Barnett Assoc 40 Aberdeen Rd Hauppauge 516 724-0202

BAILEY METER CO WICKLIFFE
OHIO 44092 .... 216 943-5500
S DUKELOW EMP 2700 ENG 300 OVER $10,000M
Cal Bailey Meter Co 503 Market St San Francisco 989-6140
Colo Bailey Meter Co 1777 S Bellaire St Denver .. 757-5408
Conn Bailey Meter Co 2 Linsley St North Haven ... 239-1676
Fla Bailey Meter Co 4124 Blvd Center Dr Jacksonville 398-4522
Ga Bailey Meter Co 315 W Ponce De Leon Ave Decatur 378-4348
Ill Bailey Meter Co 53 W Jackson Blvd Chicago . 427-7324
Ind Bailey Meter Co 8559 Northcrest Ct Indianapolis 255-2882
Kan Bailey Meter Co 3500 W 75th St Prairie Village 362-6093
Ky Bailey Meter Co 427 Deerfield La Louisville . 897-1381
La Bailey Meter Co 3301 N Causeway Blvd Metaire 833-6397
Me Bailey Meter Co 83 Western Ave Augusta ... 622-5177
Md Bailey Meter Co 1515 Reisterstown Rd Baltimore 484-4122
Mass Bailey Meter Co 38 Chauncey St Boston 426-0465
Mich Bailey Meter Co 17330 Northland Park Ct Southfield 357-0440
Minn Bailey Meter Co 3000 Hudson Rd St Paul ... 739-0450
Mo Bailey Meter Co 2800 S Brentwood Blvd St Louis .... WO 2-5532
NJ Bailey Meter Co 110 Halsted St East Orange .... OR 4-6830
NY Bailey Meter Co 150 E 43rd St New York .. YU 6-8770
NC Bailey Meter Co 1416 E Morehead St Charlotte 372-6622
Ohio Bailey Meter Co 1050 Ivanhoe Rd Cleveland .... UL 1-8600
Pa Bailey Meter Co 875 Greentree Rd Pittsburgh 921-6356
Tex Bailey Meter Co 6440 Hillcroft St Houston .. 744-9605
Va Bailey Meter Co 1812 E Belt Blvd Richmond . 233-3039
Wash Bailey Meter Co 1120 E Terrace St Seattle . 324-9300
Wis Bailey Meter Co 11612 W North Ave Milwaukee 453-1154

BAIRD-ATOMIC, INC 33 UNIVERSITY RD
CAMBRIDGE MASS 02138 .... 617 864-7420
C NOVEY EMP 650 ENG 200 OVER $10,000M
Ariz Williams & Assoc 1110 E McDowell Rd Phoenix 602-254-6085
Cal Instruments for Msmts 3455 Cahuenga Blvd Hollywood 213-HO-9-1641
Cal Instruments for Msmts 2269 Old Middlefield Way Mountain View 415-961-2828
Colo Williams & Assoc 4971 Jackson St Denver 303-388-4391
Fla Roy Attaway Co 51 E Robinson St Orlando 305-424-9983
Ill Solid State Electronics 1921 N Harlem Ave Chicago 312-889-8033
Md Whitcomb Assoc 730 Deepdene Rd Baltimore 301-TU-9-1245
Mass Electronic Components & Serv 611 Trapelo Rd Waltham 617-894-6921
Mich Aironic Accessory Co 24634 5 Mile Rd Detroit 313-KE-2-5770
Mo Boweng 10414 Oak Ave St Louis 314-429-7327
NJ L & M Assoc 511 Victor St Saddle Brook 201-843-8700
NM Williams & Assoc 420 Washington SE Albuquerque 505-255-1638
NY Aironic Accessory Co 6789 Main St Buffalo 716-634-3377
NC Radco 614 Nissen Bldg Winston Salem . 919-722-9671
Ohio Orr Assoc 6510 Farnsworth Dr Cleveland ... 333-3441
Pa L & M Assoc 965A Bristol Pike Andalusia 516-231-8363
Utah Williams & Assoc 2461 S Main St Salt Lake City 801-466-8709
Wash Dewar & Assoc 6361 1st Ave, S Seattle 206-763-2233
GB Baird-Atomic Ltd 42 Station La Hornchurch, Essex
Neth Baird-Atomic (Holl) NV 26-27 Veenkade The Hague 639734

BAKER CASTOR OIL CO 40 AVE A BAYONNE
N J 07002 .... 201 436-8800
J HAYES EMP 306 OVER $10,000M
Ariz Special Elec Co 5415 A N Oracle Rd Tucson 602 887-6468
Cal Baker Castor Oil Co 5585 E 61st St Los Angeles .... 213 RA 3-1318
Conn Special Elec Co 5 Melwood La Westport 203-259-7131
Ill Special Elec Co 1780 Maple Ave Northfield 312-446-5113
Ind Special Elec Co 3420 Pennwood Dr New Albany 812 944-2119
Iowa Special Elec Co 313 E 7th St Des Moines 515 288-0958
Md Baker Castor Oil Co 1602 Mercantile Trust Bldg Baltimore 301 685-4365
Mass Borden & Remington Co 115 Anawan St Fall River .... 617 OS 9-6433
Mich Special Elec Co 15265 Rudland Roseville 313 824-5533
Minn Thompson-Hayward Chemical Co 909 2nd St S Minneapolis 612 332-5394
NC Special Elec Co Box 30 Smithfield 919 934-7592
Ohio Special Elec Co 4726 Superior Ave Cleveland 216 432-0061
Ore Benson Chem Corp 2728 NW Nela St Portland 503 222-1301
Pa E W Kaufmann Co Box 27 Flourtown .. 215 TU 7-6161
Tex Thompson-Hayward Chem Co 1701 Oliver St Houston .... 713 UN 9-5801
Wash Benson Chem Corp 2250 1st Ave S Seattle .... 206 MU 2-4425
Wis Special Elec Co 3628 W Pierce St Milwaukee 414 383-6370
Can Frank E Dempsey & Sons Ltd 407 McGill St Montreal, Que .... 514 VI 5-8613
Can Frank E Dempsey & Sons Ltd 47 Davies Ave Toronto, Ont .... 416 HO 1-9231
BC Emchem Sales Ltd 1515 Pemberton Ave N Vancouver 604 987-5274

BAKER CHEMICAL CO, J T 222 RED SCHOOL LA
PHILLIPSBURG N J 08865 .... 201 859-2151
W IBSEN EMP 600 ENG 15
Cal J T Baker Chemical Co 995 Zephyr Ave Hayward 415-471-6225
Ga J T Baker Chemical Co 2970 Peachtree NW Atlanta 404-261-2174
La J C Ellis Box 1037 Metairie 504-831-3139
Md Warren K Kingsley 303 Silver Rock Rd Rockville 301-762-0899
Mass R Reesh 39 Harness Rd Sudbury 617-443-9303
Mich L Praenkel 1524 Poplar Dr Royal Oak .. 313 585-6709
NJ Stewart Cowell 26 Mountain Ave Mendham 201-543-4076
NY J T Baker Chemical Co 122 E 42nd St New York .... OX 7-1640
NC F C Hughes 4511 Rockford Ct Charlotte 523-4119
Ohio J R Winchester 7647 Fern Dr Mentor-on-the-Lake 257-2805
Pa Thomas W Mohr 426 S 21st St Easton 258-7728
Tex H Schulle 9206 Link Meadow Houston .. 713-668-7276

BAKER CO, INC 106 GRANITE ST BIDDEFORD
ME 04005 .... 207 284-5951
J EAGLESON JR EMP 50 ENG 6
Ala Day Enterprises 1002 Community St Huntsville 539-3677
Ariz Baker Instr Inc Box 597 Chandler 963-4551
Fla G P I Instruments Box 536 Winter Park 647-5722
Ill Motordor, Inc 39B W St Charles Rd Villa Park 833-2700
Mass Rush Assoc King William Ct Boxford 266-2876
Mich Walt Mullins & Assoc Box 5006 Dearborn ... 563-3340
NJ Zacon, Inc 132 Main St Chatham 277-1062
NY Dalc Gear & Bearing Supply Corp 114 Atlantic Ave Richmond Hill 846-4200
Ohio C & D Assoc 47 W Whipp Rd Dayton 434-3030
Can Lyman Tube & Supply Co, Ltd 5420 Pare St Montreal .... RE 1-7661

BALANCE TECHNOLOGY INC 41 ENTERPRISE DR
ANN ARBOR MICHIGAN 48103 313-769-2100
W RAMER EMP 50 ENG 5 $500-$1,000M
Ala Taylor Elec Balancing Co 1565 Bessemer Rd Birmingham 205-786-3419
Ill Electronic Dynamic Balancing Co 4146 W Warren Ave Hillside 312-544-8600
Ky Dietrick Sales & Service 623 Ridgeview Dr Florence 606-371-7247
Mich Balance Technology Inc 41 Enterprise Dr Ann Arbor 313-769-2100
Ore Robt E Carlson 4474 S Milwaukie Ave Portland 503-236-5463
Pa Balancing & Vibration Anal Co 1246 N Front St Philadelphia 215-425-2017

BAL CORP, WILLIAM 947 NEWARK AVE ELIZABETH
N J 07208 .... 201 354-9625
L PERNA EMP 100 ENG 4 $1,000-$2,500M

BALDOR ELECTRIC CO BOX 6238 FORT SMITH
ARK 72901 .... 501 MI 6-1621
R BOREHAM, JR EMP 500
Cal R S Boreham Co 1723 Maple Ave Los Angeles .... RI 9-9251
Colo Hardy Sales Co 1033 S Beach Dr Denver ... 985-5252
Conn Kirkpatrick's Inc 111 East Ave Norwalk 866-5373
DC Wm E MacDonald 1917 Eye St Washington . 333-8385
Fla Ray R Spaulding 4614 Third Ave N St Petersburg 342-5001
Ga R F Wolters Co Box 28443 Atlanta 255-2713
Ill Baldor Elec Co 4836 Main St Skokie .... OR 6-1740
Ind V Havens 6114 Orchard Hill La Indianapolis . 253-8254
Iowa W H Petty 301 W 59th St Des Moines .... CR 9-2420
Mich H F Caspers 7430 Second Blvd Detroit 585-1975
Minn W S Cowan 235 Sexton Bldg Minneapolis .. FE 5-5625
Mo H H Shour 1840 Vernon St N Kansas City ... 471-2919
NJ H M Bailey 56 Coopers Run Dr Cherry Hill 609 424-1188
NY J G Rubino 20 Vesey St New York .... 212 CO 7-1323
Ohio Baldor Electric Co Box 7286 Cleveland 884-5992
Ore G Tillinghast 1005 S W Delmont Portland ... 644-9001
Pa H C C Shute 61 Steeplechase Rd Devon .... 215 MU 8-2732
Tenn C B Trotter Box 16181 Memphis 396-1553
Tex C L Griffin Box 24643 Dallas .... ME 1-1466
Wis R H Jackson 5594 N Hollywood Ave Milwaukee .... ED 2-1067

BALDWIN ELECTRONICS INC BOX 3838
LITTLE ROCK ARK 72203 TWX 53-6433 . 501 375-7351
L TAYLOR EMP 250 ENG 45 $5,000-$10,000M
Cal Raymond K McClintock 641 N California Palo Alto 321-7840
Cal F Blaisdell 10314 Starca Ave Whittier 692-4815
Colo J Talbot 2822 S Oakland Circle W Denver .. 755-1477
DC Herbert R Dyer 1523 L St NW Washington .. 638-0575
Ill Comtel Corp 315 Laura Dr Addison 543-8833
Mass W Pinkerton 20 Story Ave Beverly 927-3200
Ohio C Farrell Winder 6686 Hitching Post La Cincinnati 231-1786
Wash Farwest Agencies 12410 S E 32nd St Bellevue 747-1515
Can D Willer 1800 Ave Rd Toronto 12, Ont .. 416 783-3373

BALLASTRAN CORP EXECUTIVE BLVD
FORT WAYNE IND 46808
TWX 219 241-3464 .... 219 484-4123
P ECHLIN EMP 500 ENG 12 $5,000-$10,000M
Cal Adtek Assoc 201 Town & Cty Vlg Palo Alto 415 323-5414
Conn J E Boeing Co Box 151 Branford 203 488-8301
Ill John G Twist Co 5222 W Diversey Chicago 312-777-2250
Ind R O Whitesell & Assoc 6691 E Washington St Indianapolis 317 359-5374
Ind R O Whitesell & Assoc Central Bldg Fort Wayne 219 743-4411
Ky R O Whitesell & Assoc 3620 Lexington Rd Louisville 502 893-7303
Md Milan Assoc, Inc 7215 York Rd Baltimore 301 825-1120
Mass J E Boeing Co Box 5 Lexington 617 862-2500
Mich R O Whitesell & Assoc 25100 Evergreen Rd Southfield 313 358-2020
Mich R O Whitesell & Assoc 303 Fidelity Bldg Benton Harbor 616 927-2041
Minn Technical Assoc 6121 Excelsior Blvd Minneapolis 612-929-6721
Mo L R Harry Assoc Box 588 Grandview ... 816 763-3634
Mo L R Harry Box 12608 St Louis 314-872-3183
NY Pacent Engrg Corp 300 Northern Blvd Great Neck 516 482-4678
NY M P Andrews, Inc 319 Mott Rd Fayetteville 315 637-6405
Ohio J U Hudnall Co Box 304 Terrace Park .. 513 831-4613
Ohio R O Whitesell & Assoc 4133 S Dixie Dayton 513 298-9546
Ohio R O Whitesell & Assoc 1172 W Galbraith Cincinnati 513 521-2290
Ohio R O Whitesell & Assoc 21139 Lorain Ave Cleveland 216 333-2585
Pa R O Whitesell & Assoc 201 Penn Ctr Blvd Pittsburgh 412 242-0100
Tex A E Petsche Co 1325 E Abram Arlington 817-261-5881
Wis John G Twist Co 540 Catskill Rd Waukesha 414-786-6330

BALL BROTHERS RESEARCH CORP
BOULDER IND PK, BOX 1062 BOULDER
COLO 80302 TWX 910-940-3241 .... 303 444-5300
M REISBECK EMP 1200 ENG 400
OVER $10,000M
DC Ball Bros Rsch Corp 1000 16th St NW Washington 202 783-4093

BALLONOFF METAL PRODUCTS CO
14055 CEDAR RD CLEVELAND OHIO 44118
TWX 810 421-8345 .... 216 932-3100
I BALLONOFF EMP 200 ENG 2 $2,500-$5,000M

BAL SEAL ENGINEERING CO
9929 S GREENLEAF AVE SANTA FE SPRINGS
CAL 90670 .... 213 691-2475
P BALSELLS EMP 22 ENG 6
Cal Ray F Gratiot Co 105 S Kenwood Glendale —
Colo Larry R Barland Co 2701 Alcott St Denver .. 433-8597
Conn Shicks Selling Service 766 Main St Newington .... MO 6-4233
Fla Spartak Inc 410 Phelps Ave Winter Park ... 644-3023
Ill Packing Seals & Engr 3942 W Irving Park Rd Chicago
Ind OEM Sales Box 55232 Indpls .... LI 5-1267
Minn E S Dygert Co 990 NW Bank Bldg Mnpls .. FE 3-0600
Mo Strother & Assoc 6050 Brown Rd St Louis . JA 1-5100
NJ McDaniel Co Box 224 Haddonfield 609 428-5531
NY Robt Emmett Assoc 66 Elder Dr Commack 516 543-9308

Ohio Atlas Fluid Components Inc Box 1013
Cuyahuga Falls
Tex Andy & Assoc 2716 W Mockingbird
Dallas ....214 FL 7-3978
Wash George W Narden Co 1305 Dexter Ave
Seattle ....AT 3-1441
Can Scott Fittings 159 Bay St Toronto, Ont

BALTEAU ELECTRIC CORP 10-14 MEADOW ST
STAMFORD CONN 06902 ....203 324-6118
F GUISE EMP 20 ENG 3
Ill N H Sonderman 410 S Hager St Barrington .381-4345

BALTIC METAL PRODUCTS CO 126 SUTTON ST
BROOKLYN N Y 11222 212-384-2300
S SCHLANGER EMP 70 ENG 4 $500-$1,000M

BARBER-COLMAN CO, EMP DIV 1300 ROCK ST
ROCKFORD ILL 61101
TWX 815 398-0341 ....815 968-6833
M KELLEY EMP 5000 ENG 50
Cal R Meussdorffer & Assoc 13441 Ventura Blvd
Sherman Oaks 788-0771
Colo SL Assoc Box 15096 Denver 238-1807
Conn White Sales Co Box 122 Berlin 224-0423
Ga Barber-Colman Co 1521 Northeast Exp NE
Atlanta 633-2561
Ill Newman-Krause Co 5451 W Lawrence Ave
Chicago 736-6800
Ind Menze Sales 6010 Lwr Huntington Rd
Fort Wayne 747-5616
Md Machinery & Equip Sales Inc 3303 Chestnut Ave
Baltimore 889-2070
Mass White Sales Co 20 Chestnut St Needham ...444-3676
Minn Northport Engineering Inc 2027 Grand Ave
St Paul 698-3841
NJ P H Werner 20 Hillside Ave Springfield 376-9440
NY Harries & Kershaw 15 Canterbury La
E Aurora 625-1221
NC Candor Co Bethania 924-1480
Ohio R K Deunk & Assoc Inc 7390 Chippewa Rd
Cleveland 526-4317
Pa McDavitt Sales Corp Box 8, Pilgrim Gdn Sta
Drexel Hill 544-2588
Tex Barber-Colman Co 3325 West Frwy
Fort Worth 732-2818
Wash Seatronics Inc 5616 4th Ave S Seattle 767-4330
Wis Barber-Colman Co 3952 N 76th St
Milwaukee 464-5900
Can John Herring & Co Ltd 3468 Dundas St W
Toronto, Ont 762-7545
Can Godfrey Engrg Co Ltd 480 Montr-Toron Blvd
Lachine, Que 637-1122

BARCO CHEMICAL PRODUCTS CO 701-3 S LASALLE
CHICAGO ILL 60605 ....312 427-2916
R BAREWIN EMP 12 ENG 2 $100-$250M
Colo Wm W Allen Co 5401 S Prince St
Littleton 303-794-6301

BARCO, INC BOX 1222 MILWAUKEE WISC 53201
TWX 414 322-8396 ....414 276-8515
I AARON EMP 10 ENG 3 $100-$250M
Cal Mann & Smith 8949 Reseda Blvd
Northridge ....DI 9-2073
Colo Norris & Co 915 Cheyenne Blvd
Colorado Springs 635-9319
Minn Irvn I Aaron Assoc Inc 614 E Grant St
Mnpls ....FE 6-6659
NJ Braddock Assoc Box 305 Haddonfield 429-0087
Va Braddock Assoc Box 556 Falls Church 534-9177

BARDEN CO 2217 PURDUE AVE LOS ANGELES
CAL 90064 TWX 910-342-6490 213-477-3511
G DENNIS EMP 25 ENG 4
Mass Hatch Assoc 32 Kearney Rd
Needhan Heights 710-444-3310
Minn Beta Engineering Co 128 Jackson Ave N
Hopkins 612 938-2551
NJ K & J Assoc 28 Rillo Dr Wayne 201-694-3334
Tex Allied Components Inc 10464 E Northwest Hy
Dallas 214-348-6660

BARDEN CORP 200 PARK AVE DANBURY
CONN 06810 TWX 710-456-0098 ......203 744-2211
G HOPKINS EMP 1580 ENG 55 OVER $10,000M
Cal Barden Corp 3850 Wilshire Blvd
Los Angeles 372-2121
Can Philip French Sales Ltd 785 Plymouth Ave
Montreal 731-7513
Can Philip French Sales Ltd 8 Taber Rd
Rexdale, Ont 244-4281
Fr C P I Aeronautique 57 Ave d'Iena Paris ...KLE 76-17
Ger Aerotechnik-Kirchfeld KG 4 Dusseldorf
Trinkaus-Str I 10545
GB Barden Corp (UK) Ltd Western Rd
Bracknell, Berks 24511
Swit Merag 7 Clos De Bulle 1000 Lausanne ..021-22-40-94

BARIUM AND CHEMICALS, INC BOX 218
STEUBENVILLE OHIO 43952 ....614 AT 2-9776
A PAVLIK JR EMP 55 ENG 6

BARKER PRODUCTS CO 344 CENTRAL ST SAUGUS
MASS 01906 ....617 233-6676
W BRACKETT EMP 75 $1,000-$2,500M
Ala Maitland K Smith Co 3258 Cahaba Heights Rd
Birmingham 967-3080
Cal Feldman-Roberts & Assoc 9724 Washington Blvd
Culver City 213-870-5793
Colo Vines & Co Box 1025 Denver ....TA 5-4471
Fla Maitland K Smith Inc Box 8847
Fort Lauderdale 524-0955
Ga Maitland K Smith Inc 5375 New Peachtree Rd
Chamblee 475-1931
Ill Loren F Green & Assoc 5218 W Diversey Ave
Chicago ....AV 6-6824
Mass Marketing Elctns, Inc 339 Auburn St
Auburndale ....LA 7-7753

Mich Riley & Petchell Elctn Sales
16515 Schoolcraft Ave Detroit ....VE 8-9100
Minn John E M Anderson Co 5231 Humboldt Ave S
Minneapolis ....TA 3-6459
NJ Component Marketrs Inc 151 Valley Rd
Montclair ....PI 6-6717
NC Maitland K Smith Inc 1605 Chatham Ave
Charlotte ....FR 6-5951
Ohio Fred Ohman Box 363 Twinsburg 425-7445
Pa Stinson Assoc 227 Haverford Ave
Narberth ....MO 4-5511
Tex Charles Lucas Sales Co Box 24632 Dallas .WH 2-5958
Wash Dave Champlin Co Lake City Way NE
Seattle ....EM 2-0401
Can Alex L Clark Ltd 3751 Bloor St W Islington .231-5691

BARKER SALES CO 339 BROAD AVE RIDGEFIELD
NJ 07657 ....201 943-2477
T ROBINSON-COX EMP 17 $1,000-$2,500M

BARKER & WILLIAMSON DIV SUNSHINE MINING
CO CANAL ST BRISTOL PA 19007
TWX 510-667-1389 ....215 778-5581
EMP 100 ENG 15 $5,000-$10,000M
Cal Rissi Sales Co 1817 S San Gabriel Blvd
San Gabriel 213-283-7614
Ga Floyd Fausett & Co Box 278 Smyrna ..404-436-5169
Haw Bill Kolans & Co Box 2098 Honolulu
Ind McDonald Sales Co Box 2848
Fort Wayne 219-745-9214
Mass Johnson Assoc 471 Washington St
Wellesley 617-235-3977
Minn Mark Sales Co 3100 Humboldt Ave S
Minneapolis 612-825-0911
Mo R W Farris Co 1715 Baltimore Ave
Kansas City 816-421-1751
NJ S Fisher 161 Cedar Lane Teaneck 201-836-6661
NY Marsey Sales, Inc 206 Park Ave Rochester ..442-9700
Ohio Perry Lohse & Co 529 Richmond Rd
Cleveland 216-381-7788
Ore Richard Legg Co Box 25327 Portland ..503-292-8824
Pa David Linz 238 Shelmire St Phila
Tex Ivan Harrison 13821 Hillcrest Rd Dallas ...AD 9-2479
BC Reptronic Sales Ltd 1859 W 4th St
Vancouver 604-685-4436

BARKLING INDUSTRIAL FURNACE CORP
16850 S STATE ST SOUTH HOLLAND
ILL 60473 ....312 339-2020
M PATTERSON EMP 55 ENG 2
For Sales Offices/Reps see Huppert Co K H Listing

BARNES CORP 24 N LANSDOWNE AVE LANSDOWNE
PA 19050 TWX 510 669-9977 ....215 622-1525
J ROOS EMP 200 ENG 6 $2,500-$5,000M
ADV PG 576
Cal Dyna Sales Co Box 6757 Los Angeles 268-1175
Cal R A Banks Sales Corp 1029 Corporation Way
Palo Alto 415 964-4464
Colo Straube Assocs Box 1649 Boulder 303-443-8600
Conn Hale-Forden Assoc 1245 Farmington Ave
W Hartford 521-5620
Fla Beacon Electronic Assoc 540 S Maitland
Maitland 647-3498
Fla Beacon Electronic Assoc 417 N W 28th St
Ft Lauderdale 305-564-4298
Ga Beacon Electronic Assoc 2285 Peachtree Rd NE
Atlanta 404-351-3654
Ill Robt J Kennedy Co 6713 N Oliphant Ave
Chicago 631-8283
Kan Penzner Assoc 5600 W 95th St
Overland Park 381-0004
Mass Hale Forden Assoc 472 Pleasant St
Melrose 617 266-3333
Minn Bonament Heyda Co 3830 Rustic Place
St Paul 484-8531
Mo Penzner Assoc 400 Brookes La
Hazelwood 314-731-4334
NJ R T Reid Assocs 530 Maine St
Fort Lee 201-944-9323
NM Electronic Enterprises 5206 Constitution Ave NE
Albuquerque 256-1585
NM Electronic Enterprises Box 116
Las Cruces 505-524-0126
NY Martin P Andrews Inc 319 Mott Rd
Fayetteville 637-6405
NY M P Andrews Governor Clinton Hotel
Kingston 914-338-2700
NC Beacon Electronic Assoc 305 Greenway St
Jamestown 919-454-1010
Ohio McShane Box 523 Medina 725-4568
Okla T J Ray Co Box 45191 Tulsa 918-627-1515
Pa B & A Assocs 237 Lancaster Ave Devon 688-5173
Tex Gillett Industries 5635 Yale Blvd Dallas 363-0107
Utah Straube Assocs Box 316 Morgan 801-829-6448
Wash James J Backer Co 221 W Galer St Seattle .283-6470
Can Computing Devices of Can Box 508
Ottawa Ont 416-364-6078
Can Computing Devices of Can 55-59 Richmond St E
Toronto Ont 416-483-3600
For Dage Corp 757 Main St Stamford Conn 324-3123
Jap Tokyo Electron Labs TBS Kaikan Bldg Akasaka
Minato-Ku Tokyo 584-5611

BARNES ENGINEERING CO 3012 S HALLADAY ST
SANTA ANA CAL 92705 ....714 545-5561
G BARNES EMP 15 ENG 2 $100-$250M
Ore Dale G Weber Co Weatherly Bldg
Portland 503-234-7671
Ger Hans Hurnaus Neubeuren am Inn Bavaria ...RAU-304

BARNES ENGINEERING CO DEF & SPACE DIV
30 COMMERCE RD STAMFORD CONN 06902
TWX 203 327-0840 348-5381
S HAFFNER EMP 450 ENG 250 OVER $10,000M
Ala E G Holmes & Assoc 4862 Governors Dr W
Huntsville 205 837-6900
Cal Barnes Engineering Co 1400 Coleman Ave
Santa Clara 248-4221

Cal Barnes Engineering Co 1100 Glendon Ave
Los Angeles 477-3593
Conn Northeast Assoc 516 Pepper Ridge Rd
Stamford 203 329-0012
DC Barnes Engrg Co Box 31 McClean Va 759-2161
Fla E G Holmes & Assoc 316 1/2 S Bumby St
Orlando ....305 CH 1-2128
Ga E G Holmes & Assoc 3667 Clairmont Rd
Chamblee 404 451-6161
Ill Brooks Engineering Co 227 E Walton Pl
Chicago 944-1227
Md C E Snow Co 10442 Baltimore Ave
Beltsville 301 345-2211
Mass Northeast Assoc Box 31 Marblehead ...617 595-1000
NY Martin P Andrews, Inc 319 Mott Rd
Fayetteville ....NE 7-3144
NC E G Holmes & Assoc 430 W Gaston St
Greensboro ....919 BR 2-0855
Ohio Rixan Assoc Inc 5752 Wadsworth Rd
Dayton 222-0011
Pa C E Snow Co 258 N Main St Ambler ..215 MI 6-9451
Tex W Fedderson & Assoc 1730 Nasa Blvd
Houston 713 591-2955
Can Technical Mktg Assoc Six Thorncliffe Sq
Toronto, Ont
Ger H Dauber Assoc Inc Ainmellerstr 1 8 Munich
GB B & K Instr Ltd 59 Union St London SE 1
Jap Marubeni-Iida Inc 4, 1-Chome Ohtemachi
Chiyodaku, Tokyo
Isrl Eastronics, Ltd 75 Haifa Rd, Box 21029 Tel Aviv

BARNSTEAD CO DIV SYBRON CORP
225 RIVERMOUR ST BOSTON MASS 02132
TWX 094-556 617-327-1600
G SIMPSON EMP 250 ENG 20
ADV PG 341
Cal Barnstead Co Box 879 Tiburon 332-1972
Ga Barnstead Co Atlanta 634-8625
Ill Barnstead Co 100 E Irving Pk Roselle 894-9220
Md Barnstead Co Box 2625 Bethesda 657-4649
Mich Barnstead Co Detroit ....ENT 7422
Mo Barnstead Co Box 12587 St Louis 968-3616
NJ Barnstead Co 799 Rt 46 Parsippany 334-3203
NC Barnstead Co Box 17672 North Hills Sta
Raleigh 787-7773
Ohio Barnstead Co Box 315 Lima 271-2138
Pa Barnstead Co Box 103 Wayne ....MU 8-2918
Tex Barnstead Co Box 55186 Houston 465-0235
Can Barnstead Co Box 6 Sta O Toronto, Ont 445-4002

BARRETT CO, LEON J 1776 GRAFTON RD
WORCESTER MASS 01601 ....617 755-4306
G GARDNER EMP 25 ENG 2 $500-$1,000M

BARRETT ELECTRONICS CORP 630 DUNDEE RD
NORTHBROOK ILL 60062
TWX 910-686-0007 ....312 272-2300
W DEAN EMP 250 ENG 25 OVER $10,000M
Cal Barrett Electronics Corp 897 Commercial St
Palo Alto ....DA 6-7095

BARRETT VARNISH CO 1532 S 50 COURT CICERO
ILL 60650 ....312 BI 22462
E KOCH EMP 65 $1,000-$2,500M

BARRINGER RESEARCH LTD 304 CARLINGVIEW DR
REXDALE 605 ONT 416 677-2491
D WHITEMAN EMP 100 ENG 40 $1,000-$2,500M

BARRON CONTROLS & RELAY CORP
3 N BARRON BLVD GRAYSLAKE ILL 60030 .BA 3-4868
D ROSSI EMP 30 ENG 4 $250-$500M
Ill Memac Sales 4740 N Austin Ave Chicago ...545-1033
Mass Adcour Inc 1 Summer St Sharon 617-784-3996
NY W Jay Assoc Box 56 Bayside 212-762-4238
Wis H Frick & Assoc 3274 N 77th St Milwaukee .444-8430

BARRS ELECTRONICS 4801 ROSS AVE DALLAS
TEX 75204 214-631-2540
EMP 12 ENG 3 UP TO $100M

BARRY CONTROLS DIV BARRY WRIGHT CORP
700 PLEASANT ST WATERTOWN MASS 02172
TWX 710-327-1290 ....617 923-1150
J QUINN EMP 375 ENG 45 $5,000-$10,000M
Ariz Runyon Co 6825 E Thomas St
Scottsdale 602-947-5711
Cal Lebell-Warren Assoc 601 County Rd
San Carlos 415-593-7688
Cal Barry Controls Div 2323 Valley St
Burbank 213-843-1000
Colo Vinson Assoc 3600 S Lincoln St
Englewood 303-789-2203
Ga Black Engrg Sales Co Box 28737
Atlanta 404-252-2523
Ill Barry Controls Div 122 W St Charles Rd
Villa Park 312 834-2502
Md Barry Controls Div 5132 Baltimore Ave
Hyattsville 301 277-8622
Mass Schaal Assoc Inc 4 A St Burlington ...617-BR2-3250
Mich Barry Controls 28165 Greenfield Rd
Southfield 313 358-3871
NJ Barry Controls Div 1219 Liberty Ave
Hillside 201-289-5152
NM Vinson Assoc 2329 Wisconsin NE
Albuquerque 505-298-7442
NY ERA Inc 330 Great Neck Rd
Great Neck 516-HU2-9320
NY Barry Controls Div 474 Thurston Rd
Rochester 716-436-5520
Ohio Barry Controls Div 3439 W Brainard Rd
Cleveland 216-831-2332
Ohio Barry Controls 1825 Webster St
Dayton 513-222-8931
Pa Barry Controls Div 288 Lancaster Ave
Malvern 215-644-0990
Tex Blair Engrg Sales Co 10034 Monroe St
Dallas 214-352-2556
Wash Barry Controls Div 3100 128th Ave N E
Belleview 206-885-2341

Can J G Weiss Co Ltd 5725 Monkland Ave
Montreal 28 ....514 489-6887
Ger EFFBE-Membranenwerk Hermannstr 7-11
6096 Raunheim Hess
GB Cementation (Muffelite) Ltd
Hersham, Walton-On-Thames Surrey
Jap Showa Elec Wire & Cable Co Ltd
Tokyo Toranomin Bldg N 10 Shiba-Toranomin
Minato-ku Tokyo

BARTH CORP 12650 BROOKPARK RD CLEVELAND
OHIO 44130 ....216 267-1950
J BARTH EMP 350 ENG 15 OVER $10,000M

BARTH ELECTRONICS, INC 7777 WALL ST
CLEVELAND OHIO 44125 216-524-5136
J BARTH EMP 6 ENG 1 UP TO $100M

BARTLETT-EMERY INSTRUMENT CO BOX 445
FORT MADISON IOWA 52627 319-372-8366
P BARTLETT EMP 33 ENG 2 $100-$250M
Cal Walter Corman 7432 W 80th St
Los Angeles 670-2520
Ill Edward Schmeichel Co 5968 W Chicago Ave
Chicago 378-2070
NY John DiBlasi Assoc 14 Vanderventer Ave
Port Washington ....PO 7-0470
Pa W E Girard 715 Fairfield Rd Glenside 887-4411

BARTLETT MFG CO DIV C P CLARE & CO
70 N KING ST ELK GROVE VILLAGE
ILL 60007 ....312 439-7200
R BENZIGER EMP 120 ENG 4 $100-$250M
Ind Needler Sales Co Sta C, Box 2407 Fort Wayne
Mich J Morrow Sales Co Fairplain Plaza
Benton Harbor 616-927-3134
Mich C B Jensen & Assoc 26711 Woodward Ave
Royal Oak 313 399-0900
NJ Peterson-Rudnick Assoc Box 822
West Caldwell ....CA 6-4363
NJ D & R Assoc 248 Lorraine Ave
Upper Montclair 201 744-8378
NY Peterson-Rudnick Assoc 364 Lincoln Pl
Brooklyn ....SF 9-9585
Ohio Mulligan & Mathias Co 2011 Riverside Dr
Columbus
Pa H Goodman 401 Mt Airy Ave
Philadelphia ....215 CH 7-7116
Wis Erdman Sales Co 6312 S 27th St
Oak Creek 414-761-2120

BARTON MINES CORP NORTH CREEK
N Y 12853 518-998-2296
J BURNS EMP 125 ENG 3

BARWOOD ELECTRONICS, INC
120 S MARYLAND AVE GLENDALE
CAL 91205 ....213 245-4063
W BARWOOD EMP 15 ENG 2 $100-$250M

BASIC CERAMICS INC SUB BASIC INC
212 SEVENTH AVE HAWTHORNE NJ 07507
TWX 710 988-4133 ....201 427-4211
J MCMANOS EMP 150 ENG 7 $500-$1,000M
Cal Tech-Ser Inc 800 San Antonio Rd Palo Alto .969-9020
Ill J L Cavanagh 1311 S 1st Ave
Maywood 312 345-2256
Mo Dipro Inc Box 1428 Maryland Heights 432-3780
NJ Gray-Williams Assoc 8 E Mt Vernon Ave
Haddonfield 609-429-5300
Ohio Harry W Ruge Co 1720 Section Rd
Cincinnati 351-5091
Pa Industrial Specialties Inc 300 Mt Lebanon Blvd
Pittsburgh 341-4000
RI Euro/Tech Inc Box 269 Warwick 884-5671
Tex Tech-Ser Inc 10210 Monroe Dr Dallas 358-2504
Wash Delta-Mark 16325 Phantom Lake Way
Bellevue 206-SH7-4875
Can Inca Assoc Box 143, Sta B Hamilton Ont

BASLER ELECTRIC CO RTE 143, BOX 269
HIGHLAND ILL 62249
TWX 910-996-2522 ....618 654-2341
J BELLINGER EMP 480 ENG 15
Ala Reynolds & Assoc 904 Bob Wallace Ave
Huntsville 205-536-1941
Ariz Bennewitz Assoc 532 N Brown Ave
Scottsdale 602-947-7379
Cal R E Abbott 2450 El Camino Real
Palo Alto 415 327-0830
Cal R T Puelicher 901 Laguna Rd Pasadena .213 682-3050
Cal Nolan Assoc 1041 Macy St
Los Angeles 213-222-8133
Colo Bennewitz Assoc 2801 E Colfax Ave
Denver 303-399-1132
Conn Selmark Assoc Box 6243 Wolcott 203-879-2478
Fla Reynolds & Assoc 408 Strawbridge Ave
Melbourne 305-727-3205
Fla Reynolds & Assoc Inc Box 8877
Orlando 305-242-3836
Fla Reynolds & Assoc 161 SW 75th Ave
Ft Lauderdale 305-581-6611
Ga Reynolds & Assoc 175 W Wieuca Rd NE
Atlanta 404-252-5360
Ill Sam Tollaksen 304 S Halsted St
Chicago ....312 CE 6-2964
Md Faion Lott & Co Box 534 Glen Burnie ..301 744-4611
Mass Selmark Assoc 181 West St Waltham ..617-899-8110
Mich Hilltronics Inc 13720 Puritan Ave
Detroit 313-342-3242
Minn White Sales Co Box 4530 Mnpls 612 929-4661
Mo Harlan J Weisler & Assoc 2050 Woodson Rd
St Louis ....314 HA 8-3934
Mo Harlan J Weisler and Assoc 3307 Chippewa Dr
Kansas City 816-454-5096
NJ L H Walke Co 19 Dunbarton Rd
Cherry Hill 609-424-3766
NM Bennewitz Assoc 9720 Candelaria NE
Albuquerque 505-298-6775
NY Seidel Assoc 113 Ursula Dr Roslyn ....516 MA 1-1117

NY Aero Sales Co 600 Oswego St
Liverpool 315-457-6378
Ohio Sea Wood Sales Inc Box 42071
Montgomery 513 793-6702
Ohio Arthur H Baier Co & Assoc 4399 Industrial Pkwy
Willoughby 216 946-6080
Ohio H Baier Co & Asso 3300 S Dixie Dr
Dayton 513-298-9897
Pa Robinson-Waggoner Assoc Box 365
Monroeville 412-271-1000
Tex Ross Boling Co 727 Meadow Heath
Dallas 214-742-4341
Tex Ross Boling Co 5627 Cerritos St
Houston 713-729-9299
Wis Star Engineering Sales Co 7328 W Burdick Ave
Milwaukee ....414 LI 3-3469
Can Aero Sales Eng Co 4 Racine Rd
Rexdale, Ont 416 249-9139
Can Aero Sales Engr Co 2695 Regina St
Ottawa Ont 613-828-8560

BAUER BROADCAST DIV GRANGER ASSOC
1601 CALIFORNIA AVE PALO ALTO
CAL 94304 ....415 321-4175
P GREGG
Ala Jess Swicegood Box 1828 Dothan 205 792-2161
Cal T Aye 796 The Dalles Sunnyvale 408 738-1406
Colo H Broughall 600 Marble St Broomfield .303 466-3851
Haw Robert H Pearson 99-117 Chester Way Aiea
Ill R Salter 1880 Plain Ave Aurora 312-898-1580
Ind Herbert L Arms Box 327 Corydon 738-5752
Iowa V Blacketer 8101 University Ave
Des Moines 515 274-2551
La S Ormsby 7121 Catina St New Orleans .504-282-2097
Md R Halvorson Box 9975 Chevy Chase ...301-654-1698
NH J Keyworth 2 High St Plymouth.......603 536-2500
Ore L J Denes Rte 2 Box 584A Boring 503 658-2684
Tenn Pete Sewell Box 104 Lewisberg 615-359-4511
Tex Wm W Wylds 1247 Caddle Dr Houston
Utah G K Shaw 476 S 800 West Orem
For J Calderon AH-13 Villa Rica Bayamon, P R

BAUSCH & LOMB INC 61470 BAUSCH ST
ROCHESTER N Y 14602
TWX 510-253-6189 ....716 232-6000
A BLUM EMP 6000 OVER $10,000M
Ala Bausch & Lomb 512 N 18th St Birmingham
Cal Bausch & Lomb 275 Valencia St
San Francisco 415 863-1580
Conn Bausch & Lomb 66 Whitney Ave
New Haven 203 562-9851
Fla Bausch & Lomb 601 S Miami Ave
Miami 305-379-6819
Ga Bausch & Lomb 121 Linden Ave N E
Atlanta 404 873-2023
Ill Bausch & Lomb 740 W Washington Blvd
Chicago 312 782-9232
Md Bausch & Lomb 7100 Baltimore Ave
College Park 301 779-2300
Mass Bausch & Lomb 565 Commonwealth Ave
Boston 617 262-6100
Mich Bausch & Lomb 8107 Montlieu St Detroit
Minn Bausch & Lomb 817 Portland Ave
Minneapolis 612 335-8337
Mo Bausch & Lomb 607 N Grand Ave
St Louis 314 652-8103
NJ Bausch & Lomb 100 Menlo Pk Edison
NY Bausch & Lomb 136 W 52nd St
New York 212 247-5400
Ohio Bausch & Lomb 6500 Pearl Rd
Cleveland 216 888-5777
Ore Bausch & Lomb 818 NW 14th Ave
Portland 503-222-9305
Pa Bausch & Lomb 349 Lancaster Ave
Haverford 215 649-3933
Tex Bausch & Lomb 910 W Mockingbird La
Dallas 214-631-0664

BAY LABORATORIES, INC 20160 CENTER RIDGE RD
ROCKY RIVER OHIO 44116 ....216 333-3898
G PRUSHA EMP 20 ENG 2 $250-$500M
Cal Stark Instrumentation Sales 2125 Louise Ave
Arcadia 445-3756
Fla CES Assoc Box 1152 Melbourne 254-2183
Mich Tiby Co 8701 Fenkell Ave Detroit 834-9211
Ohio Tiby Co 2245 Warrensville Ctr Cleveland 371-5335
Utah Applied Engrg Prods 6375 Emigration Canyon
Salt Lake City 364-4942
Va W A Brown & Assoc 325 First St
Alexandria 703 836-1800
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 389-5914
Fr Antares Box 66 Paris

BAYLEY INSTRUMENT CO BOX 605 DANVILLE
CAL 94526 ....415 837-4649
L BAYLEY EMP 10 ENG 2

BAYLY ENGINEERING LTD HUNT ST AJAX ONT
TWX 02-2831 925-2126
D MCPHERSON EMP 120 ENG 8 $1,000-$2,500M

BAY PRODUCTS SOMERSET & GURNEY STS
PHILADELPHIA PA 19134 ....215 GA 66050
T FORD EMP 120 ENG 2 $2,500-$5,000M

BAYSIDE TIMERS, INC 43-69 162ND ST FLUSHING
N Y 11358 ....212 463-8935
G DOROTHEA EMP 8 ENG 2 $100-$250M
Wis O'Meara Co 800 N Marshall St Milwaukee ..273-8467

B & B ELECTRONICS CORP 17360 GRAMMERCY PL
GARDENA CAL 90247 ....213 FA 1-1956
D SMITH EMP 100 ENG 5 $1,000-$2,500M
Ala Young & Lawrence Assoc 2907 Governors Dr S W
Huntsville 205 539-6575
Ariz J Osborn Assoc Box 968 Scottsdale ...602-948-0501
Cal Wm A Gibson Co Box 6124 San Diego ..714-223-6120
Fla Young & Lawrence 601 N New York Ave
Winter Park 305 647-6929

Ill C Booth & Assoc 1921 N Harlem Ave
Chicago 312 237-7910
Ind Tri-State Electronics Inc 3220 Broadway
Ft Wayne 219-446-3567
Kan Palatine Engrg 7520 W 63rd St
Overland Park 913-262-5643
Mass Adcour Engrg One Summer St Sharon .617-784-3996
Minn C Macnamara 5227 Bartlett Blvd
Mound 612 472-4919
Mo Palatine Engrg Sales 8622 St Charles Rock Rd
St Louis 314 426-7055
NJ Quality Components Co Box 583
Cherry Hill 609-428-6266
NY N L Pitch & Assoc 48 Commerce Dr
Farmingdale 516-293-5141
Ohio Tri-State Electronics Inc 1717 Section Rd
Cincinnati
Ohio Tri-State Mktg 25000 Euclid Ave
Cleveland 216 731-9207
Tex Southern Engrg Co 6434 Maple Dallas .214-357-0669
Wash Rowe/NW 1123 38th Ave Seattle 206-325-2792
Can Technitron Assoc Ltd 769 La Joie Ave
Dorval Que 514-631-6859
Isrl Ramron Ltd Elctn Engrg Box 2131 Ramat-Gan

B & B MAGNETICS CO 331 E 4TH AVE LA HABRA
CAL 90631 ....213 697-8712
R BERRY EMP 8 ENG 1 $100-$250M

B & B MOTOR & CONTROL CORP 96 SPRING ST
NEW YORK N Y 10012 ....212 966-5777
P BERSON EMP 23 ENG 2 $1,000-$2,500M
ADV PG 176

B & C INSULATION PRODUCTS, INC
490 LINCOLN HWY ISELIN N J 08030 ...201 283-2315
J BALDINI JR EMP 10 ENG 1 $100-$250M

BEACH-RUSS CO 420 LEXINGTON AVE NEW YORK
N Y 10017 TWX KGD ....212 OR 97636
A BEACH II EMP 100 ENG 10 $2,500-$5,000M
Cal Loren Patrick Assoc Box 695 M Altadena ...797-4511
Ga G Crossley 3390 Peachtree Rd NE
Atlanta 404 261-4278
Ill Wm C Sedgwick 1750 George Ct
Glenview 312 724-5170
Mass Hayes Pump & Machinery Co 100 Properzi Way
Somerville 617 666-3880
Minn T O Berreau Co 4505 Oak Dr
Minneapolis 612 926-1424
Mo Jim Rogers 8002 Florissant Rd St Louis .314 521-7929
NY LeValley McLeod Inc 140 VanGuysling Ave
Schenectady 518 374-3101
Ohio R A Grey & Co Inc 12429 Cedar Rd
Cleveland 216 462-2669
Pa J Guy Griffith Co 1251 Union Trust Bldg
Pittsburgh 412 281-3854
Can G F Seeley & Son 108 Skyway Ave Rexdale
Ont 416 677-1481

BEAD CHAIN MFG CO 110 MOUNTAIN GROVE ST
BRIDGEPORT CONN 06605 ....203 334-4124
B KRAFCIK EMP 175 ENG 4 $1,000-$2,500M
Cal Yarbrough Sales Co 5808 Monterey Rd
Los Angeles 213-254-5101
Ill Gene F Sales Co 4750 N Milwaukee Ave
Chicago ....KI 5-5562
Ind Hoster & Sieloff Assoc 444 W 91st St
Indianapolis 317-547-5230
Mich J H Fox 3404 Elder Rd Orchard Lake ..313-363-3105
Minn Ed Melius & Assoc 3758 N Dunlap St
St Paul 612-484-8541
NY Pat Wright 550 5th Ave New York ...212-PL 7-3638
Wash F W Aurich & Co 3601 Gilman Ave W
Seattle 206-284-5561
For Alton Co Inc 3214 Bergenline Ave
Union City, NJ 201-UN 5-4080

BEAM TUBE CORP 11 BEACH ST MILFORD
MASS 01757 ....617 473-0660
J WALSH EMP 40 ENG 4 $250-$500M
Cal Windsor Dynamics Box 5500 Sherman Oaks .789-2421
Conn J P International 1989 Summer St
Stamford 203 348-2691
NY Transitube Inc 47 E 22nd St New York 533-5580
Ohio Aertronic Assoc Inc 5899 Huberville Ave
Dayton 253-8144

BEAN & CO, MORRIS HYDE RD YELLOW SPRINGS
OHIO 45387 ....513 767-7301
D SCOTT EMP 713 ENG 21 $5,000-$10,000M
Cal Pacific Component Sales 2500 W 6th St
Los Angeles 384-1193
NJ Talbot & Assoc Cleveland Pl Springfield 376-9570
Wash Houston Co 1738 Fourth Ave S Seattle 622-0750

BEAN INC, WILLIAM T 18915 GRAND RIVER AVE
DETROIT MICH 48223 TWX 23-5331 ...313-838-6700
R CHIPMAN EMP 15 ENG 3 $1,000-$2,500M
Cal Wm T Bean Inc 11830 Ocean Park Blvd
Los Angeles 213-478-2688
Md Kinney Technical Products 3923 Plyers Mill Rd
Kensington 301-942-1033
NM Thorson Co 5921 B Lomas Blvd NE
Albuquerque 505-265-5655

BEARING INSPECTION, INC
10041 SHOEMAKER AVE SANTA FE SPRINGS
CAL 90670 ....213 944-6251
D HUTTON EMP 15 ENG 1 $250-$500M
For Intercontl Aviation Services Inc Box 1705
Beverly Hills, Cal 272-5054

BEAU MOTOR DIV UMC ELECTRONICS CO
460 SACKETT POINT RD NORTH HAVEN
CONN 06473 ....203 288-7731
H BEEBE EMP 30 ENG 3 $500-$1,000M
Cal G M Burkhardt 3232 Midvale
W Los Angeles 213 474-1425

BEAVER GEAR WORKS INC 5459 11TH ST ROCKFORD ILL 61105 . . . . . 815 874-2471
C ALBERTS EMP 100 ENG 5 $2,500-$5,000M

BEAVER LABS, INC 160 TERMINAL DR PLAINVIEW NY 11803 . . . . . 516 822-3855

BEC INC 8039 PRESTON CT BROOKLYN NY 11236 . . . . . 212 629-1636
I RUBIN EMP 127 ENG 14 $500-$1,000M

Ala	D C Duncan Co Box 3672 Birmingham	786-4602
Cal	R Tate 1322 N First St El Cajon	442-0921
Colo	W G Barnson 6460 Brentwood Arvada	798-0319
Conn	J Upson 139 Carlton Dr Cheshire	272-8338
Fla	Barrett Assoc Box 14205 Orlando	277-2857
Ill	Oak Engrg Inc Box 123 River Forest	867-6262
La	Mitchell White Eng 247 Phosphor Ave Metairie	833-3731
Mass	J St Pierre 45 Schofield Ave Webster	943-0025
Mich	Jack Thorpe Co 640 Hidden Lane Detroit	884-4360
Minn	Wenco Sales Co 7728 Morgan Minneapolis	866-3639
Mo	Robert Uthoff Co Box 300 Fenton	
Neb	Marketing Assoc Box 53938 Lincoln	434-5244
NJ	J Stone Box 106 Morristown	763-7727
NM	Arrowhead Sales Box 243 Albuquerque	268-9706
NY	D Obstgarten Box 353 Merrick	MA 3-3100
Ohio	Martin-Rettger Inc 11955 Shaker Blvd Cleveland	SW 1-8787
Pa	Samuel A Jeffries Inc 105 Forrest Ave Narbeth	664-8500
Tex	Milton Loss Co 7919 Royal La Dallas	638-2758
Utah	Arrowhead Sales 1966 W 6255 S Salt Lake City	487-3444
Wash	Fred Stokes Co 1901 NW 97 St Seattle	SU4-7406
Can	H B Etlin Co Ltd 1850 Wilson Ave Toronto	CH 4-1115

BECKMAN INSTRUMENTS INC 2500 HARBOR BLVD FULLERTON, CAL 92634
TWX 910 592-1260 . . . . . 714 871-4848
EMP 7450 OVER $10,000M

Ala	Beckman Instr, Inc 645 Winwood Dr Birmingham	822-7810
Ariz	O'Halloran Assoc 4747 N 16th St Phoenix	277-3223
Cal	Beckman Instr Inc 2200 Wright Ave Richmond	526-7730
Colo	Beckman Instr, Inc 3835 Elm St Denver	399-2616
Conn	Beckman Instr Inc 259 New Britain Rd Kensington	223-2038
DC	Eastern Instrumentation 2600 Virginia Ave NW Washington	333-8880
Fla	Beckman Instr, Inc 3113 Lawton Rd Orlando	841-1372
Ga	Beckman Instr, Inc 5765 Peachtree Ind Blvd Chamblee	451-3574
Haw	Beckman Instr, Inc Box 8625 Honolulu	503-723
Ill	Beckman Instr, Inc 7360 N Lincoln Ave Lincolnwood	583-1020
Ind	Beckman Instr, Inc Box 40286 Indianapolis	255-5821
Iowa	Beckman Instr, Inc Box 599 Des Moines	243-7353
Kan	Impala Inc 3141 Merriam La Kansas City	831-3933
La	Beckman Instr, Inc 2121 Wooddale Blvd Baton Rouge	926-5085
Md	Beckman Instr, Inc 12050 Tech Rd Silver Spring	622-2500
Mass	Beckman Instr, Inc 599 North Ave Wakefield	245-6800
Mich	Beckman Instr Inc 25511 Southfield Rd Southfield	353-7900
Minn	Beckman Instr, Inc 4900 Viking Dr Minneapolis	920-3232
Mo	Beckman Instr, Inc 4901 Main St Kansas City	931-4223
NJ	Beckman Instruments Inc US Hwy 22 at Summit Rd Mountainside	232-7600
NM	Beckman Instr, Inc 4200-D Silver Ave, SE Albuquerque	265-8511
NY	Beckman Instr, Inc 2451 Wehrle Dr Buffalo	634-3777
NC	Beckman Instr, Inc 111 Corcoran St Durham	682-5747
ND	Beckman Instr, Inc Box 46 Fargo	235-6322
Ohio	Beckman Instr, Inc 6500 Pearl Rd Cleveland	886-3020
Okla	Beckman Instr Inc United Founders Life Tower Oklahoma City	838-2841
Pa	Beckman Instr, Inc 950 Greentree Rd Pittsburgh	921-1530
Tenn	Beckman Instr, Inc 8114 Chesterfield Rd Knoxville	546-5331
Tex	Beckman Instr, Inc 5810 Hillcroft Ave Houston	781-0810
Utah	Beckman Instr, Inc 63 E Stratford Ave Salt Lake City	467-5471
Wash	Beckman Instr, Inc 225 108th Ave, NE Bellevue	454-9528
Wis	Beckman Instr, Inc Box 4127 Milwaukee	271-7060
Can	Canadian Marconi Co 3480 Prescott St Halifax N S	454-8321
Can	Beckman Instr, Inc 901 Oxford St Toronto 18 Ont	251-5251
Can	Beckman Instr, Inc 10538 124th St Edmonton, Alb	482-3447
Can	Canadian Marconi Co 100 Station St St John NB	693-2589
Can	Canadian Marconi Co 20 Barnes Rd St Johns NF	726-2422
Can	Canadian Marconi Co 1865 Sargent Ave NW Winnepeg Man	775-0348
For	Equipamentos Tecnicos Lda Box 6319 Luanda Angola	6917
For	Commercial Grebe y Co Calle Ayacucho 331 La Paz Bolivia	12324
For	Photo-Cinex Ltd Box 1011 Colombo 3 Cey	21575
For	Coasin Chile Ltda Casilla 14588 Correo 15 Santiago Chile	87653
For	M Trujillo Venegas E Hijo Ltda Aptdo Aereo 20702 Bogota 2 D E Col	48-57-72
For	Desco S P C R L B P 2322 Lubumbashi Rep of the Congo	
For	Costa Rica Dental & Med Supply Co Box 434 San Jose C R	21-22-24
For	Pan Vouros Box 1336 Nicosia Cyprus	50-2
For	Leonte Rene Baez Libertador No 36 Santo Domingo R D	2-4580
For	Fausto Amador Ycaza Box 3401 Guayaquil Ecu	14589
For	Electronica Aptdo 1589 San Salvador El Salv	21-7527
For	Moenco Ethiopia Ltd Box 1767 Addis Ababa Ethiopia	46440
For	Atlas Co Ltd Box 1225 Accra Ghana	66021
For	H Hermanos & Cia Lda Box 1124 Guatemala City Guat	23828
For	R L Rodriguez Apt No 4 Tegucigalpa D C Hond	2-2871
For	Universal Mercantile Co Ltd Box 2083 Hong Kong Vic	222502
For	Elm-Now Co Ltd Box 1656 Teheran Iran	69298
For	T H Mason & Sons Ltd Crane La Dublin 2 Ire	52191
For	Antilles Trad Co Ltd Box 70 Kingston Jam	3-9111
For	Jordan Drugstore Box 422 Amman Jor	23142
For	Asia Science & Co Intl Box 1250 Choong-ku, Seoul, Kor	2-1860
For	Beckman Instr Box 5910 Beirut Lebanon	267126
For	Pharmoclinic Box 557 Tripoli, Libya	35216
For	Ets Hanff Freres Luxembourg Rue de La Vallee, 60 Luxembourg	295-96
For	Gen Scientific Co, Ltd 7, Jalan 222, Sec 20A Petaling Jaya Selangor Mal	80978
For	Equipamentos Tecnicos, Lda Box 310 Lourenco Marques Mozambique P E A	2601
For	R Teran G Aptdo 689 Managus, D N, Nicar	34-51
For	Atlas Nigeria, Ltd Box 2120 Lagos, Nig	25917
For	Electronica Balboa S A Box 4929 Panama City 5 Pan	3-0833
For	H W Kessel, S A Aptdo 552 Lima, Peru	23900
For	Boie, Inc 6774 Ayala Ave Makati, Rizal, Phil	
For	Concessus Aptdo 1455 Lisbon 1, Port	652406
For	P R Hospital & Medical Supply Co Box 8367 Santurce, P R	724-3491
For	General Scientific Co 85-87 Holland Rd Singapore 10	644469
For	Medical Supplier Box 1311 Khartoum, Sudan	76312
For	J Awad & Fils Box 237 Damascus, Syr	18986
For	Sembodja Taiwan Ltd Box 530 Taipei, Tai	519976
For	Chem Equip Supply Co Box 445 Bangkok, Thai	20023
For	Raymond & Co 21 Mathura St St James Pt of Spn Trin	21660
For	D Akgonul Karakoy Box 638 Istanbul, Turk	449525
For	Coasin Uruguaya S A Cerrito 617 Montevideo, Uru	97978
For	Coasin C A Aptdo 50939 Caracas, Venez	729637
For	NAAFCO Viet Box 468 Saigon, Viet	91-601
For	Jugomontana Box 85 Belgrade, Yugo	629-922
For	Heinrich's Technical Office Box 573 Cairo Egypt	42559
For	Beckman Instru GMBH Stefan Esders Platz 4 Vienna 19	322524
Den	H Struers Chem Lab 38 Skindergade Copenhagen K	14-14-02
Fr	Beckman Instr France 17 Rue Marx-Dormoy Paris 18eme	205-7339
Ger	Beckman Instr GMBH Frankfurter Ring 115 8 Munich 45	38 871
GB	Beckman Instruments Ltd Queensway, Glenrothes Fife, Scot	3811
Neth	Beckman Instr Nederland NV Box 7943 Amsterdam	440-226
Ital	A Rastelli E C C D 2441 Rome	490257
Jap	Beckman-Toshiba Ltd 33-7, Shiba 5-Chome Minato-ku, Tokyo	
Nor	C Grindvold A/S Frognerveien 22 Oslo 2	563590
SAfr	Beckman Instr Pty Ltd Box 963 Cape Town	41-0616
Swed	LKB-Beckman Instr AB S-16220 Stockholm-Vallingby 1 Jamtland Sqatan 151-C	37-29-30
Swit	Beckman Instr Intl SA Rue Des Pierres-Du-Niton 17 Geneva	
Arg	Coasin S A Virrey del Pino 4071 Buenos Aires	52-3185
BC	Computing Devices of Can 683 E Hastings St Vancouver	255-7366
Belg	N V O I P 108 Meersstr Gent	225871
Braz	Ambriex S A Av Grace Aranha 226-6 Rio de Janeiro	42-7990
Gr	M Dalleggio Rep 2 Alopekis St Athens 139	710669
Ind	Toshniwal Bros Private Ltd 198 Jamshedji Tata Rd Ft Bombay 1	246131
Isrl	Eastronics Ltd Box 21029 Tel Aviv	446060
NZ	Watson Victor, Ltd Box 1180 Wellington	80-069
Spn	Pacisa Aptdo 7023 Madrid 5	2308300
Fin	Oy G W Berg & Co AB Box 13194 Helsinki 13	11541
Aust	H B Selby & Co Pty Ltd Box 121 North Ryde SW 2113	88-7155

BECKMAN INSTRUMENTS INC, HELIPOT DIV
2500 HARBOR BLVD FULLERTON CAL 92634
TWX 910 592-1260 . . . . . 714 871-4848
H CROUT ENG 97
ADV PGS 228,430,436,524,556,565

Ala	Murphy & Cota 904 Bob Wallace Ave Huntsville	539-8476
Ariz	Barnhill Assoc 4900 E Indian School Rd Phoenix	959-2115
Cal	Beckman Instruments Inc 1117 California Ave Palo Alto	326-1970
Colo	Barnhill Assoc 1170 S Sheridan Blvd Denver	934-5505
Conn	Compar New England 2357 Whitney Ave Hamden	288-9276
Fla	Lynch-Gentry Assoc Inc 6731 1st Ave S St Petersburg	347-5131
Ga	Murphy & Cota 586 Armour Cir N E Atlanta	875-2525
Ill	Magnuson Assoc 5639 W Fullerton Ave Chicago	622-6322
Md	Beckman Instruments, Inc 12050 Tech Rd Silver Spring	622-2500
Mass	Compar New England 88 Needham St Newton Highland	969-7140
Mich	Sheridan Assoc Inc 25625 Southfield Rd Southfield	358-3333
Minn	Magnuson Assoc 1246 W 7th St St Paul	227-8495
Mo	Sheridan Assoc, Inc 10137 W Florissant Ave St Louis	524-4800
NJ	Beckman Instruments Inc US Hwy 22 at Summit Rd Mountainside	232-7600
NM	Barnhill Assoc 827 Pennsylvania, N E Albuq	265-7766
NY	Ossmann Component Sales Corp 39 Saginaw Dr Rochester	442-3290
NC	Murphy & Cota 1106 Burke St Winston Salem	723-1001
Ohio	Sheridan Assoc Inc 10 Knollcrest Dr Reading	761-5432
Ore	Almac/Stroum Electronics 8888 S W Canyon Rd Portland	292-3534
Pa	Sheridan Assoc Inc 201 Penn Center Blvd Pittsburgh	243-6655
Tex	Norvell Assoc Inc 10210 Monroe Dr Dallas	357-6451
Wash	Almac/Stroum Electronics 5811 Sixth Ave S Seattle	763-2300
Can	Beckman Instruments Inc 901 Oxford St Toronto 18, Ont	251-5251
For	Equipamentos Technicos, Lda Box 6319 Luanda Angola	6917
For	Beckman Instr GmbH Aus Stefan Esders Platz 4 Vienna Aus	322524
For	Comercial Grebe y Co Cas de Correo 276 Calle Av 331 La Paz, Bol	12324
For	Photo-Cinex, Ltd Box 1011 Colombo 3 Cey	21575
For	Coasin Chile Ltda Casilla 14588 Correo 15 Santiago, Chile	87653
For	M Trujillo Venegas e Hijo Ltda Carrera 7a 48-71 Bogoto 2 D E Col	48-57-72
For	Desco S P C R L B P 2322 Lubumbashi, Rep Congo	
For	Costa Rica Dental & Medical Supply Co Box 434 San Jose	21-22-24
For	Pan Vouros Box 1336 Nicosia, Cyp	50-2
For	Leonte Rene Baez Libertador No 36 Santo Domingo, R D Dom Rep	2-4580
For	Fausto Amador Ycaza Box 3401 Guayaquil, Ecua	14589
For	Electronica Aptdo 1589 San Salvador, El Sal	21-7527
For	Moenco Ethiopia Ltd Box 1767 Addis Ababa, Ethi	46440
For	Atlas Co Ltd Box 1225 Accra, Ghana	66021
For	H Hermanos & Cia, Lda Box 1124 Guatemala City, Guat	23828
For	R L Rodriguez Apt 4 Tegucigalpa, D C, Hond	2-2871
For	Universal Mercantile Co, Ltd Box 2083 Hong Kong Vic	222502
For	Elm-Now Co Ltd Box 1656 Teheran, Iran	69298
For	T H Mason & Sons, Ltd Crane Lane Dublin 2, Ire	52191
For	Antilles Trading Co, Ltd Box 70 Kingston, Jamaica	3-9111
For	Jordan Drugstore Box 422 Amman, Jord	23142
For	Asia Science & Co Intl Box 1250 Choong-ku, Seoul, Kor	2-1860
For	F Makhlouf & Co Box 983 Beirut, Leb	26221
For	Pharmoclinic Box 557 Tripoli Libya	35216
For	Ets Hanff Freres Luxem Rue de La Vallee, 60 Luxembourg	295-96
For	Gen Scientific Co, Ltd 7, Jalan 222 Sec 20A Petaling Jaya, Selangor Malaysia	80978
For	Equipamentos Tecnicos, Lda Box 310 Mozambique P E A	2601
For	R Teran G Aptdo 689 Managus, D N; Nicar	34-51
For	Electronica Balboa S A Box 4929 Panama City 5, Pan	3-0833
For	H W Kessel, S A Aptdo 552 Lima Peru	23900
For	Boie, Inc 6774 Ayala Ave Makati, Rizal, Phil	
For	Concessus Aptdo 1455 Lisbon 1, Port	652406
For	P R Hospital & Medical Supply Co Box 8367 Santurce, P R	724-3491
For	Gen Scientific Co Ltd 85-87 Holland Rd Singapore 10	644469
For	J Awad & Fils Box 237 Damascus, Syria	18986
For	Sembodja Taiwan Ltd Box 530 Taipei, Tai	519976
For	Chem Equip Supply Co Box 445 Bangkok, Thai	20023
For	Raymond & Co 21 Mathura St St James Pt-of-Spain Trinidad, W I	21660
For	D Akgonul Karakoy Box 638 Istanbul, Turk	449525
For	Coasin Uruguaya S A Cerrito 617 Montevideo, Uru	97978
For	Coasin C A 50939 Sabana Grande Caracas, Venez	729637
For	NAAFCO Viet Box 468 Saigon, Viet	91-601
For	Jugomontana Box 85 Belgrade, Yugo	629-922
For	Beckman Instr GmbH Aus Stefan Esders Platz-4 Vienna 19 Aus	322524
For	Heinrichs Technical Office Box 573 Cairo Egypt	42559
For	The Medical Supplier Box 1311 Khartoum Sudan	76312
Den	H Struers Chemiske Lab 38 Skindergade Copenhagen K	14-14-02
Fr	Ets Megex S A 105, Quai Branly 75 - Paris Xveme	566-97-08
Ger	Beckman Instr GmbH Frankfurter Ring 115 8 Munich 45	38-871
Neth	I R C A 92, Paradysstr Voorburg	070 987351
Ital	Ing A Rastelli e C CP 2441 00100 Rome	490257
Jap	Beckman-Toshiba Ltd 33-7, Shiba 5-Chome Minato-ku, Tokyo	
Nor	Hefro Teknisk A/S Trondheimsveien, 80 Oslo 5	380286
SAfr	Beckman Instr Pty Ltd Box 963 Cape Town	41-0616
Swed	AB Nordqvist & Berg Box 4125 Stockholm K	44 99 80
Swit	Megex Zurich GmbH Badenerstr 582 8048 Zurich	051-527800
Arg	Coasin S A Virrey del Pino 4071 Buenos Aires	52-3185
Belg	Regulation-Mesure 22, Rue Saint-Hubert Brussels 15	71 20 20
Braz	Ambriex S A Av Graca Aranha 226-6 Rio De Janeiro	42-7990
Gr	M Dalleggio Rep 2 Alopekis St Athens 139	710669
Ind	Electronic Enterprises New Charni Rd Bombay 4	75376
Isrl	Eastronics, Ltd Box 21029 Tel Aviv	446060
Mex	Beckman Instru de Mex, S A de C V Aptdo 10-845 Mexico 10 DF	76-38-41
NZ	Watson Victor Ltd Box 1180 Wellington	80-069
Spn	Pacisa Apartado 7023 Madrid 5	230 8300
Fin	OY Honeywell AB Hitsaajankatu 5 Helsinki 81	78-0311
Aust	Sample Electronics Pty Ltd 9-11 Cremorne St Richmond 3121 Victoria	424757

BECKMAN INSTRUMENTS INTL SA
RUE DES PIERRES-DU-NITON 17 1207 GENEVA
SWITZERLAND TWX 22-596 022-356480
R BAURY EMP 80 ENG 25 OVER $10,000M
For Beckman Middle E Tech Off Box 5910 Beirut .267-126
For Casa Serras E Dias Serras, Lda Rua Augusta 288
Lisbon, Port 320133
For Beckman Instr Gmbh Aus Stefan-Esders-Pl 4
a-1082 Vienna 19 322524
Den Struers Chemiske Lab 38, Skindergrade
Copenhagen 141402
Fr Beckman France 71, rue Marx-Dormoy
Paris 18 205-7339
Ger Beckman Instruments GmbH
Frankfurter Ring 115 Munich 45 38871
GB Beckman Instruments Ltd Queensway Glenrothes .3811
Neth I R C A Paradysstr 92 The Hague 987351
Ital Rastelli e C Via San Martino Dalla Bataglia
Rome 490058
Jap Beckman-Toshiba
33-7, Shiba 5-Chome Minato-ku Tokyo
Nor Hefro Teknisk A/S Trondheimsveien 80 Oslo 5 .380286
SAfr Beckman Instruments Pty, Ltd 59 Buitenkant St
Cape Town 41-0616
Swed Nordquist & Berg Kvarngatan 14 Stockholm K .449980
Swit Megex GmbH Badener Str 582 8048 Zurich ...527800
Belg Regulation-Mesure 22 Rue St-Hubert
Brussels 15 712020
Gr Marios Dalleggio Rep 2 Alopekis St
Athens 139 ....710669 & 723277
Isrl Eastronics, Ltd 75 Haifa Rd Tel Aviv 446060
Spn Pacisa Gral P Rivera, 35 Aptdo 7023 Madrid .2308300
Fin Oy Honeywell AB Hitsaajankatu 5 Helsinki 81 ..780311

BECKMAN & WHITLEY 441 N WHISMAN RD
MOUNTAIN VIEW CAL 94040 ....415 968-6220
H TURNER EMP 95 ENG 29
Neth Bechman & Whitley Kettingweg 23 Baarn 5004
Jap Sumitomo Shoji Kaisha Ltd
22, 5-chome, Kitahama, Higashi-ku Osaka .23-6781
Swed Arne Aronzon Brovagen 8 Karlskrona ...0455/189 03

BECKWITH ELECTRIC CO INC
1002 GREENFIELD LA MT PROSPECT
ILL 60056 ....312 392-0348
R BECKWITH EMP 3 ENG 1 UP TO $100M
Cal Garland Affolter Eng Corp 58 Sutter St
San Francisco 415-397-1800
Colo Hamilton Assoc 1233 Elati St Denver
Fla Ed Sandlin Assoc 1640 Orange Ave
Winter Park 305-647-4496
Ill Snyder Sales Co 102 N Washington St Hinsdale
Mass G W Danek 69 Hickory Dr Waltham 617 899-0151
Mich NWR Elctns Corp 1010 W Washington
Marquette 906-226-7578
Minn NWR Elctns Corp Box 118 Virginia 218-741-5080
NY Dana-Beach Co 101 Park Ave
New York 212-MU 5-1776
Ohio Geo Drysdale Assoc Box 44055
Cincinnati 513-752-2069
Okla C B Anderson Electric Co Box 676 Tulsa
Ore G Affolter Eng Corp 1233 NW 12th Ave
Portland 503-223-7349
Pa Shelmar Elctns Corp Box 254 Glenside .215-885-0800
Tenn J Donelson Rte 1 Hermitage
Tex Pruitt Supply Co Box 7426 Amarillo
Wash G Affolter Eng Corp 10843 NE 8th St
Bellevue 206-454-2485
For Mart Haller Inc Box 159
Coral Gables Fla 305-444-4617

BEEBE INSTRUMENTS INC BOX 137
NO WHITE PLAINS N Y 10603
R BEEBE

BEECHWOOD MFG CORP 411 S RITTER AVE
INDIANAPOLIS IND 46219 317-356-2493
R NEWSOM EMP 10 ENG 2 UP TO $100M
Cal Weightman Assoc 1226W Olive Ave
Burbank 213-849-7711
Colo D E Bond 2149 S Clermont St Denver ..303-756-1234
DC Eastern Inst 2600 Virginia Ave NW
Washington 202-333-8880
Ind Kentron Corp 411 S Ritter Ave Indpls ..317-356-2493
Kan Impala 5424 N 96th St Kansas City ...913-299-9622
Md Eastern Inst 1002 Ingleside Ave
Baltimore 301-R1-4-3675
Mass Addelco Corp 56 Pickering St 617-444-4754
Mo Impala 47 Village Sq Ctr Hazelwood ...314-831-5454
NJ Eastern Inst Nutley 201-661-2000
NM D E Bond Box 1131 Albuquerque 505-247-3442
NY Eastern Inst NY 516-466-9505
Pa Eastern Inst 613 W Cheltenham Phila ..215-927-6269
Va Eastern Inst Ross Bldg Richmond 703-644-6622
Can D I Snell 700 Western Rd Toronto 416-767-9876

BEEDE ELECTRICAL INSTRUMENT CO, INC
S MAIN ST PENACOOK N H 03301 ......603 753-6362
S JUNE EMP 300 ENG 8 $2,500-$5,000M
Ala Components Sales Corp Box 899
Huntsville 205-539-6973
Cal Universal Components Co 2330 Westwood Blvd
Los Angeles 213-474-1537
Colo Electronic Components Sales Inc Box 22011
Denver 303-771-6200
Conn Ray Perron & Co Inc 36 Louis St
Trumbull ....203 AM 8-9631
Fla Components Sales Corp Box 9545
St Petersburg 813 360-7460
Ill Saffro & Assoc 3736 Dempster St
Skokie ....312 JU 8-0905
Iowa Thomas-Modrcin Assoc, Inc 890 17th Ave
Marion 319 377-6261
Kan Thomas-Modrcin Assoc Inc 5450 Buena Vista Dr
Shawnee Mission ....913 HE 2-2131
Mass Ray Perron & Co Inc 159 Morse St
Norwood 617-762-8114
Mich Burcaw Co & Assoc 18236 W McNichols Rd
Detroit 313 533-7700
Minn Wenco Sales 7728 Morgan Ave S
Minneapolis 612 866-3639
Mo Thomas Modrcin Assoc Inc 47 Village Sq
Hazelwood 314 838-6446
NH Ray Perron & Co Inc 1 Elm St Dover ...603-742-2321
NM Electronic Components Sales Inc
209 San Pablo SE Albuquerque 505 256-3663
NY Levison Sales Co Inc 5 Sunrise Plaza
Valley Stream 516-561-9696
NC Components Sales Corp Box 6401
Raleigh 919 832-1897
Ohio Walter J Brauer & Assoc 30011 Euclid Ave
Wickliffe 216 943-0601
Pa B & A Assoc 237 Lancaster Ave
Devon ....215 MU 8-5173
Tex Packard Assoc Box 20825 Dallas .....214 FL 7-5713
Utah Electronic Components Sales Inc 445 E 2nd S
Salt Lake City 801-355-5327
Wash Fred Haight Co 3212 Eastlake Ave
Seattle 206-322-1818
Can Aeromotive Eng Prod Ltd 1700 Montee De Liesse
St Laurent 514-332-1020
Can Aeromotive Eng Prod Ltd 1912 Avenue Rd
Toronto, Ont 416 783-4288

BEEMER ENGINEERING CO INDUSTRIAL PK
FORT WASHINGTON PA 19034 ....215 646-8440
H SILCOX III EMP 45 ENG 3
Md Beemer Eng Co Box 916 Severna Park 647-1840
NJ Beemer Eng Co Cleveland Pl Springfield 376-8338
NY Beemer Eng Co 67 Oak Grove Dr Buffalo ..NF 2-4363
NY Beemer Eng Co 108 Dawley Rd Fayetteville .446-5197
NC Beemer Engrg Co 4307 Emory La Charlotte .364-0975

BEHLMAN DIV CALIF INSTR CORP
3511 MIDWAY DR SAN DIEGO
CAL 92110 714-224-3241
H CLARK
Ala Currie Aerospace Assoc Box 1424
Huntsville 205-536-5650
Ariz Hytronic Msmts 1017 N 3rd St
Phoenix 602-253-6104
Cal Instrument Specialists 1109 S Central Ave
Glendale 213-245-9404
Colo Hytronic Measurements 4940 E 39th Ave
Fenver 303-388-4081
Conn Applied Msmts Inc Box 5181 Hamden ..203-288-5288
Fla Currie Aerospace Assoc Box 13229
Orlando 305-855-0843
Ill Cozzens & Cudahy 9501 Devon Ave
Rosemont 312-825-1144
Ind Cozzens & Cudahy 647 Mulford Ct
Indpls 317-244-2456
Mass Applied Msmts Inc Box 316 Acton 617-263-2766
Mich Cozzens & Cudahy 127 Edmund St
Royal Oak 313-585-5159
Minn Cozzens & Cudahy 7710 Computer Ave
Mnpls 612-920-1022
Mo Cozzens & Cudahy 10534 Natl Bridge Rd
Edmundson 314-423-1234
NJ Instrument Mktg Assoc 365 Broadway
Hillsdale 201-664-4088
NM Hytronic Msmts 205 San Pablo SE
Albuquerque 505-268-3941
NY Instrument Mktg Assoc Box 213
Smithtown 516-751-5159
NC Currie Aerospace Assoc 614 Nissen Bldg
Winston Salem 919-725-1927
Ohio Cozzens & Cudahy 735 S Court St
Medina 216-725-5660
Pa Letronix 251 W Dekalb Pike
King of Prussia 215-265-1020
Tex Scientific Sales Co 777 S Central Expwy
Richardson 214-231-6541
Utah Hytronic Msmts 2022 S Main St
Salt Lake City 801-466-4924
Va Nine Assoc Box 328 Annandale 703-256-9105
Wash Instrument Specialists 5950 6th Ave S
Seattle 206-767-4260
Can BRH Assoc Ltd 6338 Victoria Ave Montreal

BEKINS MOVING & STORAGE CO
1335 S FIGUEROA ST LOS ANGELES 15
CAL 90015 213-749-9111

BELAR ELECTRONICS LAB INC
DELAWARE & MONTROSE AVES UPPER DARBY
PA 19084 ....215 789-0550
A MEYER EMP 25 ENG 4 $500-$1,000M

BELDEN MFG CO 415 S KILPATRICK AVE CHICAGO
ILL 60644 ....312 378-1000

BELFAB A UNIT OF BAILEY METER CO
BOX 1881 MUNICIPAL AIRPT DAYTONA BEACH
FLA 32015 TWX 56-4355 ....904 253-0628
E THOMPSON EMP 100 ENG 6 $1,000-$2,500M
Cal E J Schneiderhan 8949 Reseda Blvd
Northridge 349-3250
Fla D & E Assoc 2031 Chippewa Trail Maitland .644-3039
Mass Mardon Co 440 Lexington St Auburndale ...332-9310
Minn Fred Peterson Co 4501 Minnetonka Blvd
Mnpls 927-4453
NY Stampress Components Inc 834 Linden Av
Rochester 381-2620
NY Qualified Products Corp 50 Jericho Tpk
Jericho 333-1840
Pa R A Foxhall 875 Greentree Rd Pittsburgh ...921-6356

BELFORT INSTRUMENT CO 1600 S CLINTON ST
BALTIMORE MD 21224 ....301 DI 2-2626
P CLAUS EMP 90 ENG 4 $1,000-$2,500M

BEL FUSE, INC 204 VAN VOORST ST JERSEY CITY
N J 07302 201-432-0463
A SUTTA EMP 225 ENG 7 $1,000-$2,500M
ADV PG 222
Ariz Carter Assoc Box 99 Scottsdale 947-4355
Cal Leddy Assoc 1319 Howard Ave Burlingame ..347-5247
Cal Universal Components Inc 2330 Westwood Blvd
Los Angeles 474-1537
Conn East Technical Sales 9 Park St Norwalk 846-9133
Ill Memac Sales 4740 N Austin Ave Chicago ..KI 5-1033
Kan Inland Assoc 6047 Howe Dr Mission 362-2366
Mass QRC Co 134 Upland Rd Newton 332-9600
Mich J L Montgomery 24001 Southfield Rd
Southfield 358-2616
Minn Beta Eng Co 128 Jackson Ave N Hopkins ...938-2551
NY S Foster & Co 2806 Hennaberry Rd Pompey .677-3333
NY Kahgan Sales Corp 1261 Broadway
New York ....MU 4-7772
Pa M Friedman & Assoc 7 Heather Rd
Bala Cynwyd ....TE 9-3450
Tex Parvin Sales Co Addison Rd Addison ......EM 3-8596

BELL AEROSYSTEMS CO BOX 1 BUFFALO
N Y 14240 TWX 710-524-1662 ....716 297-1000
W HOWELLS JR EMP 7000 ENG 4000
OVER $10,000M
Ala R Brown Holiday Office Ctr Huntsville 881-3631
Cal John M Schweizer 9800 S Sepulveda Blvd
Los Angeles 670-7820
DC Edward W Virgin 1000 Conn Ave NW
Washington 296-5240
Mass Sanford B Neister Box 25 Lynnfield 245-9084
NJ S Siegel Hwy 35 Eatontown 542-9222
Ohio Harold A Dow 131 N Ludlow St Dayton 224-0886
Tex D McKee 1730 Nasa Blvd Houston 591-3100

BELLAIRE ELECTRONICS, INC 62 WHITE ST
RED BANK N J 07701 ....201 741-8383
S LIPMAN EMP 35 ENG 1 $100-$250M

BELL & HOWELL COMMUNICATIONS CO
186 THIRD AVE WALTHAM
MASS 02154 617-891-1500
J JAMES JR EMP 85 ENG 25 $1,000-$2,500M

BELL & HOWELL CO, ELCTN INSTR GRP
360 SIERRA MADRE VILLA PASADENA
CAL 91109 213-796-9381
EMP 2200 ENG 700 OVER $10,000M
Ala Bell & Howell 3322 S Memorial Pkwy
Huntsville 205-881-2231
Cal Bell & Howell 5430 VanNuys Blvd
VanNuys 213-872-2960
Cal Bell & Howell 175 S San Antonio Rd
Los Altos 415-948-8294
Cal Bell & Howell 9530 Telstar Ave
El Monte 213-443-0161
Cal Bell & Howell 415 Clyde Ave
Mountain View 415-961-6610
Cal Bell & Howell 3820 E Colorado Blvd
Pasadena 213-795-3258
Cal Bell & Howell 1360 S Anahein Blvd
Anaheim 714-635-1600
Colo Bell & Howell 470 S Colorado Blvd
Denver 303-388-0907
Fla Bell & Howell 501 Park Ave N
Winter Park 305-647-0101
Ga Bell & Howell 3272 Peachtree Rd NE
Atlant 404-233-4467
Ill Bell & Howell 3150 Des Plaines Ave
Des Plaines 312-299-7751
Mass Bell & Howell 45 Fourth Ave
Needham Heights 617-444-8010
Mo Bell & Howell 10449 St Charles Rock Rd
St Ann 314-429-3222
NJ Bell & Howell 345 Boulevard
Hassbrouk Heights 201-288-2055
NJ Bell & Howell 26 Linden Ave Springfield .201-376-4900
NM Bell & Howell 141 Wyoming NE
Albuquerque 505-255-8671
Ohio Bell & Howell 20575 Center Ridge Rd
Cleveland 216-333-6227
Ohio Bell & Howell 1350 W 5th Ave
Columbus 614-488-9781
Pa Bell & Howell 2010 Oregon Ave
Philadelphia 215-465-3773
Tex Bell & Howell 433 Regal Row Dallas ...214-631-3700
Tex Bell & Howell 6001 Gulf Frwy Houston .713-928-3977
Utah Bell & Howell 48 E Robert Ave
Salt Lake City 801-486-9297
Va Bell & Howell 5508 Prt Royal Rd
Springfield 703-321-7633
Va Bell & Howell 1120 W Mercury Blvd
Hampton 703-838-2455
Wash Bell & Howell 302 Second Ave W
Seattle 206-284-5370
Fr Bell & Howell Instr Sarl 37 Rue Des Morillons
Paris 15E 828-25-51
Ger Bell & Howell Gmb Frankfurter Str
636 Friedberg Hessen 06031-3441
GB Bell & Howell Ltd Lennox Rd Basingstoke Hants ..3681

BELL, INC F W 1356 NORTON AVE COLUMBUS
OHIO 43212 ....614 294-4906
R MACKESSY
ADV PGS 280,346,398,712
Cal Paul Nurches Co 2396 E Foothill Blvd
Pasadena 796-5844
Colo Gordon Moss Electronics Inc 1530 13th Ave
Greeley 353-1452
Fla Physimetrics 999 Woodcock Rd Orlando 841-4956
Ga Physimetrics 3376 Peachtree Rd, NE
Atlanta 237-8278
Ill R Edward Stemm, Inc 17W480 Lake St
Addison 379-2700
Mass Electronic Components & Services 611 Trapelo Rd
Waltham 894-6921
Mich WKM Assoc Inc 1474 E Outer Dr Detroit ...892-2500
Minn R Edward Stemm Inc 2713 Lyndale Ave S
Minneapolis 822-8404
NY Cane Technical Sales Inc 555 E Boston Post Rd
Mamaroneck 698-4411
NC Physimetrics 3500 Six Forks Rd Raleigh 787-9265
Ohio WKM Assoc Inc 6741 Ridge Rd Cleveland ...885-5616
Pa WKM Assoc Inc 90 Clairton Blvd Pittsburgh .892-2953

Tex Carey-Wolf Co 3327 Winthrop Ave
Fort Worth 738-1702
Can Megatronix Ltd 954 Wilson Ave Downsview . .630-7672

BELL-MARK CORP 37 WEST ST BLOOMFIELD
N J 07003 ....201 743-6393
F SCRUDATO EMP 25 ENG 3
Cal Phillips Assoc 6003 Market St Oakland 658-3494
Conn Aetna Stamp & Engraving 1761 Silas Dean Hwy
Rocky Hill 529-2553
Fla Pack-Fast, Inc Box 196 Miami 888-2463
Ga C Taylor 3538 ColdSprings La Chamblee ...457-9601
Iowa American Rubber Stamp 419 11th St
Des Moines 282-0495
La Pack-It-Right Machy, Inc 536 S Peters St
New Orleans 504 524-8268
Mass Federal Marking Prods Corp 19 HIGH St
Boston 542-1336
Mich Columbia Marking Tools 17655 Filer Ave
Detroit 366-8180
Miss H W Clowe Co 128 Duncan Ave Jackson . 601 354-3547
Mo Duhart Packaging Equip 2012 Olive St
St Louis 241-1930
Neb S Riekes & Sons 1402 Webster St Omaha
NC Modern Material Handlers 115 Wedgedale Dr
Greensboro 299-8048
Ohio H Rogers Assoc 3740 Lowell Rd
Cleveland Hgts 381-2237
Ore Narver Machinery & Equip 231 SW Ankeny St
Portland 223-1422
Pa Glenroy, Inc 448 Phila Bourse Bldg
Philadelphia 215 627-2060
RI Technics Packaging 19 Coulter Rd
Clifton Springs 462-6241
Tex Jordan Equip Drawer V Stafford 498-6212
Wash Inter-State Supply Inc 2230 First Ave
Seattle ....206 MU 2-4870
Wis A J Powers 408 Congress St Neenah . . . 414 725-6927
Can Canada Stamp & Stencil, Ltd 4 Wm Morgan Dr
Toronto 17, Ont 416 425-4140

BELMONT SMELTING & REFNG WKS INC SALES
ENG CTR 200 EXPRESSWAY S ROSLYN HEIGHTS
NY 11577
G HENNING EMP 100 ENG 6 $250-$500M

BEL-RAY CO, INC BOX 526 FARMINGDALE
N J 07727 ....201 938-2421
H BEDELL EMP 30 ENG 4 $1,000-$2,500M
Fla E Schnieder Box 14224 Orlando 305 277-1016
Ill W E Schwartz 1035 Todd Farm Dr
Elgin 312-695-7566
Iowa Bel-Ray Co Inc 3238 W Colorado Davenport . 323-1496
Md D Pitts 19 E 21 St Baltimore 301 837-6954
Mich Chas Cameron 3049 E Grand Blvd
Detroit ....313 TR 2-8000
NJ L Machavern 98 Florence Ave Irvington . 201 375-2206
NY D Lerner 924 Meehan Ave
Far Rockaway 212 327-5187

BELTONE ELECTRONICS CORP
4201 W VICTORIA ST CHICAGO
ILL 60646 ....312 583-3600
L POSEN EMP 437 ENG 25

BEL-TRONICS CORP 344 INTERSTATE RD ADDISON
ILL 60101 ....312 543-7777
T WRIGHT EMP 200 ENG 6 $1,000-$2,500M
Cal M Cozzi 6245 Zelzah Ave Reseda .....213 DI 2-7383
Ill Edw Schmeichel 5968 W Chicago Ave
Chicago 378-6677
Pa Jos G Oberlies Box 517 Hatboro 672-6633

BELTRONIX SYSTEMS INC 123 MARCUS BLVD
HAUPPAUGE N Y 11787
Y6R REIMERS $500-$1,000M
Cal Interstate Mktg Assoc 22030 Ventura Blvd
Woodland Hills 213-883-7606
Ill Audio Sound Sales Co 2535 N Ashland Ave
Chicago 312-528-8422
Kan J D Boswell 7623 W Main St Belleville . 618-274-0560
Mass B H Industries 29 Barton Dr Sudbury . . 617-443-6233
Minn Engineering Products 2119 Grand Avenue
St Paul 612-698-5531
NY Murray Director Assoc 115-62 237th St
Elmont 516-285-6823
Ohio Ashby Assoc 4130 Linden Ave Dayton . . 513-252-5627
Pa John Mustico Co 206 Bewley Rd
Havertown 215-446-1961
Tex R W Mureen Co 5523 Dyer Dallas 214-361-0735

BEMAN MFG, INC BOX 370 NEW CUMBERLAND
PA 17070 717-938-1451
J GRIFFITH EMP 250 ENG 2 $5,000-$10,000M
Ala Diversified Sales Inc Box 20254
Birmingham 205-823-0917
Cal Peters-de-laet Inc 1606 Rollins Rd
Burlingame 415 697-1800
Conn Fly Assoc Box 304 Fairfield 259-0772
Fla Wolcott Assoc Box 1523 Winter Park . . 305 647-6505
Mich T E Fiddler Assoc 1821 W Maple Rd
Birmingham 313 646-5707
NY J Zimmerman 230 Winton Rd N
Rochester 716-271-2604
Ohio R E Meckling 1575 Marion Ave Mansfield . . . 529-3225
Pa Walch Co Box 261 Newton 215 968-3989
Tex M loss Co 7919 Royal La Dallas 214 368-2758

BEMIS CO, INC 800 NORTHSTAR CTR BOX 70
MINNEAPOLIS MINN 55402 ....612 332-7151
J GOOLSBY EMP 11337 ENG 145 OVER $10,000M
Ariz Bemis Co, Inc 2202 W McDowell Rd
Phoenix 252-2222
Cal Bemis Co, Inc 1255 Post St San Francisco . . 474-3393
Colo Bemis Co, Inc 409 Guaranty Bank Bldg
Denver 825-6348
Idah Bemis Co, Inc 2400 S Gallatin Ave
Idaho Falls 523-0546
Ill Bemis Co, Inc 20 N Wacker Dr Chicago 346-6633
Ind Bemis Co, Inc 1940 Barth Ave Indnpls 784-2411
Kan Bemis Co, Inc 13th & Wabash Wichita 264-4321
La Bemis Co, Inc 330 Notre Dame St
New Orleans 524-8361
Md Bemis Co, Inc 312-A Wyndhurst Ave
Baltimore 435-3900
Mich Bemis Co Inc 26011 Evergreen Rd
Southfield 353-4636
Minn Bemis Co, Inc 4701 Humboldt Ave N Mnpls .529-9671
Mo Bemis Co, Inc 1295 N Highway Dr
Valley Park 966-2670
Neb Bemis Co, Inc 614 S 11th St Omaha 341-2711
NY Bemis Co, Inc 90 Park Ave New York 687-8840
Ohio Bemis Co, Inc 900 United Office Bldg
Cleveland 861-0917
Okla Bemis Co, Inc 502 Commerce Exchange Bldg
Okla City 232-1348
Tenn Bemis Co, Inc 1975 Latham St Memphis . . . 948-5591
Tex Bemis Co, Inc 2601 Spenwick Dr Houston . . . 686-8411
Utah Bemis Co, Inc 1101 Walker Bank Bldg
Salt Lake City 322-5591
Va Bemis Co, Inc 1037 W 26th St Norfolk 622-6645
Wash Bemis Co, Inc 1401 W 4th Plain Blvd
Vancouver 695-1251

BEMOL CORP BOX 11 NEWTON
MASS 02164 ....617 969-9210
T CODY JR EMP 8 ENG 4 $250-$500M
Ala Ford Tool & Carbide Co 3404 10th Ave N
Birmingham 252-9991
Cal Batco 1440 E 17th St Los Angeles ....RI 9-9266
Md United Oil Co Baltimore & Kresson Sts
Baltimore 342-1200
NJ Hildreth Research Co Box 99 Rancocas ....TR 7-2015
NY Meta-Therm Inc 883 3rd Ave New York . . . PL 2-2940
NC Gamisco Inc Box 818 Gastonia ....TA 5-2762
Tex Sutton Tool Sales Inc Box 11211 Dallas . . . TA 1-0590
Can Forsythe Lubrication Assoc Ltd 203 MacNab St S
Hamilton
Fr R Coilin et Cie 8 Rue Pouchet 76 Rouer
GB Anglo-Bell Co Ltd 1 Cranley Gardens London
Ital Eigenmann & Veronelli SpA St Marie Bellrode
Milano
Jap Daiei Bussan Co Yoshizuma Bldg Tokyo
Belg R Coilin et Cie 25 Ave Van Goolen Brussels
Isrl Technokol Ltd Box 8021 Haifa
Aust Applied Chemicals Pty, Ltd 136 Bridge Rd
Victoria

BENCO INDUSTRIES 7711 ADAMS ST PARAMOUNT
CAL 90723 213-634-2714
D BAKER EMP 5 ENG 1 UP TO $100M
Cal Associated Engineering Sales
12140 S Atlantic Ave Lynwood 213-537-1412

BENCO TELEVISION ASSOC DIV REDIFON CAN LTD
27 TABER RD REXDALE ONT 416-743-4361
M TOWNSEND EMP 80 ENG 6 $1,000-$2,500M
Fla Benco Television Corp Box 10068
Jacksonville 904-398-6907

BENDIX CORP, AUTOMOTIVE ELECTRONICS DIV
E JOPPA RD BALTIMORE MD 21204
TWX 710-232-1823 ....301 823-2200
L JONES EMP 2000 ENG 60 OVER $10,000M
Cal D L Kesselhuth 16509 Saticoy St Van Nuys . 989-4600
Mich S R Scheiner 20700 Greenfield Oak Park . . CR 8 -5050

BENDIX CORP AVIONICS DIV 2100 NW 62ND ST
FORT LAUDERDALE FLA 33310
TWX 510 955-9884 ....305 563-1331
C MCATEE EMP 1800 ENG 400
Cal J J Ahmann 16509 Saticoy St
Van Nuys 213 989-4600
DC J M Chapman 1730 K St NW Washington . . 233-8200
Kan A J Rogers 3303 E Harry St Wichita . . . 316 684-0177
NJ Rvocco 150 Riser Rd Teterboro 201 288-4880
NY R W Thwing 605 3rd Ave New York 212 973-4802
Ohio G F Wientjes Jr 1900 Hulman Bldg Dayton . . 224-9211
Tex D A Taylor 14415 Southern Pines Ct
Dallas 214 241-2953
Wash D Howe Box 628 Renton 206 255-8724

BENDIX CORP, COMMUNICATIONS DIV E JOPPA RD
TOWSON MD 21204 823-2200
J PEARCE EMP 2900 ENG 430 OVER $10,000M
Ala W A Uline 3322 Memorial Pkwy, S
Huntsville 881-1911
Cal J P Buckley 6151 W Century Blvd
Los Angeles 776-4100
DC H L Woodson 1730 K St, NW Washington . . 333-8200
Fla K L Dowling 1325 N Atlantic Ave
Cocoa Beach 784-0042
Mass A Bikis Adams Bldg Lexington 862-7650
NJ J H Newman 121 Monmouth Pkwy
W Long Branch 201 229-6500
Ohio M Balis 1900 Hulman Bldg Dayton 513 224-9211
Tex M E Donnelly 1730 FM 528 Houston 488-1090
Fr Air Equipment 18 Rue Basley Asnieres Seine
GB Elliott-Automation Radar Sys, Ltd
Elstree Way, Borehamwood Herts
Ital Fabbrica Ital Appar Radio (FIAR)
Via G B Grassi, 93 Milano
Jap Tokyo Keiki Seizosho (TKS)
16 Minami-Kamata, 2-Chome, Ohta-Ku, Tokyo

BENDIX CORP ELECTRICAL COMPONENTS DIV
SIDNEY N Y 13838 TWX 607 563-2121 . . 607 563-9511
D NEWCOMB EMP 4500 ENG 450
Ala Electrical Comp Div 3322 Memorial Pkwy S
Huntsville 881-9700
Cal Electrical Comp Div 1001 S Grand Ave
Santa Ana 547-6454
DC Electrical Comp Div 1730 K St, N W
Washington 333-8200
Fla Electrical Comp Div 2122 E Colonial Dr
Orlando 241-6559
Ill Electrical Comp Div 3150 Des Plaines Ave
Des Plaines 296-7791
Mass Electrical Comp Div 9 Meriam St Lexington . 861-8900
NJ Electrical Comp Div 215 Union St
Hackensack 343-8982
Ohio Electrical Comp Div 1900 Hulman Bldg
Dayton 224-9211
Tex Electrical Comp Div 2608 Inwood Rd Dallas . 357-5697
Wash Electrical Comp Div 8425 1st Ave, S
Seattle 763-2420

BENDIX CORP ELECTRIC POWER DIV HWY 35
EATONTOWN NJ 07724
TWX 710-722-6686 ....201 542-2000
N BARNY EMP 1000 ENG 89 OVER $10,000M
Cal Bendix Elec Power Div 6151 W Century Blvd
Los Angeles 776-4100
DC Bendix Elec Power Div 1730 K St
Washington ....FE 3-8200
Ohio Bendix Elec Power Div 1900 Hulman Bldg
Dayton 223-7111

BENDIX CORP ELECTRODYNAMICS DIV
11600 SHERMAN WAY NORTH HOLLYWOOD
CAL 91605 ....213 877-2881
J RICE EMP 1950 ENG 400 OVER $10,000M
Ala Bendix Corp 3322 Memorial Pkwy S
Huntsville 881-1911
Colo Bendix Corp 1325 N Atlantic Ave
Cocoa Beach 784-0042
DC Bendix Corp 1730 K St NW Washington . . . FE 3-8200
Mass Bendix Corp 114 Waltham St Lexington . . . VO 2-7650
Ohio Bendix Corp 1900 Hulman Bldg Dayton 461-3750
Tex Bendix Corp 1730 FM 528 Houston ......HU 8-1090

BENDIX CORP ELECTRO OPTICS DIV
1975 GREEN RD ANN ARBOR MICH 48107
TWX 810-223-6029 ....313 663-3311
C JOHNSON EMP 100 ENG 25

BENDIX CORP ENVIRONMENTAL SCIENCE DIV
1400 TAYLOR AVE BALTIMORE MD 21204
TWX 301-828-7074 ....301 825-5200
H JANSSEN EMP 800 ENG 100 OVER $10,000M
ADV PG 190

BENDIX CORP, FLIGHT & ENGINE INSTR DIV
SOUTH MONTROSE PA 18843 ....717 278-1161
Cal Bendix Corp 6151 W Century Blvd
Los Angeles 776-4100
Mass Bendix Corp 114 Waltham St Lexington 862-7650
NJ Bendix Corp Dept 3773 Teterboro 288-0440

BENDIX CORP FLUID POWER DIV 211 SEWARD AVE
UTICA N Y 13503 TWX 510-242-0284 .315 SW 7-2500
W KAY EMP 970 ENG 45 OVER $10,000M
Cal Maltby Co 8468 Warner Dr Culver City 870-0491
Ga Dixie Bearings Inc 276 Memorial Dr SW Atlanta
Ill Norman Engrg Co 7659 S Western Ave
Chicago 434-2300
Ind Bearings Inc 930 N Illinois St Indianapolis . . . 634-4393
Iowa Norman Engineering Green Castle Rd
Newton 792-3777
Kan Benson Engineering 519 S Broadway
Wichita 262-6971
Mass Lindco Inc 765 W Boylston St Worchester . . 835-2882
Mich Disco Engineering Inc 20017 James Couzens Hwy
Detroit 342-3233
Minn Norman Engineering Co 2726 E 50th St
Minneapolis 729-4823
NJ R P Luce & Co Inc 630 Morris & Essex Tpke
Short Hills 379-6600
NY Syracuse Bearings Ridings Rd & Rt 298
Syracuse 437-2771
Ohio Bearings Inc Box 6925 Cleveland 881-2828
Pa R P Luce & Co Inc 8717 Patton Rd
Philadelphia 884-8365
SC Dixie Bearings Inc 405 Pendelton St Greenville
Tenn Dixie Bearings Inc 411 Dal Ave Knoxville
Tex Benson Engineering Co 9884 Monroe St
Dallas 352-7541
WVa Bearings Inc 1516 Kanawha Blvd W
Charleston 346-0641
Wis Norman Engineering 9730 W Bluemond Rd
Milwaukee 771-3100

BENDIX CORP INDUSTRIAL METROLOGY DIV
3621 S STATE RD ANN ARBOR
MICH 48104 ....313 662-5626
L NELSON EMP 170 ENG 12

BENDIX CORP, MICROWAVE DEVICES DIV
HURRICANE RD FRANKLIN IND 46131
TWX 810 260-2600 ....317 736-6136
W CANFIELD
ADV PGS 128,165,204,260,366,561,627
Can Aviation Electric Ltd Box 2140 St Laurent
Montreal, Que ....RI 4-2811
For Bendix International 605 3rd Ave New York . 973-2121

BENDIX CORP, MOSAIC FABRICATIONS DIV
GALILEO PARK STURBRIDGE MASS 01566
TWX 710 347-1190 ....617 347-9191
J WOOD EMP 500 ENG 25

BENDIX CORP NAVIGATION & CONTROL DIV
TETERBORO, N J 07608
TWX 201-288-4550 ....201 288-2000
E METZLER EMP 9000 ENG 1200
OVER $10,000M
Ala Navigation & Cont Div 3322 Memorial Hwy S
Huntsville 205 881-1912
Cal Navigation & Cont Div 6151 W Century Blvd
Los Angeles 213 776-4100
DC Navigation & Cont Div 1730 K st NW
Washington ....202 FE 3-8200
Ohio Navigation & Cont Div 1900 Hulman Bldg
Dayton 513-224-9211
Tex Navigation & Cont Div 1730 Nasa Blvd
Houston ....713 HU 8-1090
Wash Navigation & Cont Div 8425 First Ave S
Seattle 206-RO-3-2420

Can Aviation Electric Ltd Box 2140
Montreal, Que....................514 RI 4-2811
For Bendix Intl Oper 605 3rd Ave
New York, NY....................212 973-2121

BENDIX CORP RUBBER PRODS PLANT BOX 317
TOLEDO OHIO 43601
TWX 810-442-1747....................419 693-4451
F CONLIN EMP 200 ENG 7

BENDIX CORP SEMICONDUCTOR DIV SOUTH ST
HOLMDEL N J 07733
TWX 510-239-4990....................201 946-9400
J HARRISON EMP 650 OVER $10,000M
Cal Bendix Semiconductor Div 6151 W Century Blvd
Los Angeles....................776-4100
Colo Electronic Component Sales Box 22011
Denver....................771-6200
Conn Bendix Semiconductor Div 29 Hettiefred Rd
Greenwich....................869-7797
Fla Bendix Semiconductor Div 2122A E Colonial Dr
Orlando....................241-6559
Ill Bendix Semiconductor Div 1915 N Harlem Ave
Chicago....................637-6929
Kan Mid-America Mktg 10019 W 55th St
Merriam....................432-8678
Mass Bendix Semiconductor Div 9 Merian St
Lexington....................861-8350
Mich Bendix Semiconductor Div 20700 Greenfield Rd
Oak Park....................548-2120
Minn Bendix Semiconductor Div 7710 Computer Ave
Minneapolis....................926-4633
NJ Bendix Semiconductor Div
515 N Black Horse Pike Runnemede.....933-2550
NM Electronic Component Sales 209 San Pablo SE
Albuquerque....................256-3663
NY Frendman-Brick Assoc 1 W Terrace Rd
Great Neck....................487-1142
Tex P J Scanlon Co 724 S Sherman St
Richardson....................213-4661
Utah Electronic Component Sales 4480 Camille Dr
Salt Lake City....................278-6044
Wash Ray Johnston Co 1011 E 69th St Seattle...524-5170
Can Computing Devices of Canada Box 508
Ottawa....................829-1800
For Bendix International 605 Third Ave
New York, N Y....................973-2121
For Southern Intl Sls Corp Box 1896 San Juan..723-3879

BENDIX SCIENTIFIC INSTR & EQUIP DIV
1775 MT READ BLVD ROCHESTER N Y 14603
TWX 510-253-3183....................716 458-2550
A CHAMBERS
Cal Bendix Scien Inst 4600 El Camino Real
Los Altos....................415-941-5060
Cal Bendix Scien Inst 7120 Hayvenhurst Ave
Van Nuys....................213-787-6001
Ga Bendix Scien Inst 3272 Peachtree Rd NE
Atlanta....................404 233-1171
Ill Bendix Scien Inst 800 E Northwest Hwy
Mt Prospect....................312-394-0840
Mass Bendix Scien Inst 204 Worcester St
Wellesley....................617-235-8273
NJ Bendix Scien Inst 26 Linden Ave
Springfield....................201-376-4900
NJ Bendix Scien Inst 1060B N Kings Hwy
Cherry Hill....................609-667-4944
NM Bendix Scien Inst 141 Wyoming NE
Albuquerque....................505 268-9333
Ohio Bendix Scien Inst 1350 W Fifth Ave
Columbus....................614 488-1187
Tex Bendix Scien Inst 811 S Central Expwy
Richardson....................214-235-2378

BENNETT MFG CO, INC RAILROAD ST ALDEN
N Y 14004....................716 937-9161
F PIPOLO EMP 120 ENG 2 $2,500-$5,000M
NY Omar H Nichols 206 LaSalle Ave Kenmore..873-6275

BENSON MFG DIV E C I INC 1811 AGNES
KANSAS CITY MO 64127
TWX 910-771-3104....................816 231-8300
P SCHOOLING EMP 500 ENG 20 OVER $10,000M
Conn R L Brewer 16 Huckelberry Hill Rd Avon....693-2205
Mo N Ewing 939 S Main St Independence.....CL 4-2069

BENTHOS INC MAIN ST NORTH FALMOUTH
MASS 02556....................617-563-5917
C ELLIS EMP 25 ENG 6 $500-$1,000M
Fla M Brainard 5048 Higel Ave Sarasota
Va Gans-Fryling Inc 2030 N 16th St Arlington
Wash J B Jolly Inc Pier 59 Seattle
GB John Mills Lyne Nr Chertsey Surrey

BENTLEY-HARRIS MFG CO 1050 COLWELL LN
CONSHOHOCKEN PA 19428
TWX 510-660-8829....................215 828-7600
M NAKONECHNY EMP 150 ENG 8
$2,500-$5,000M
Cal Wally Moore 1410 W Olympic Blvd
Los Angeles....................387-5201
Cal George LaMoree 2433 Birkdale St
Los Angeles....................225-5666
Cal Bill Price 2221 4th St Berkeley..........841-0601
Cal C Henningsen 1590 Rollins Rd Burlingame...692-2010
Conn Stockwell Technical Sales Overbrook Dr RFD 3
Vernon....................875-5414
Fla M Katzin 307 27th St Orlando..........424-5634
Fla W Dickson 2701 Adamo Dr Tampa........245-6821
Ga Bill Brown 3026 Commerce Way Hapeville..767-9301
Ga H Winters 3316 Hamilton Blvd SW Atlanta..762-8461
Haw D Forbes 645 Halekauwila St Honolulu.......571906
Ill Tom Keegan 549 W Randolph St Chicago...236-7703
Ill H G Pretat Inc 6905 W North Ave Oak Park.848-0787
Ill R Ellerbush 3501 W Addison Chicago......583-3930
Ind James Green 3001 S Fairfield Ave
Ft Wayne....................745-1251
Ind D Rabaduex 1510 Wall St Fort Wayne.....742-7441
Md J Duffy 2610 Georgetown Rd Baltimore....644-0140
Mass R Tynan 271 Vassar St Cambridge........864-7500

Mich Ralph Arber 15605 Woodrow Wilson Detroit..883-0660
Mich R Kight 6233 Concord Ave Detroit........921-6000
Minn C R Bergquist Co 3529 Webster Ave
Minneapolis....................929-6761
Mo Dick White 4343 Duncan Ave St Louis.....371-2616
NJ Smith Co 111 S Orange Ave S Orange.....763-1770
NJ G Wanner 199 Lee Pl Hackensack........487-9222
NY Schmitz Bros Inc 82 St Paul St Rochester..546-7628
NY Leo Brown 85 Tenth Ave New York........924-6000
NC Bill Bollinger 5141 Belhaven Blvd Charlotte.399-9791
Ohio Mike Gallagher 15 Ritchie Ave Cincinnati...761-1288
Ohio J McSorley 4500 Willow Pkwy Cleveland...441-0070
Ohio R A Staff Co 19680 Center Ridge Rd
Rocky River....................331-5100
Okla Clint Seawright 12151 E Skelly Dr Tulsa...583-8121
Pa Bill Roschetz 10980 Dutton & Comly Rd
Phila....................632-3030
Tenn E C Locke 217 Cumberland St Memphis....323-7693
Tex Sid Nachlas Box 52230 Houston.........224-0621
Tex Byford Fleming 4320 Main St Dallas......827-8891
Tex Max Jordan 1339 Plowman Ave Dallas.....942-8486
Tex G Thornton 2801 Pierce Dallas..........339-8346
Tex M Cole 2222 Leeland Ave Houston........227-6358
Tex D Bean 4101 San Jacinto Houston.......JA 9-3797
Wash J Rothweiler 2915 First Ave S Seattle.....624-7250
WVa C L Johnson 312 McCorkle Ave, SE
Charleston....................346-0321
Wis Rollie Wittenburg 1338 W Atkinson Ave
Milwaukee....................372-2400
Can Peter Paisley 40 Upton Rd
Scarborough, Ont....................755-2216
Can G Clement 1253 McGill College Ave
Montreal, Que....................861-0562
Can P Crompton 1710 Midland Ave
Scarborough, Ont....................751-7911
Can A I McKay 341 Gurzon Ave
St Lambert, Que....................489-8488
Ger Dr Herkenberg KG 56 Wuppertal-Wichlenghausen
Tutersburg 31
Neth H Cuylits Wetering Kade 47 The Hague
Swed Aktiebolget Bromanco Sveavagen 25-27
Stockholm C

BENTLY NEVADA CORP BOX 157, ONE AIRPORT RD
MINDEN NEV 89423 TWX 354437......702 782-2255
D PUMPHREY EMP 77 ENG 6 $2,500-$5,000M
NY James W Simpson Co Inc 5459 Main St
Buffalo....................634-3995
Tex Bently Nevada Corp 3915 Dacoma Rd
Houston....................MO 7-6835

BEOWULF CONNECTOR & CABLE CORP
2400 W CLINTON AVE HUNTSVILLE
ALA 35805....................205 539-2183
H WILKINS JR EMP 10 ENG 1 $100-$250M

BERG ELECTRONICS, INC YORK EXPWY
NEW CUMBERLAND PA 17070
TWX 510-650-3538....................717 938-6711
J ZWYNENBURG EMP 400 ENG 50
OVER $10,000M
Cal R Galarneau 23807 Cresson Dr
Woodland Hills....................213-346-1336
Ill Berg Electronics Inc 603 N York St
Elmhurst....................312 832-2050

BERGEN LAB, INC 60 SPRUCE ST PATERSON
N J 07501....................201 278-3020
H LEWIS EMP 75 ENG 12 $1,000-$2,500M-
Mass Adcour Inc One Summer St Sharon.......784-3996
NJ Engineered Prods Corp 290 Huyler St
S Hackensack....................488-4040
NY H Lewis 825 Prescott St Valley Stream....LO 1-7672
Pa Lewis Slubin & Co 2305 Fairmount Ave
Phila....................CENTER 6-2072

BERGEN WIRE ROPE CO 1234 GREGG ST LODI
N J 07644....................201-487-3521
Cal Leo Unger & Assoc 5449 Oakdale Ave
Woodland Hills....................213-347-7155
Conn Michael F Touhey 608 6th Ridge Rd
Wallingford....................203-269-9023
Fla Spartak Inc Box 915 Winter Park....305-644-3023
Ga Emmett Rushin Co Box 486 Roswell...404-993-6498
Ill 5306 W Lawrence Ave Chicago.......312-725-4400
Ind O E M Sales Co Box 55232 Indpls....317-545-1267
Kan Wm F Hurst Box 13165 Wichita......316-942-7474
Mass Martin Assoc 87 Forest Dr Holder.....617-829-5734
Mich Donlon Engrg Co 23730 Harper St
St Clair Shores....................313-775-6496
Minn Jednard F Berg Co 2356 Charles Ave
St Paul....................612-645-626
Mo R F Carlson Co 8721 Manchester Rd
St Louis....................314-961-4485
NY Engineering Sales 1 Barstow Rd
Great Neck....................516-482-7134
NC Wm M Minor 3920 Glenfall Ave
Charlotte....................704-333-2269
Ohio Phister Equipment Co Fed Reserve Bank Bldg
Cincinnati....................513-421-3850
Pa John F Orsi Assoc Box 346 Brynmawr..215-525-6212
Tex Fastner Sales Co 3228 Collinsworth
Fort Worth....................817-335-1448
Wis Wm P Clark 1145 S Main St Racine...414-632-4809

BERG GIBSON MFG CO 819 E 17TH ST
KANSAS CITY MO 64108..............816 842-1524
J CARTER EMP 70 ENG 4 $1,000-$2,500M
Cal John G Pertry Box 2094
South San Francisco..............415 761-4660
Mass Russell Sherrill Farm Rd Sherbourne......OL 3-5867
NJ T & K Equip Co 62 W 2nd St Bayonne.....436-4114
Ohio T E Schira 3875 W 130th St Cleveland.216 671-4030

BERKELEY/DYNAMICS 934 BAILEZANA RD
HILLSBORO CAL 94010..............415 342-3848
J BULLOCK EMP 12 ENG 3

BERKELEY NUCLEONICS CORP 1198 TENTH ST
BERKELEY CAL 94710..............415 527-1121
M BROWN EMP 10 ENG 2
Cal R W Thompson Assoc 4135 El Camino Way
Palo Alto....................321-6383
DC Scientific Sys Sales Corp 7705 Georgia Ave, N W
Washington....................726-4161
Ill E H Corlett 15 S Austin Blvd Chicago..312 626-6726
Md King Assoc 10027 Clue Dr Bethesda.......469-7610
NM Vern Roberts yAssoc Box 4505
Albuquerque....................505-265-9433
NY Scientific Systems Sales Corp 376 Great Neck Rd
Great Neck....................466-0053
Tenn Pulcir Inc 2711 Kingston Pike Knoxville.615-584-7871
Can BRH Assoc, Ltd 6338 Victoria Ave
Montreal 26, Que..............514-733-5331
For Intl Eng Service Veitingergasse 159-161
Vienna 13, Aust....................824-6732
Fr Tranchant Electronique SA
19-21 Rue Madame de Sanzillon
92 Clichy Seine....................270-22-55
Ger Wenzel Elektronik Lamontstra 32
8 Munich 27....................0811-48-65-58
GB Nuclear Measurements
Dalroad Ind Est, Dallow Rd
Luton, Bedfordshire....................LU 27557
Neth Line-A-Data Bldg 112A Schipol Arprt
Amersterdam....................020-15-16-02
Swed Isotronic AB Box 56 Nasbypark.....(08) 756-01-55
Isrl Landseas Ltd Box 16166 Tel Aviv........244311-2

BERKEY TECHNICAL DIV BERKEY PHOTO INC
25-15 50TH ST WOODSIDE N Y 11377
TWX 1-2472....................212 932-4040
E SHELDON EMP 475 ENG 16 $2,500-$5,000M
Cal Berkey Technical 1015 Chestnut St
Burbank....................213 843-1200
Can Berkey Photo (Can) Ltd 70 Floral Pkwy
Toronto Ont....................416-249-9111
Den Berkey Tech AS-DEN 160 Vangedvej
Copenhagen Soborg....................01-696111
Ger Berkey Tech Ger GmbH AM Tiergarten 14
6 Frankfurt/Main....................0611-494486
GB Berkey Technical(UK) Ltd
6 Studland St Hammersmith
London W 6....................01-748-6012
Jap Berkey-RDS Co Ltd
No 21-12 4-chome, Shimbashi
Minato-Ku, Tokyo....................431-7351

BERKSHIRE TRANSFORMER CORP RTE 341 KENT
CONN 06757....................203-927-3541
B HORDESKI EMP 150 ENG 2 $1,000-$2,500M
Conn Glenn M Hathaway Elctns, Inc Canaan
Mass Glenn M Hathaway Elctns, Inc 7-11 Mystic St
Arlington
NJ Winter Assoc Box 104 Boonton

BEST ELECTRIC DIV HARRY LEVINSON CO
1211 E DENNY SEATTLE WASH 98122
TWX 910-444-2154....................206 323-5100
H LEVINSON
Cal Straube Assoc, Inc 483 Willow Rd
Menlo Park....................415-323-2476
Colo Straube Assoc, Inc Box 1649 Boulder..303-443-8600

BEST MFG CO 3214 TROOST AVE KANSAS CITY
MO 64109....................816 531-6611
D LIERZ EMP 40 ENG 2 $250-$500M

BETA CORPORATION 2639 MANANA BOX 20427
DALLAS TEX 75220....................214 357-6571
R BENISON EMP 87 ENG 5 $1,000-$2,500M
Ala Control Equip Co, Inc Box 6044
Birmingham....................205 879-8211
Cal Geo E Honn Co 171 King St San Francisco..781-7351
Cal McCamey-Jones Inc 1260 S Atlantic Blvd
Los Angleles....................213 263-9812
Colo Peterson Co 4949 Colorado Blvd Denver....388-6322
Conn Geo H Birchall & Assoc Box 823
Danbury....................203 743-2271
Fla Control Equipment Co Box 1857
Daytona Beach....................904-252-7086
Ga Control Equipment Co 3166 Maple Dr, NE
Atlanta....................237-1688
Ill Memeco, Inc 7760 W Devon Ave Chicago
Md Technico Inc 1404 Bare Hills Ave
Baltimore....................301-828-6416
Mass Geo H Birchall Assoc Box 103
Wellesley....................617-235-2989
Mich D T Randall & Co 1205 N Main
Royal Oak....................313-566-4764
Mo Andrew Zahner 207 Westport Rd
Kansas City....................816 561-1110/1
Neb Delcon Inc 33 Kiewit Plaza Omaha....402-342-8421
NH Geo H Birchall Assoc Old Dublin Rd Hancock
NJ George H Birchall Co Box 84 Westfield.....232-3600
NY Geo H Birchall Assoc 3 Gina Ave
Holbrook....................516-589-6290
NY Geo H Birchall Assoc 3173 Clubhouse Rd
Merrick....................516-379-0676
NC B W Allen Co 121 Greenwich Rd Charlotte..366-0031
Ohio Koppers Co Inc 8040 Montgomery Rd
Cincinnati....................791-3633
Ohio Franklyn W Kirk Co 15017 Detroit Ave
Cleveland....................226-1970
Okla Delcon Inc Box 4504 Tulsa..............743-6656
Ore J A Tudor & Assco 14 N E Tellamook
Portland....................503-233-4421
Ore J A Tudor & Assoc Box 5426 Eugene..503-344-9212
Pa Penn-Del Instr Sales Inc Box 4361 Phila...247-9600
Pa Sepco Corp 2247 Babcock Blvd
Pittsburg....................412-821-5523
Tenn Control Equipment Co Inc Box 18535
Memphis....................901-324-4525
Tex Industrial Equipment Co 4914 Greenville Ave
Dallas....................214-368-8087
Tex Industrial Equipment Co Drawer Box 9567
Houston....................713-928-3463
Utah Peterson Co Box 16046 Salt Lake City.....355-7464

Wash J A Tudor & Assoc 2605 Western Ave
Seattle........................206-682-7444
Wash J A Tudor & Assoc Terminal Box 2624
Spokane........................509-327-3328
Can Conval Equip Ltd 999 Finch Ave W
Downsview Ont 416-636-9641
Can Conval Equip Ltd 27 Young St N
Sudbury Ont 705-673-1135
Can Conval Equip Ltd 1865 Sargent Ave Bay 16
Winnipeg Man....................204-786-7638
Can Process & Steam Specialties Inc
3115 Sartelon St St Laurent Que ...514-332-2301
Can Process & Steam Specialties Inc 1 Canal St
Dartmouth NS 902-463-7151
BC Paulsen Industries Ltd 1572 W 4th Ave
Vancouver 9 604-736-7301
BC Proval Equip Ltd 550 Beatty St
Vancouver BC....................604-684-7571

BETA INSTRUMENT CORP 377 ELLIOT ST
NEWTON UPPER FALLS MASS 02164 ..617 969-6510
M GALLANT EMP 25 ENG 5 $250-$500M
Cal A-F Sales Engrg Inc 94 S Los Robles Ave
Pasadena.........................MU 1-5631
NJ J C Wolke Sales Assoc 139 Union St
Montclair.........................746-2625
Tex Manufacturers Mktg Service
10202 Brockbank Dr Dallas 357-6893

BETRON-IRE-SPA VIA ENRIQUEZ LIVORNO ITALY .42120
R BEDARIDA EMP 30 ENG 5 $250-$500M

BETTS & BETTS CORP MAIN ST SOUTHBURY
CONN 06488 203-264-6591
J POST EMP 85 ENG 1 $1,000-$2,500M

BEUKERS LABS INC 1324 MOTOR PKWY
HAUPPAUGE NY 11787 ....516 234-2200
J SHANLEY EMP 12 ENG 7 $100-$250M

BEUTRONICS LABS INC
JEFFERSON AVE & 26TH ST KENILWORTH
N J 07033........................201 687-4824
W BEUTE EMP 8 ENG 1

B F ELECTRONICS 415 S NARDO AVE
SOLANA BEACH CAL 92075............714 755-1881
W BLAIR EMP 7 ENG 3 UP TO $100M
Cal Southwest Avionics 2522 Cowley Way San Diego

B & F INSTRUMENTS, INC CORNWELLS HEIGHTS
PA 19020 TWX 510 667-1516 ....215 ME 9-7100
B POGACH $2,500-$5,000M
Ala Kemp Instruments, Inc 4306 Governor's Dr, W
Huntsville.......................837-4304
Cal B J Wolfe Enterprises 10760 Burbank Blvd
N Hollywood......................877-5518
Fla Truex Assoc 3165 McCrory Pl Orlando .305 841-8931
Ill G P Hall Co 799 Roosevelt Rd
Glen Ellyn.......................312-858-1700
Mass Andruss-Peskin Corp Box 268 Natick 653-3919
Mich Elias Elctns 26817 W Seven Mile Rd Detroit .255-2111
NJ Friedman Assoc, Inc 110 Halsted St
East Orange......................673-2500
NY Alpha Co Box 282 Buffalo 854-4121
Ohio Bobco Co 3555 Sutherland Cleveland 921-0100
Pa PDC Corp The Benson E Jenkintown ......TU 7-9610
Tex Kemp Engineering Co 2618 Manana Dr SE
Dallas...........................FL 7-6663
Utah Applied Engrg Prods Co 6375 Emigration Canyon
Salt Lake City 364-4942
Wash Brett Assoc 2705 Calif Ave S W
Seattle..........................206-935-8054
Can intertechnology Ltd Box 219
Don Mills Ont 416-447-0738
Ger Ernst Fey 8000 Munchen 2 Horemansstr 28
Swed Robt E O Olsson AB Americanska Teleprodukter
Tradgardsgatan 7, Motala

BICRON ELECTRONICS CO BARLOW ST BOX 807
CANAAN CONN 06018 ....203 824-5125
F KENT EMP 50 ENG 4 $250-$500M
Cal W F Featherstone 1110 El Camino Real
San Mateo 415-341-0126
Conn V Colavecchio 14 Daffodil La Cos Cob ..203-869-8409
Ill Scott Assoc 663 Fairview Av Elmhurst .302-279-5681
Md H R Sieber 1005 Bonifant St
Silver Spring 301-589-9110
Tex R & K Eng & Sales 1510 Spillers
Houston 713-923-7371
For Norcon Div-Intrade Box B
Thomaston Ct.....................203-283-5563

BIDDLE CO, JAMES G TWP LINE & JOLLY RDS
PLYMOUTH MEETING PA 19462 ....215 646-9200
R KENNEDY EMP 180 ENG 15 $2,500-$5,000M
Ala Col-Ins-Co, Inc Box 4246 Huntsville.......539-1771
Ariz Tech-Ser Inc 1805 E Indian School Rd
Phoenix..........................602 265-3629
Cal Tech-Ser Inc 2435 N Naomi St
Burbank 213 846-9631
Colo D E Bond Assoc 2149 S Clermont St Denver .756-1234
DC Col-Ins-Co, Inc Box 14077 Atlanta 873-5118
Fla Col-Ins-Co, Inc 1313 44th St Orlando 423-7615
Ga O V Scott Jr & Assoc 305 Techwood Dr NW
Atlanta..........................404 523-0927
Ill James G Biddle Co Box 408 Geneva 232-8485
La Butler & Land Inc 1067 Magazine St
New Orleans......................524-0688
Md Paddock-Joslow Co 721 Ellsworth Dr
Silver Spring....................301 588-7866
Mass Cowperthwait & Brodhead 570 Hillside Ave
Needham Hts 444-9410
Mich Satullo Co 4514 N Woodward Ave
Royal Oak 549-3910
Minn K W Meyers Co 4725 Excelsior Blvd
Minneapolis......................612 920-7080
Mo C B Fall Co 11301 Bennington St
Kansas City 761-6545
NJ James g Biddle Co 15 Alden St Cranford....276-8833

NM D E Bond Assoc Box 11331 Albuquerque ...247-3442
NY Savage Sales Co Box 8425 Rochester 473-4205
NC Ranson, Wallace & Co Inc 116 1/2 E 4th St
Charlotte........................334-4244
Ohio Peter E Lax Co 13945 Lake Ave Cleveland ..226-8815
Ore Instrument Lab Inc 1316 SE 7th Ave
Portland 234-6683
Pa L & M Assoc 965-A Bristol Pike
Andalusia 215 639-3100
Tenn Butler & Land, Inc 3181 Poplar Ave
Memphis 452-0039
Tex Butler & Land Inc 9186 Katy Frwy Houston .464-3838
Va Virginia Technical Assoc Inc 15 S Belmont Ave
Richmond.........................353-6411
Wash Instrument Lab Inc 934 Elliott Ave W
Seattle 283-5850

B I F UNIT GENERAL SIGNAL CORP
345 HARRIS AVE PROVIDENCE R I 02901
TWX 401-831-1613 ....401 421-4302
R FLYNN EMP 900 ENG 100 OVER $10,000M

BIGELOW COMPONENTS CORP 40 E BIGELOW ST
NEWARK N J 07114 ....201 248-1000
W MAURER EMP 12 ENG 2 $500-$1,000M
Ill J Shannon Box 115 Arlington Heights......253-3188
Ohio C E Starling 2206 21st St Cuyahoga Falls ..928-7211

BIGGS CO 1547 14TH ST SANTA MONICA
CAL 90404........................213-451-8903
G WHITBREAD EMP 25 ENG 4 $250-$500M
Minn Servco, Inc 521 S 7th St Minneapolis......339-8611

BINARY ELECTRONICS OF CAL DIV AVIONIC
STRUCTURES INC 1429 N STATE COLLEGE BLVD
ANAHEIM CAL 92806.................714 772-3070
E FRINK EMP 55 ENG 4 $250-$500M

BIN-DICATOR ULTRASONICS DIV.
17190-11 DENVER DETROIT
MICH 48224 ....313 882-3000
R WILLIAMS EMP 55 ENG 5 $1,000-$2,500M

BIOCOM, INC 5883 BLACKWELDER ST
CULVER CITY CAL 90230 ....213 VE 9-2581
I MELTZER EMP 8 ENG 2
Cal West Coast Scientific Sls & Serv
Box 2947 Rockridge Sta Oakland....415 654-2665
Fla Blair Instruments 1065 97th St
Miami Beach ....UN 5-3970
Mass Rainin Inst Co 841 Beacon St Boston ..617-267-3540
Ohio Dann Co 1801 E40th St Cleveland 216-391-7240
Fr TEMI 149 Ave De La Republique 92 Montrouge
Ger W List 6 Frankfurt/Main-W 13
Franz-Rucker-Allee 42
Neth C N Rood, NV Box 4542 Rijswijk 98 51 53
Jap Yoshizumi Kobe Port Box 762 Kobe
Swit Kontron Technik Ltd Hardstr 235 8031 Zurich
Braz Frotas Comercio Imp Exp 81 Ave Rio Branco
Rio De Janeiro
Isrl S T G Intl Ltd Box 1276 Tel-Aviv
Spn Paciza Gral P de Rivera 35 Madrid
Aust Sample Elctns Aust Pty Ltd 9-11 Cremorne St
Richmond Vic 3121

BIOELECTRIC INSTRUMENTS INC BOX 204
HASTINGS-ON-HUDSON N Y 10706 ....914 GR 6-1234
S AMATNIEK EMP 15 ENG 3 $100-$250M

BIO-MEDICAL ELECTRONICS INC
653 LOFSTRAND LA ROCKVILLE
MD 20850 301-762-8373
A JAKNIUNAS EMP 25 ENG 6 $250-$500M
Conn Instrument Assoc Inc 234 Murphy Rd
Hartford.........................203-525-9367
Ill Dwight Smith Assoc 32 S River St
Aurora...........................312-896-0828
Md Eastronics 11200 Lockwood Dr
Silver Spring 301-593-8100
Mass Instrument Assoc Inc 30 Park Ave
Arlington 617-648-2922
Mich Tiby Co 380 Hilton Rd Ferndale.......313-547-3550
NJ Engineered Industrial Serv 84 Sheffield Dr
Willingboro 609-877-3580
Ohio Tiby Co 2245 Warrensville Ctr Rd
Cleveland 216-371-5335
Wash Jay L Hall Co 7811 Aurora Ave N
Seattle..........................206-782-0800
Can Ahearn & Soper Ltd 844 Caledonia Rd
Toronto 19 Ont...................416-789-4325

BIONEERS INC. 105 ROGERS DR NEW ROCHELLE
NY 10804..........................914-636-2027
P PETRACK EMP 4 ENG 2 UP TO $100M

BIONIC INSTRUMENTS INC 221 ROCK HILL RD
BALA CYNWYD PA 19004.............215 TE 9-3250
J BENJAMIN JR EMP 16 ENG 3 $100-$250M

BIO-RAD LABORATORIES 1259 S 32ND ST
RICHMOND CAL 94804...............415 234-4130
P PROOM EMP 100 ENG 4 $2,500-$5,000M
NY Bio-Rad Labs 22 Jones St New York .....WA 9-4823

BIRDAIR STRUCTURES INC 2015 WALDEN AVE
BUFFALO NY 14225 TWX 091-353 716-684-9500
A SMITH EMP 130 ENG 8 $2,500-$5,000M
For Rocke Intl Corp 13 E 40th St New York, NY .689-0200

BIRD ELECTRONIC CORP 30303 AURORA RD
CLEVELAND (SOLON) OHIO 44139
TWX 216 248-6458 ....216 248-1200
R NEITZELT EMP 200 ENG 20 $2,500-$5,000M
ADV PGS 368,369
Cal Bird Electronic Corp 5005 W Century Blvd
Inglewood........................213-674-1446
Fla Bird Electronic Corp 703 Beverly Ave
Altamonte Springs................305-831-1530
Ill Bird Electronic Corp 234 N Northwest Hwy
Palatine 312-359-0300
Mass Bird Electronic Corp 235 Bear Hill Rd
Waltham..........................617 899-4162
NJ Maxwell Brown Assoc 308 Second St
Bradley Beach 201-775-7829
Pa Bird Electronic Corp Box 169 RD 2
Lititz 717-626-8518
Den Hans Buch & Co A/S Svanevej 6 Box 975
Copenhagen NW
Fr Technique et Produits Cite des Bruyeres
Rue Carle Vernet Sevres S & O
Ger Wacker GmbH Stettenstr 9 6 Frankfurt am Main
GB Bird Electronic Ltd 33a High Ruislip Mdsx
Neth Peekel Lab voor Electronica N V
Alblasstr 1 Rotterdam
Ital Mario Vianello Via L Anelli, 13 Milan
Nor Morgenstierne & Co A/S Wessels Gate 6 Oslo
SAfr Hurbarn Elctns (Pty) Ltd Box 3236 Johannesburg
Swed Erik Ferner AB Box 56 Bromma
Swit MEGEX-Zurich GmbH Badenerstr 582
8048 Zurich
Spn Ataio Ingenieros Urgel 259 Barcelona 11
Spn Ataio Ingenieros Ganduxer 76 Barcelona 6
Fin Oy Aseko AB Vuorikatu 22 Helsinki 10
Aust Warburton Franki Ltd Box 182 Chatswood NSW

BIRD & SONS LTD, SYDNEY FLEETS LANE
POOLE DORSET ENGLAND TWX 41169 ..0201-3-4641
A SLOAN EMP 1000 ENG 100 $5,000-$10,000M

BIRNBACH CO INC 177 HANSE AVE FREEPORT
N Y 11520 TWX 510-225-3676 ....516 223-8400
M ZUCKER EMP 55 ENG 3 $1,000-$2,500M
Cal Birnbach Co Inc 427 S Hindry St
Inglewood 213 673-2900
Fla R A Chalmers & Co Box 19218 Tampa
Ga R A Chalmers & Co 349 Peachtree Hills Ave NE
Atlanta
Ind Delta Sales Inc 1407 N Illinois St Indianapolis
Ohio Ohio Marlow Assoc 1500 S Green Rd
Cleveland 216-381-4500
Tex Schoonmaker & Co 2995 Ladybird La
Dallas...........................214-FI 7-8481

BIRTCHER CORP, INDUSTRIAL DIV
745 MONTEREY PASS RD MONTEREY PARK
CAL 91754 TWX 910 321-3076 ....213 268-8584
W JACOBS EMP 85 ENG 3 $1,000-$2,500M
Cal Lebell Warren & Hickey Inc
601-603 Old County Rd San Carlos......593-7688
Cal Paul J Hildebrand Corp 6132 Tarragona Dr
San Diego 582-4677
Colo Electronic Components Sales Box 22011
Denver...........................771-6300
Fla Cartwright & Bean 601 N Fern Creek Dr
Orlando 425-8284
Fla Cartwright & Bean 20100 NE 25th Ct
North Miami Beach 945-2962
Fla Cartwright & Bean 779 John Anderson Dr
Ormond Beach 677-3480
Ga Cartwright & Bean 3223 Cain's Hill Pl
Atlanta 237-2273
Ill Harry Halinton Eng Assoc 6418 N Central Ave
Chicago 763-2131
Iowa Heimann Co 236 7th Ave N Fort Dodge 576-2374
Kan Mid America Marketing 10019 W 55th St
Merriam 432-8678
Md L G White & Co 1110 Fidler La
Silver Spring 585-3141
Mass Dan Greene Organization Box 290 Bedford ..275-6400
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 442-5656
Minn Heimann Co 5603 Lyndale Ave, S
Minneapolis 827-5457
NJ R P Luce & Co 30 Locust Ave
Berkeley Heights 464-6440
NM Electronic Components Sales 209 San Pablo SE
Albuquerque......................256-3663
NY I A Hotze Co 112 DeWitt St Syracuse 479-6641
NY R P Luce & Co 1300 Jericho Tpk
New Hyde Pk 437-4550
NC L G White & Co Box 2356 Winston-Salem ..725-3612
Ohio Components Inc 7461 N Linden La
Cleveland 842-2737
Ohio Components Inc 11820 Knoll Springs
Cincinnati.......................721-2997
Pa L G White-Keystone Inc 100 N Essex Ave
Narberth 664-6505
Tenn Cartwright & Bean 560 S Cooper St
Memphis 276-4442
Tex Parvin Sales Co Box 307 Addison 239-9148
Utah Electronic Components Sales, Inc 4408 Camille Dr
Salt Lake City 278-6044
Wash Vince E Johnson Co 2614 E 86th St Seattle .524-4595
Can Lake Engineering Co Ltd 123 Manville Rd
Scarborough 751-5980
For Frazar & Hansen Ltd 150 Calif St
San Francisco, Cal 981-5262

BIRTCHER CORP INSTRUMENT DIV
1200 MONTEREY PASS RD MONTEREY PARK
CAL 91754 TWX 910 321-4497 ....213 264-6610
J PURDY EMP 25 ENG 5 $500-$1,000M
Ala W A Brown & Assoc Inc 1314 Buford St NW
Huntsville 205 539-6884
Alas Arva, Inc Box 759 Anchorage 907 272-5231
Cal Moxon Electronics Corp 2311 Pontius St
Los Angeles......................213 272-9311
Fla W A Brown & Assoc, Inc 222 Weber Ave
Orlando..........................305 425-5505
Ga W A Brown & Assoc Inc 1590 Cooledge Rd NW
Tucker 404 939-1674
Ill Carter Electronics, Inc 7203 S Western Ave
Chicago 312 776-1601
Ind Carter Electronics, Inc 6333 Hollister Dr
Indianapolis.....................317 293-0696
Mass W M Hague Co 10 Muzzey St Lexington .617 862-5700
Minn Carter Electronics Inc 2401 W 66th St
Minneapolis......................612 869-3261
NJ Moxon Electronics Corp 151 Hackensack Ave
Hackensack.......................201 343-9490

NY I A Hotze Co Inc 112 Dewitt St Syracuse 315 479-6641
NC W A Brown & Assoc 1108 Burke St Winston-Salem 919 725-5384
Ore Arva Inc 2035 SW 58th Ave Portland .. 503 292-8762
Va W A Brown & Assoc Inc 325 First St Alexandria 703-836-1800
Wash Arva Inc 1320 Prospect St Seattle ... 206 622-1077
Can East-Electrodesign Ltd 9124 St Lawrence Blvd Montreal, Que 514 389-5914
Can Electrodesign Ltd 3433 Bathurst St Toronto 19 Ont 416 787-0991
For Frazar & Hansen Ltd 150 California St San Francisco, Cal 415 981-5262
BC West-Arva Inc 1642 W 3rd St Vancouver 604 736-6377

BIRTCHER CORP MEDICAL DIV 4371 VALLEY BLVD
LOS ANGELES CAL 90032 .... 213 222-9101
G LAMB EMP 225 ENG 10 $2,500-$5,000M
Ala R D Warner Box 1130 Birmingham 252-2327
Cal Birtcher Corp 4371 Valley Blvd Los Angeles . 222-9101
Fla R Thayer 3190 55th St N St Petersburg ... 896-4141
Ill F Semone Box 10 Mt Prospect 332-1465
Mass J Knight 4 Briar La Weston 266-1240
NM C Cardell Box 8243 Albuquerque 268-2497
Okla G Perkins 5809 Braniff Dr Oklahoma City ... 848-2500
Ore T Fitzgerald 10711 NE Weidler Portland ... 227-0506
Pa T Ferguson 1416 Olive St Scranton 347-8997
Va F Van Den Berg 10901 Haislip Lorton 339-5398

BISHOP GRAPHICS, INC 7300 RADFORD AVE
NORTH HOLLYWOOD CAL 91605
TWX 674-672 213-982-2000
M SALVIN EMP 40 ENG 3 $1,000-$2,500M
Mass R T King 70 Guinan St Waltham 617-899-4257
Can Keuffel & Esser Co 130 Monte De Liesse Montreal 9 Que 514-735-4171
Can Keuffel & Esser Co 15 Civic Rd Scarborough Ont 416-751-5600
Fr Olibol Organization 19 Rue de La Michodiere Paris 2e

BISHOP INSTRUMENTS INC. 440 FOREST AVE
PORTLAND ME 04101 .... 207 774-8311
P BISHOP EMP 3 ENG 1 UP TO $100M
Cal SARA Scientific Sales Box 321 San Francisco 415-421-3172
Va John Hopkins Assoc 4520 Starr Jordan Dr Annandale 703 280-2086
Fr S P I A 11, Rue de Provence Paris IX-E ... 770-75-46
GB Claude Lyons Ltd Valley Works Hoddesdon, Herts 67161
GB Claude Lyons Ltd 76 Old Mall St Liverpool 3 .... MAR 1761
Ital I N E A Via Porri 10 Torino 895-770
SAfr Specialized Electronics Box 15552 Siemend Johannesburg 724-5396

BISSETT-BERMAN CORP SUB ALLOYS UNLTD INC
2941 NEBRASKA AVE SANTA MONICA
CAL 90404 TWX 910-343-6583 .... 213 394-3270
EMP 500 ENG 75
Ariz Compar Rocky Mtn 84 W First St Scottsdale 602-947-4336
Cal Bissett-Berman Corp G St Pier San Diego .. BE 4-6755
Cal Bissett Berman Corp 3860 Centinela Los Angeles 213 390-3585
Cal Leddy Assoc 1319 Howard Ave Burlingame 415 347-5247
Cal Compar Los Angeles Box 1923 Glendale . 213 245-1172
Fla Compar Florida Box 1310 Orlando 305 855-3964
Md J R Daniel & Co Inc Box 124 Lutherville . 301 825-3330
Mass Research Instruments Inc 87 Terrace Hall Ave Burlington 617 272-1800
Mich Compar Midwest 21250 10 1/2 Mile Rd Southfield 313 442-5656
NY HRC Assoc 390 Plandome Rd Manhasset 516 627-4644
NY Compar Albany 6 Highland Ave Albany . 518-489-7408
Ohio Gibson Electronics Mktg 2801 Far Hills Ave Dayton 513 298-7683
Tex Robt P Votteler 3508 Greenville Ave Dallas 214-823-2320

BITRONICS INC 732 E GEOPP ST BETHLEHEM
PA 18018 .... 215 866-0777
J GROMAN EMP 50 ENG 3 $250-$500M

BIVAR INC 1500 S LYON ST SANTA ANA
CAL 92705 714-547-5822
E MULDOON EMP 5 ENG 2
NY Van Vaulkenburgh Assoc 611 Broadway New York .... CH 4-1416
Can Lake Engr Co. Ltd 123 Manville Rd Scarborough

BIWAX CORP 45 E BRADROCK DR DES PLAINES
ILL 60016 312-824-0137
H BYSTRICKY EMP 21 ENG 2
Jap Japan Chemical Trading 18 2-Chome Marunouchi Chiyoda-Ku Tokyo

B & K MFG CO DIV DYNASCAN CORP
1801 W BELLE PLAINE AVE CHICAGO
ILL 60613 .... 312 327-7270
R DUNN EMP 250 ENG 25
Ala Maitland K Smith Inc 3258 Cahaba Hts Rd Birmingham 967-3080
Cal Mike Roth Sales of Calif Box 3465 Van Nuys 989-3738
Colo Koether-Cox Co 1327 S Inca St Denver 733-5561
Fla Maitland K Smith Inc Box 8847 Ft Lauderdale 524-0955
Ga Maitland K Smith Inc 5375 New Peach Tree Rd Chamblee 457-1931
Ill Jerry Duro 1801 W Belle Plaine Chicago 327-7270
Ind Roy Haught 6819 Fairwood Ct E Dr Indianapolis 545-1376
La Texport Co Box 15218 Baton Rouge 927-0414

Mass Budente Sales Co 64 Mandalay Rd Newton Center 244-4842
Minn Clark R Gibb Co 1311 W 25th St Mnpls 377-1200
Miss Texport Co 5118 Park Ave Memphis 683-0880
Mo Larrabee-Fontaine Co 3709 A Summit Kansas City 931-0657
NJ Jules Bressler Inc 4808 Bergenline Ave Union City 864-9577
NY Maury Farber Assoc 220 Delaware Ave Buffalo 856-3543
NC Maitland K Smith Inc 1605 Chatham Ave Charlotte 376-5951
Ohio Mike Roth Sales Co 678 S Green Rd Cleveland 382-9090
Pa J Spangler 547 Baeder Rd Jenkintown .... TU 4-2787
Tex Texport Co 2411 Farrington Dallas 631-6270
Wash Fleehart & Sullivan 3826 Woodland Park Ave Seattle 633-4979
Can Atlas Electronics Ltd 50 Wingold Ave Toronto 781-6174
For Empire Exporters 123 Grand St New York, NY 925-1259

BLACKBURN INC, P W 68 MAIN ST DOBBS FERRY
N Y 10522 .... 914 693-2620

BLACKHAWK NETWORKS CORP 14 N PARKER DR
JANESVILLE WISC 53545 .... 608 752-8701
R BRANDT EMP 10 ENG 2
ADV PG 262
Ill Ed Schmeichel Co 5968 W Chicago Ave Chicago 378-2070
For Dummann World Trade Co 6833 W Fond du Lac Ave Milwaukee 464-0100

BLACK LIGHT CORP OF AMERICA
5114 N WALNUT GROVE AVE SAN GABRIEL
CAL 91778 .... 213 283-3193
P WARREN EMP 40 ENG 3 $1,000-$2,500M

BLACK LIGHT EASTERN DIV SPECTRONICS CORP
24 KINKEL ST WESTBURY N Y 11590 .. 516 ED 3-4840
N SHAW EMP 80 ENG 3 $1,000-$2,500M

BLACK LIGHT PRODUCTS BOX 45-278 CHICAGO
ILL 60645 .... 312 561-4046
J RICHARDSON

BLACKSTONE ULTRASONICS INC
CENTER & HORTON STS SHEFFIELD
PA 16347 .... 814 968-3221
T KORN EMP 38 ENG 8 $1,000-$2,500M
Cal Bearings, Seals, & Gears, Inc 1650 Broadway St Redwood City 365-5444
Conn Technical Instr Inc 575 Broad St Bridgeport . 368-4582
Fla Beacon Electronic Assoc, Inc Box 10212 Ft Lauderdale 564-4298
Ga Beacon Elctn Assoc 2285 Peachtree Rd NE Atlanta 636-7526
Ky Measurement Instr Inc 6506 Strawberry La Louisville 426-1116
Mass Technical Instruments 122 West St Wilmington 944-3930
Mich Measurement Instr Inc 25657 Southfield Rd Southfield 352-2144
NY D Montanino 4200 Gunnville Rd Clarence ... 759-8000
Ohio Measurement Instr Inc 2074 Arlington Ave Columbus 488-9753
Tex Teamwork, Inc Box 34465 Dallas .... FL 2-7747
Wash Bearings, Seals, & Gears, Inc 6867 84th Ave SE Mercer Island 232-6070
WVa Measurement Instr Inc 1216 Quarrier St Charleston 344-9431

BLACK & WEBSTER INC 281 WINTER ST WALTHAM
MASS 02154 .... 617 891-8100
J BARBER EMP 35 ENG 1
Cal C W Blair 1406 S Grand Ave Los Angeles
Conn George M Chambers Co 175 White Rock Dr Windsor
Fla Wm M Jones Co Inc Box 6004B Orlando
Ill W H Brooke Machine Tools Inc 5740 W Chicago Ave Chicago
Ind Henry M Wood Co Buck Creek
Ky Henry M Wood Co Box 5167 Louisville
Md Wm M Jones Co Inc Box 6880 Towson
Mass A W Chester Box 44 Lexington
Mich W T Peterson Co 11568 Thirteen Mile Rd Warren
Minn L E DeSota Co 13109 County Rd 15 Mnpls 612-545-8640
Mo Clancey Co 3527 Broadway Kansas City 816-931-3090
NJ Affiliated Sales, Inc 400 Delancy St Newark
NY BMH Equip, Inc 16 Saratoga Ave Rochester
Ohio Henry M Wood Co 920 E McMillan St Cincinnati
Pa Riley & Aleshire Inc 306 Leedom St Jenkintown
Tex Lomax Engrg,Inc 6338 Prestonshire La Dallas
Wash National Co 69 Marion St Seattle 206 623-7060
Wis H M Harwood Co 13435 Watertown Plank Rd Elm Grove 414-782-6011
Can J H Ryder Machinery Ltd 360 Evans Ave Toronto
GB Birmingham Tool & Gauge Co Ltd Soho Hill, Handsworth Birmingham
Ital Kinomat Via Monte Bernina 8 Bollate, Milano
Ind Ind & Agricultural Engr Co (Mysore) Private L Bombay
Spn Ingenieria E Industrializacion Laforja 80 Barcelona

BLAKE ELECTRONICS INC JANESVILLE RD
MUSKEGO WISC 53130 .... 414 422-0040
J BLAKE EMP 25 ENG 4 UP TO $100M

BLH ELECTRONICS INC SUB
BALDWIN-LIMA-HAMILTON 42 FOURTH AVE
WALTHAM MASS 02154 .... 617 894-6700
R WELCH EMP 500 ENG 25
Ala BCS Assoc Inc 2317 Bob Wallace Ave Huntsville 534-1648
Ariz Barnhill Assoc 4900 E Indian School Rd Phoenix 602 959-2115
Cal BLH Electronics 1052 W 6th St Los Angeles . 482-8442
Cal BLH Electronics 1485 Bayshore Blvd San Francisco 415 467-1700
Colo Barnhill Assoc, Inc 1170 S Sheridan St Denver 934-5505
Conn Applied Measurements Inc 2531 Whitney Ave Hamden 288-5288
Fla BCS Assoc Inc 940 Fern Creek Ave Orlando . 843-1510
Ill Pivan Engineering Co 3535 W Peterson Ave Chicago .... KE 9-4838
Ind Pivan Engineering Co 8545 Northcrest Ct Indianapolis 253-1681
Iowa Pivan Engrg Co 4403 1st Ave S E Cedar Rapids 319 365-6635
Md Powell-Pendergraph Inc 7979 Old Georgetown Rd Bethesda 656-4535
Mass Applied Measurements Inc 86 Hayward St Acton .... CO 3-2766
Mich S Sterling Co 21250 10 1/2 Mile Rd Southfield 357-3700
Minn Pivan Engrg Co 3203 North Hwy 100 Minneapolis 612 537-4501
Mo Harris-Hanson Co 2814 S Brentwood Blvd St Louis 962-9895
Mo Harris-Hanson Co 7916 Paseo St Kansas City 816 444-9494
NM Barnhill Assoc 827 Penna Ave Albuquerque 505 265-7766
NY Ossmann Instruments Inc 101 Pickard Dr Syracuse .... GL 4-2461
NY BLH Electronics 60 E 42nd St New York 212 867-0360
NC BCS Assoc 1039 Wendover Ave Greensboro . 273-1918
Ohio S Sterling Co 5827 Mayfield Rd Cleveland .. HI 2-8080
Pa S Sterling Co 2 Parkway Ctr Pittsburgh 922-5720
Pa Letronix 251 W Dekalb Pike King of Prussia 215 265-1020
Tex Barnhill Assoc Inc 3810 Westheimer Houston 621-0040
Wash Seatronics 5616 4th Ave S Seattle 206 767-4330
Can Alexander D Smart Ltd 21 Rolark Dr Scarborough Ont 291-7581
Ger Hottinger Baldwin Mess GmbH Pallaswiesenstr 172 61 Darmstadt
Jap Toyo Measuring Instr Co Ltd 104 1-Chome, Chofuminemachi Ota-Ku, Tokyo

BLILEY ELECTRIC CO 2545 W GRANDVIEW BLVD
ERIE PA 16512 TWX 510 696-6886 .... 814 838-3571
H YOCUM EMP 275 ENG 15
Cal Elsner-Rambo Co 2526 Hyperion Ave Los Angeles 213 664-2928
Ill Hill-Gray Assoc, Inc 2 Salt Creek La Hinsdale 312-325-4810
Iowa Jerry Vrbik Co 2818 A Ave NE Cedar Rapids 319 365-0461
Mich Grant Shaffer Co 16530 Greenview Rd Detroit 313-535-8448
Mo Maury E Bettis Co Inc 3706 Broadway Kansas City 816 561-0772
NY R W Mitscher Co Inc 496 Ellicott Sq Bldg Buffalo 716 854-2517
NY F Edwin Schmitt Co Inc 311 Meacham Ave Elmont 516 437-8150
Ohio McFadden Sales Co 150 E Broad St Columbus 614 221-3363
Ore C K Shanks & Assoc 3176 SW 87th Ave Portland 503 292-5656
Pa Robert E Tanner Co 486 Broadmoor Ave Pittsburgh 412 561-4687
Tex Howell Sales Inc 1217 N W 14th St Grand Prairie 214 262-5153
Can Smith-Paterson & Assoc Sales Agen Ltd 1550 Erin St Winnipeg 3, Man 204 SP4-1855
For Telesco Intl Corp 171 Madison Ave New York, N Y 212 683-9420

BLINN CO INC, DELBERT BOX 2007 POMONA
CAL 91766 .... 714 623-1257
H MANNING EMP 10 ENG 2 $250-$500M
Cal Baytronics Inc Box 356 San Bruno 588-0958
NY Lloyd Hart Assoc Box 8398 Rochester .... CH 4-3253
Wash W J Stulgis Co Inc 608 W Crockett St Seattle .... AT 2-7870

BLOCK ENGINEERING INC 19 BLACKSTONE ST
CAMBRIDGE MASS 02139 .... 617 868-6050
J WEINBERG EMP 170 ENG 56 $5,000-$10,000M
DC Dunn Assoc Inc 910 Laredo Rd Silver Spring, Md 593-3207

BLONDER-TONGUE LABS INC 9 ALLING ST
NEWARK N J 07102 .... 201 622-8151
M ADAMCHAK EMP 600 $5,000-$10,000M
Cal Mike Stobin Co 7353 Greenbush Ave North Hollywood 213-764-1315
Cal Sinai-Johnson Inc 817 Douglas St Redwood City 415 365-6263
Colo Ron Bowen Assoc 1440 S Santa Fe Denver 303 744-2501
Fla W F Hemminger Co 610 S Tamiami Dr Port Charlotte 813 625-6050
Haw Gene Piety Factors 160 Mokauea St Honolulu 808-810-185
Ill George Petitt Co 349 N Ashland Ave River Forest 312 261-0342
Ind Norm Hoemig Sales Co 2505 Lower Huntington Rd Fort Wayne 219-747-0826
Kan Forristal-Young Sls 5500 Buena Vista Mission 913 432-1420
Mass W A Hendrickson Co 766 Country Way N Scituate 617 545-0652
Mich Lectro Sales Co 16144 Wakenden Detroit 313-532-5725
Minn Mel Foster Co 228 S Cedar Lake Rd Minneapolis 612 374-2612
NM C T Carlberg & Assoc 2611 Quincy Albuquerque 505-265-1579

NY	LCA Sales, Inc 76 Main St Tuckahoe	914 961-4700
NY	LSM Assoc Orchard Park Phelps	315 548-4891
NC	Adams & Assoc Box 9256 Plaza Sta Greensboro	919 272-6838
Ohio	Weller Electronic Sls Inc 696 N High St Worthington	614 885-7819
Tex	J F McKinney Sales Co 1303 Chemical St Dallas	214 631-9450
Wash	M K Widdekind Co 815 W Ewing St Seattle	206 284-8020
Can	Telequipment Ltd 244 Adelaide St S London Ont	
For	Auriema Ad Inc 85 Broad St New York	

BLUE M ENGINEERING CO 138 & CHATHAM STS
BLUE ISLAND ILL 60406
TWX 910-689-3398 ....312 385-9000
A LAZZARA EMP 150 ENG 5 $2,500-$5,000M
ADV PG 115

Ariz	Blue M Engrg Co 44 E Indian School Rd Scottsdale	947-7026
Cal	Blue M Engrg Co 9650 Telstar Ave ElMonte	442-6672
Conn	Blue M Engrg Co 1340 Boston Post Rd Milford	878-5937
Ga	Blue M Engrg Co 2989 N Fulton Dr N E Atlanta	404 237-7644
Mass	Blue M Engrg Co 9 Mercer Rd Natick	235-8320
Mich	Blue M Engrg Co 21590 Greenfield Rd Oak Park	399-4660
NY	Blue M Engrg Co 271 North Ave New Rochelle	632-1465
Pa	Blue M Engrg Co 219 E Lancaster Ave Ardmore	649-1448
Wash	Blue M Engrg Co 1836 Westlake Ave N Seattle	282-0606

BLU-RAY, INC WESTBROOK RD ESSEX
CONN 06426..............................203 767-0141
W BOSSEMEYER EMP 60 ENG 2

BODINE ELECTRIC CO 2500 W BRADLEY PL CHICAGO
ILL 60618 TWX 25-3646 312-478-3515
H FULMER EMP 875 ENG 24 OVER $10,000M
ADV PG 384

Cal	C E Mello 406 S Main St Los Angeles	MA 6-9159
Cal	J F Cady 1485 Bayshore Blvd S Francisco	467-8656
Mass	Fred L Olson & Son 30 Shawsheen Ave Bedford	275-7644
Mich	Miller & Miller Box 36 Grosse Ile	DU 6-0900
Minn	E R Kaye 1840 Major Dr Minneapolis	588-2821
NY	Shea & Cardoza 3871 Harlem Rd Buffalo	834-3377
NY	D V Mayorga 55 W 42nd St New York	LO 5-2841
NY	J F Serr 3700 East Ave Rochester	LU 6-6226
NY	R H Nichols 1719 Teall Ave Syracuse	437-2813
Ohio	W R Uffelman 4500 Euclid Ave Cleveland	HE 1-7715
Ore	Don E Johnson Box 19013 Portland	CH 6-3131
Tex	General Power Equip Co 6770 Twin Hills Dallas	EM 8-4655
Tex	General Power Equip Co 4507 San Jacinto Houston	JA 4-7133
Can	Renold Canada Ltd Montreal	
For	G Fluxmon 21 West St New York	BO-9-0898

BODNAR PRODUCTS CORP 30 GROVE AVE
NEW ROCHELLE N Y 10801 ....914 NE 6-4664
J HEBRON EMP 55 ENG 3 $500-$1,000M

Ariz	Southwest E/M Engr 8341 N 7th St Phoenix	944-1521
Cal	Nova Tronix 1659 Scott Blvd Santa Clara	408-243-9530
Fla	Belmar Sls & Engrg Corp Box 12729 St Petersburg	813 345-0105
Ill	MQ & Assoc 6713 N Oliphant Ave Chicago	312-774-8844
Ind	McDonald Sales Co 227 S Cornell Circle Ft Wayne	745-9214
Kan	Aviation Tech Reps Inc 227 Ida St Wichita	316 AM 5-4633
Md	Quality Components Inc Box 711 Rockville	301-933-1623
NY	Electro Rep Inc 380 N Broadway Jericho	516 938-0540
Tex	Texport Co 2411 Farrington St Dallas	ME-1-6270
For	Aviation Sales Corp 125-12 84th Rd Kew Gardens	441-3100

BOGEN COMMUNICATIONS DIV LEAR SIEGLER INC
RT 4 & FOREST AVE PARAMUS N J 07652
TWX 201 488-8109 ....201 343-5700
M SUMBERG EMP 500 ENG 30

Cal	Marshank Sales Co 7422 Melrose Ave Los Angeles	WE 8-2591
Cal	Electronic Mktg Assoc 3327 Caxton Ct San Mateo	415 341-6666
Colo	Ron Bowen & Assoc 1440 S Santa Fe Denver	SH 4-2501
Ga	Hollingsworth & Still 22 Executive Pk W NE Atlanta	261-5838
Haw	Gene Piety Factors, Inc 160 Mokauea St Honolulu	810-185
Ill	Ray R Hutmacher Assoc Inc 6668 Northwest Hwy Chicago	NE 1-3248
Ind	Frank Weeks Sales Co 25 Lansdorne La Carmel	846-0296
Kan	Forristal-Young Sales Co 5500 Buena Vista Mission	432-1420
Md	Brothers & Conneen Assoc 6302 Lincoln Ave Baltimore	RO 4-7189
Mass	M Scott Co 20 Walnut St Wellesley Hills	CE 5-0102
Mich	Riley & Petchell Electronics Sales 16515 Schoolcraft Ave Detroit	VE 8-9100
Minn	Fisher Sales, Inc 4820 W 77th St Minneapolis	920-6577
Mo	Forristal-Young Sales Co 7110 Oakland Ave St Louis	MO 5-2360
NM	C T Carlberg & Assoc 2611 Quincy N E Albuquerque	265-1579
NY	Waxman-Currant Sales Inc 990 Kenmore Ave Buffalo	873-0442
NY	Stang Sales Co 271 Columbus Ave Tuckahoe	SP 9-6868
Ohio	McFadden Sales Co 150 E Broad St Columbus	CA 1-3363
Pa	Martin Weinberg Assoc 1122 E Cliveden St Phila	LI 9-1122
Pa	F P Yarussi Co 312 Rockfield Rd Pittsburgh	CA 1-4676
Tenn	Texport Co 5104 Capen St Memphis	682-4777
Tex	TexportCO 8811 Gaylord Houston	HO 5-3031
Tex	Texport Co 2411 Farrington St Dallas	ME 1-6270
Utah	R Bowen & Assoc 1380 W North Temple Salt Lake City	364-4632
Wash	Northwestern Agencies, Inc 4130 1st Ave S Seattle	MA 3-8883
Can	Chas L Thompson Ltd 1440 Erin St Winnipeg	SU 3-0848
Can	John R Tilton Ltd 51 Mccormack St Toronto, Ont	RO 2-7571
For	M Hoffenberg 1270 Broadway New York, N Y	LA 4-2557
BC	C L Thompson Ltd 3115 Lonsdale av N Vancouver	YU 7-9388

BOGUE ELECTRIC MFG CO 100 PENNA AVE
PATERSON N J 07509 ....201 525-2200
T SPENCER EMP 625 ENG 37 OVER $10,000M

Cal	A Nadeau Box 8093 San Francisco	415-589-4242
DC	MacDonald Goodwin Inc 1000 16th St N W Washington	202-296-3795
Ohio	Automated Eauip & Eng Inc 12424 Cedar Rd Cleveland	216-462-2855
Pa	Automated Equip & Eng Inc 648 Center Ave Pittsburgh	412 931-7617

BOLT BERANEK & NEWMAN, DATA EQUIP DIV
1762 MCGAW AVE SANTA ANA
CAL 92705 ....714 546-5300
S ZUCK EMP 55 ENG 5

Ala	W A Brown & Assoc 1314 Buford St Huntsville	205 539-6884
Alas	ARVA Inc Box 759 Anchorage	901 272-5231
Ariz	Moxon Elctns Corp 15 N 40th Pl Phoenix	602 273-7363
Cal	Moxon Electronics Corp 2311 Pontius Ave Los Angeles	213 272 9311
Colo	Brook Feeger Assoc 1309 S Inca St Denver	303 744-3301
Conn	Instrument Assoc Inc 234 Murphy Dr Hartford	203 525-9367
Fla	W A Brown & Assoc 222 Weber Ave Orlando	305 425-5505
Ga	W A Brown & Assoc 1590 Cooledge Rd NW Tucker	404 939-1674
Ill	Carter Electronics, Inc 4919 W 63rd St Chicago	312-585-5485
Ind	Carter Electronics, Inc 6333 Hollister Dr Indianapolis	317 293-0696
Md	Gawler-Knoop Co 11215 Dr Silver Spring	301-593-7501
Mass	Instrument Assoc Inc 30 Park Ave Arlington	617 648-2922
Mich	Technitron Instr Inc 13657 Grand River Ave Detroit	313 838-7324
Minn	Carter Electronics, Inc 2401 W 66th St Minneapolis	612 869-3261
Mo	Harris-Hanson Co 2814 S Brentwood Blvd St Louis	314 647-4350
NJ	Gawler-Knoop Co 14 Beaufort Ave Roseland	201 226-4545
NM	Brook Feeger Assoc 1238 Ortiz SE Albuquerque	505 268-4387
NY	Labtronics Inc 130 Pickard Bldg Syracuse	315-454-9314
NC	W A Brown Assoc 1108 Burke St Winstom	919 725-5384
Ohio	Technitron Instr 23203 Lorain Rd N Olmstead	216 734-0960
Okla	Brooks Feeger & Puckett Inc 3216 E 21st St Tulsa	918 936-5295
Ore	ARVA Inc 2035 SW 58th Ave Portland	503 292-8762
Pa	Technitron Instr Inc 114 Spring Grove Rd Pittsburgh	413 371-1231
Tex	BFA Inc Box 429 Euless	817 283-4684
Wash	ARVA Inc 1320 Prospect St Seattle	206 622-0177
Can	Ahearn & Soper Ltd 844 Caledonia Rd Toronto	416-789-4325
Can	Ahearn & Soper Ltd 3300 Cavendish Blvd Montreal	514-482-9750
BC	Ahearn & Soper Ltd 1234 Marine Dr Vancouver	604-988-6822

BOMAC DIV VARIAN ASSOCIATES SALEM RD
BEVERLY MASS 01915 ....617 922-6000
R ANDREWS EMP 400 ENG 65 OVER $10,000M

Ariz	Bomac Div 77 Third Ave W Scottsdale	947-5461
Cal	Bomac Div 2901 Wilshire Blvd Santa Monica	451-5877
Fla	Bomac Div 314 S Missouri Clearwater	446-8513
Ga	Bomac Div 3110 Maple Dr, NE Atlanta	261-4572
Ill	Bomac Div 205 W Tougy Ave Park Ridge	825-6686
Mass	Bomac Div 400 Wyman St Waltham	891-4560
NJ	Bomac Div 1500 Kings Hwy Cherry Hill	428-6800
NM	Bomac Div 9000 Menaul Blvd, NE Albuquerque	296-1248
NY	Bomac Div 2005 Rte 22 Union	688-8800
Ohio	Bomac Div 10 Southmoor Cir Dayton	298-7318
Tex	Bomac Div Box 689 Richardson	235-2385
Can	Varian Assoc of Can, Ltd 45 River Rd Georgetown, Ont	877-6901
Fr	Thomson-Varian SA 6 rue Mario Nikis 75 Paris 15e	783 91 00
Ger	Varian GmbH Breitwiesenstr 9 7 Stuttgart-Vaihingen	78 33 51
GB	Varian Assoc, Ltd Molesey Rd Walton-on-Thames, Surrey	WAL 2 87 66
Neth	Varian Assoc NV Atoomgebouw 112, Kamer 186 Amsterdam-Schiphol	15 94 10
Ital	Varian Sp Via C Battisti 2 Torino	
Swed	Varian AB Skytteholmsvagen 7d Solna (Stockholm)	82 00 30
Swit	Varian AG Baarestr 77 6300 Zug	042 4 45 55
Aust	Varian Pty Ltd 38 Oxley St, Crows Nest Sydney	430-673

BOONTON ELECTRONICS CORP
RT 287 AT SMITH RD PARSIPPANY N J 07054
TWX 710 986-8241 ....201 887-5110
F STEVENS EMP 131 ENG 17 $2,500-$5,000M

Ala	James L Highsmith & Co 3322 S Memorial Pkwy Huntsville	881-3294
Cal	O'Halloran Assoc 10700 Ventura Blvd N Hollywood	877-0173
Cal	O'Halloran Assoc 3921 E Bayshore Palo Alto	326-1493
Cal	O'Halloran Assoc 3760 Midway Dr San Diego	224-2824
Colo	J F Hurlbut Co 2240 S Adams St Denver	756-2046
Fla	James L Highsmith & Co 2543 Industrial Blvd Orlando	293-5202
Ill	Ken Meyers Co 7256 W Touhy Ave Chicago	774-6440
Ind	Kenneth W Meyers 3512 Rockville Rd Indianapolis	243-6681
Iowa	Engineering Services 1026 3rd Ave SE Cedar Rapids	366-1591
Kan	Engineering Serv Co 7924-A State Line Prairie Village	649-4000
Md	Paddock-Joslow Co 721 Ellsworth Dr Silver Spring	589-6554
Mass	George Gregory Assoc 7 Erie Dr Natick	655-1330
Mich	Micro Sales Corp 650 Greenlawn Ave Ypsilanti	482-1229
Minn	Ken Meyers Co 4725 Excelsior Blvd Minneapolis	920-7080
Mo	Engineering Services Co 6717 Vernon Ave St Louis	726-2233
NM	C Schmidt Sales 9611 Acoma Rd S E Albuquerque	298-2415
NY	SBM Assoc 800 Linden Ave Rochester	253-6145
NY	SBM Assoc 5858 E Molloy Rd Syracuse	454-9377
NY	SBM Assoc 28 Hobby St Pleasantville	769-1811
NY	Measurements Unltd 11 Sleepy La Hicksville	725-2432
NC	James L Highsmith & Co 3733 Monroe Rd Charlotte	333-7743
Ohio	Micro Sales Corp 1250 W Dorothy La Dayton	298-3033
Ohio	Micro Sales Corp 2000 Lee Rd Cleveland	371-0522
Pa	Measurements Unltd 529 Shoemaker Rd Elkins Park	224-1663
Tex	Airep Electronics Inc 6300 N Central Pkwy Dallas	363-5291
Tex	Airep Electronics, Inc 4901 Richmond Ave Houston	621-0955
Tex	Airep Electronics, Inc 6936 San Pedro San Antonio	828-1488
Utah	J F Hurlbut Co 3817 W 3280 S Granger	299-4321
Va	James L Highsmith & Co 5003 Brook Rd Richmond	266-2060
Wash	Harry Levinson Co 1211 E Denny Way Seattle	323-5100
Can	Canadian-Marconi Co, Instr Div 2442 Trenton Ave Montreal 16, Que	738-9441
For	Asia Electric Co 38 Chung Shan N Rd Sec 2 Taipei, Taiwan	544649
For	Industrial Devel Suppliers Corp Ltd Box 3138 Karachi, 29, Pak	
For	G A Viloria Box 1324 Panama	2-3813
For	Philippine Procurement Agencies Plaza Goiti Manila	4-26-07
For	Coasin Uruguaya S A Cerrito 617 Montevideo	9 79 78
Fr	Seurolec 39-41 Rue de L'Est Boulogne-Billancourt	408-38-60
Ger	Knott Electronik Benediktstr 8021 Hohenschaftlarn Bei Munchen	081783754
GB	AVO Int'l Cordent House Torrington Pk London N12	
Neth	Uni-Office, N V Box 1122 Rotterdam	13 22 20
Ital	Mario Vianello 1-20122 Milano Via L Anelli 13 Milan	553-081
Jap	Matsushita Elec Trading Co Ltd 15-17 Shinbashi 6-Chome Tokyo	433-7211
Jap	Matsushita Elec Trading Co Ltd Kawaramachi Bldg-71.5 Chome Osaka	202-1221
Nor	Morgenstierne & Co A/S Konghellegt 3 Oslo 5	02 37 29 40
SAfr	Associates Electronics (Pty) Ltd Box 31094 Johannesburg	724-5396
Swed	Teleinstrument AB Box 14 10 rue du Conseil Gen Stockholm Vallingby	87 03 45
Swit	Tronicair SA 1211 Geneva 11 Stand Geneve	(022)26 37 57
Belg	E T I S A Div Daniel Delgay Electronique 219 Rue Royale Brussels 3	
Gr	Thanos Houdzoumis 15 Voulis St Athens 126	238 536
Ind	Neotronics Corp Dadasaheb Phalke Rd Bombay-14	445-972
Isrl	Telsys Ltd Engineering Co Box 10034 Tel-Aviv	252-839
Mex	Raytel S A J M Marroqui 7-B Mexico 1, D C	12 30 56
NZ	Electrical Specialties Ltd 54 Carr Rd, Mt Roskill Auckland, S 3	556 019
Spn	Ataio Ingenieros Enrique Laretta, 12 Madrid 16	235 35 43
Aust	100 Chandos St Crow's Nest NSW	439-1441
Aust	Sample Electronics (Aust) Pty Ltd 9-11 Cremone St Richmond Vic	424-757

BOONTON MOLDING CO INC 300 MYRTLE AVE
BOONTON N J 07005
TWX 201 334-6366 ....201 334-4400
K BROO EMP 437 ENG 9 $5,000-$10,000M

Conn	R M Whelan Co Box 1131 Darien	203 655-3515
Fla	Flostan Corp Box 5038 Lighthouse Pt Pompano Beach	305 941-4384
Mass	R M Whelan Co 5 Moulton Rd Southboro	617 832-6058
NJ	S H Goldman 92 Berkley Ct Wayne	212 267-0003
NY	C & M Assoc Box 548 Chester	914-469-4633
NC	Dula Assoc Box 5316 Winston-Salem	919 723-4205
Ohio	Stork & Assoc 613 Daniel St Dayton	513 222-3232
Pa	F McAleer 15 Oak St Riverdale NJ	201-835-3743

BOOTH CO, ARTHUR E 265 S ALEXANDRIA AVE
LOS ANGELES CAL 90004 ....213 381-2161
A BOOTH EMP 11 ENG 4 UP TO $100M

BOOTS AIRCRAFT NUT DIV TOWNSEND CO
1230 E WARNER AVE SANTA ANA CAL 92707
TWX 910-595-1551 ....714 540-7930
B LAMBE EMP 100 ENG 7 $2,500-$5,000M
Cal T Laughlin 1230 E Warner Santa Ana .714-540-7930
Conn J Sessa 13 Southwood Rd
Thompsonville 203-749-4365
Fla G Bauman Box 7305 Orlando 305-293-6269
Ga Dane & Co Box 28175 Atlanta 404-427-3488
Ill J Richards Box 164 Des Plaines 314-296-1284
Ind Wellman Engineering 4618 Winthrop Ave
Indianapolis 317-283-5698
Iowa R L Burchett 202 Plaza Bldg
Bettendorf 319-355-6322
Kan Standard Parts 3916 E 13th Wichita ..316-682-6514
Mich Townsend Co Detroit Trade Ctr Detroit .313-962-8400
Minn P L Coppini 2907 E Franklin Ave
Mnpls 612-339-9141
Mo John Perz 215 Glen Cove Dr
Chesterfield 314-469-1721
NY M Beery 51 Lexington Ave
West Babylon 516-587-1576
Tenn Dane & Co Box 152 Madison 615-254-9494
Tex Berry Co Box 20461 Dallas 214-528-0461
Wash J H Betcone 400 108th NE Bellevue ...206-454-5928
Can Parmenter & Bulloch Gananoque, Ont

BORDEN CHEMICAL DIV BORDEN INC
350 MADISON AVE NEW YORK
N Y 10017 212-573-4000
EMP 8000 OVER $10,000M

BORDERS ELECTRONICS CO INC FOSTERTOWN RD
MEDFORD NJ 08055
TWX 510 683-6293 ....609 665-0226
H SMITH EMP 180 ENG 60 $2,500-$5,000M
Ala R H Borders, jr 504-A Chateau Dr
Huntsville 883-0970
NJ Kessler Assoc 30 Knollwood Dr
Cherry Hill 609 667-2715
Pa E Engels 8333 Williams Ave Phila 215-Ch 2-6775

BORG-WARNER CONTROLS DIV BORG-WARNER
CORP 3300 S HALLADAY SANTA ANA CAL 92702
TWX 67-8460 ....714 545-5585
EMP 500 ENG 85
Ala Kemp Instru Inc 4306 Governors Dr W
Huntsville 205 837-4304
Ariz Brooks Feeger Assn 4710 N 16th St
Phoenix 602 264-6535
Cal Tech Marketing Assoc 355 W Olive Ave
Sunnyvale 408 736-3687
Colo Brooks Feeger Assoc 1309 S Inca St
Denver 303 744-3301
Conn J & J Assoc Hamden 203-624-7800
Del A R Dervaes Co Box 2600 Wilmington ..302 328-1307
Fla Trio Electric Supply Co, Inc Box 1746
Pensacola 305 476-5580
Ill Borg-Warner Controls 2720 Des Plaines Ave
Des Plaines 312 825-0640
Md Borg-Warner Controls Box 300
Seabrook 301 577-1108
Mass J & J Assoc 225 Crescent Waltham ...617-899-0160
Mich Elias Electronics 26817 W Seven Mile Rd
Detroit 313 255-2111
Mo Kemp Engrg Co Inc 9322 Manchester Rd
St Louis 314 968-0300
NJ Power Convers & Control 650 Palisade Ave
Englewood Cliffs 201 569-0015
NM Brooks Feeger Assn 1238 Ortiz S E
Albuquerque 505 268-4387
NY Astrorep Inc 10 Sunny Lane Bayshore ..516-666-7272
NC Borg-Warner Controls 1127 E Morehead
Charlotte 704 375-4474
Ohio Rixan Assoc Inc 5752 Wadsworth Rd
Dayton 513 278-4216
Pa Foster-McClinton 1675 Washington Rd
Pittsburgh 412 561-4803
Tenn Borg-Warner Controls 5700 Brainerd Rd
Chattanooga 615 624-6691
Tex Kemp Engrg Co, Inc 2618 Manana Dr
Dallas ....214 FL 7-6663
Va Negley Assoc Inc 7315 Venice St
Falls Church 703 560-7920
Wash Avionics Liaison Inc 6770 Perimeter Rd S
Seattle 206 767-3870
Wis James K Luke Co Box 795 Appleton ...414 739-3228

BORG-WARNER CORP, INGERSOLL PRODUCTS DIV
(EMCOR) 1000 W 120TH ST CHICAGO ILL 60643
TWX 910-221-5081 ....CO 4-7800
H BOWEN JR EMP 1000
ADV PG 67
Ala W A Brown & Assoc Inc 1314 Buford St NW
Huntsville 536-8393
Ariz T Louis Snitzer Co 15 N 40th Pl Phoenix 273-1673
Cal T Louis Snitzer Co 1150 Camino Del Mar
Del Mar 454-2191
Cal T Louis Snitzer Co 9005 Exposition Blvd
Los Angeles 836-6170
Cal T Louis Snitzer Co 10320 Saratoga-Sunnyvale Rd
Cupertino 408-257-8333
Colo Barnhill Assoc 1170 S Sheridan Blvd Denver .934-5505
Conn Technical Instruments Inc 575 Broad St
Bridgeport 368-4582
Fla W A Brown & Assoc Inc 3039 NE 32nd Ave
Ft Lauderdale 564-8000
Fla W A Brown & Assoc Inc 22 Weber Ave
Orlando 425-5505
Fla W A Brown & Assoc Inc 18-Chelsea Dr
Fort Walton Beach 243-6424
Ga W Brown & Assoc Inc 1590 Cooledge Rd, N W
Tucker 939-1674
Ill Marsland Assoc Inc 1000 Executive Way
Des Plaines 298-2620
Ill Marsland Assoc Inc Chicago 775-7309
Ind Marsland Assoc Inc 3734 Carrolton Ave
Indianapolis 924-3568
Md W A Brown & Assoc Baltimore 727-1999
Mass Technical Instruments Inc 122 West St
Wilmington 944-3930
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 357-3700
Minn Marsland Assoc 231 N Edgewood Ave
Minneapolis 545-4481
Mo Harris-Hanson Co 7916 Paseo St
Kansas City 444-9494
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis 962-9895
NJ K E Hughes Co 2175 Lemoine Ave Fort Lee .944-1600
NJ K E Hughes Co Philadelphia 242-0150
NM Barnhill Assoc 827 Penna NE Albuquerque ..265-7766
NY J A Reagan Co 52B Crestmont Rd
Binghamton 723-9661
NY J A Reagan Co 6 Highland Ave Albany 489-4777
NY J A Reagan Co 41 Woodberry Rd
New Hartford 732-3775
NY K E Hughes Co Inc New York 695-0082
NY J A Reagan Co 891 Monroe Ave Rochester ..473-2115
NY J A Reagan Syracuse 471-7275
NY J A Reagan Co Rd 3 Meadow Hill Rd
Newburgh 561-4510
NC W A Brown & Assoc 1108 Burke St
Winston-Salem 725-5384
Ohio S Sterling Co 5827 Mayfield Rd Cleveland ..442-8080
Ohio S Sterling Co 2673 Culver Ave Dayton 298-7573
Okla J A Green Co 2714 S Lewis Tulsa 742-4657
Pa S Sterling Co 2 Parkway Ctr Pittsburgh 992-5720
Pa J E Cuesta Co Valley Forge 265-5800
Pa J E Cuesta Co Philadelphia 242-0150
Tex J A Green Co 7118 Envoy Ct Dallas 631-7450
Tex J A Green Co 63400 Montrose Houston 713-2959
Va W A Brown & Assoc 325 First St Alexandria .836-1800
Va W A Brown & Assoc 82 Huxley Pl
Newport News 245-8272
Wash N R Schultz Co 305 112th Ave NE Bellevue .454-5224
Can Whittaker Elctns Ltd 42 Howden Ave
Ottawa 5, Ont 224-1221
Can Whittaker Elctns Ltd Box 216
Roxboro, Que 683-3621
Can Whittaker Elctns Ltd 1885 Wilson Ave
Weston, Ont 247-7454
BC Whittaker Elctns Ltd 1144 Millstream Rd
West Vancouver, BC 926-3411

BORG-WARNER, THERMOELECTRIC DIV
WOLF & ALGONQUIN RDS DES PLAINES
ILL 60018 ....312 827-3131
C PHETTEPLACE EMP 20 ENG 2
Cal Weightman & Assoc 120 Santa Margarita
Menlo Park 415-325-2885
Cal Weightman & Assoc 1226 W Olive Ave
Burbank 213-849-7711
Colo Waugaman & Assoc 2785 Speer Blvd
Denver 303-255-5000
Ill Olson Engineering & Sales Corp
1921 N Harlem Ave Chicago 312-622-9777
Md Leff Sales Assoc 408 York Rd Towson ..301-823-0774
Mass R P Mahan Co 572 Washington St
Wellesly 617-237-1040
Minn Olson Engrg & Sales Corp 5533 Warden Ave
Minneapolis 612-929-7979
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis 314-962-9895
Mo Harris-Hanson Co 7916 Paseo St
Kansas City 816-444-9494
NJ Leff Sales Assoc 5900 Westfield Ave
Pennsauken 609-663-4025
NJ Kenbar Industries 14 E Main St
Somerville 201-725-9470
Ohio T H Orndoff Talbott Tower Dayton 513-222-7284
Okla John A Green Co Box 3209 Tulsa 918-742-4657
Tex John A Green Co Box 47206 Dallas 214-631-7450
Tex John A Green Co Box 66506 Houston ..713-526-2959
Wash G M Gillett & Assoc Box 99035 Seattle .206-284-3344
For Borg-Warner Intl Corp 36 S Wabash Ave
Chicago, Ill 312-663-2111

BORROWDALE CO INC, RW 250 W 83RD ST CHICAGO
ILL 60620 ....312 723-7100
EMP 30 ENG 5 $500-$1,000M
Cal M Piel 2300 Buchanan St San Francisco ...431-3366

BOSSERT MFG CO 1045 OSWEGO ST UTICA
NY 13502 TWX 315-797-1261 315-797-1600
D SAMSON EMP 300 ENG 5 $5,000-$10,000M

BOSTITCH DIV TEXTRON INC BRIGGS DR
EAST GREENWICH R I 02818 ....401 TU 4-2500
C PENDER EMP 1100 ENG 40 OVER $10,000M
Cal Bostitch Div 6636 E 26th St Los Angeles ...685-6083
Colo Bostitch Div Bostitch-Denver Co
1156 S Kalamath St Denver
Ga Bostitch Div 650 Miami Circle NE Atlanta ..231-3030
Ill Bostitch Div 4244 W Diversey Ave Chicago ..777-1400
Ind Bostitch Div 420 S Kitley Ave Indianapolis ..FL 3-2171
Mass Bostitch Div 5 Lowell Ave Winchester 729-6400
Mich Bostitch Div 7461 W 8 Mile Rd Detroit ....UN 1-2100
Minn Bostitch-McClain Co 4950 W 78th St
Bloomington 920-2353
Mo Bostitch Div 2110 S Vandeventer Ave
St Louis ....PR 2-4402
NJ Bostitch Div 130 Commerce Rd Carlstadt ...933-8660
Ohio Bostitch Div 1620 St Clair Ave Cleveleand ..TO 1-7060
Pa Bostitch Div 2553 Orthodox St Philadelphia .PI 4-2305
Tenn Bostitch Div 409 Cumberland St Memphis ..324-7111
Tex Bostitch Div 8905 Sovereign Row Dallas ...ME 1-7580
Utah Bostitch-Intermtn Co 247 E 3rd S St
Salt Lake City ....EM 3-6082
Wash Bostitch Div 703 5th Ave N Seattle ....AT 3-6300
Can Bostitch Div of Textron Can Ltd 55 Judson St
Toronto ....CL 1-3376

BOSTON DIGITAL CORP MAIN ST ASHLAND
MASS 01721 ....617 881-1600
H WILLIAMS

BOSTON GEAR WORKS QUINCY MASS 02171 ..773-0400
W JOHNSON EMP 1300 ENG 15 OVER $10,000M
Cal Boston Gear Works 4770 San Pablo Ave
Oakland ....OL 4-4687
Ga Boston Gear Works 215 Mountain Ind Blvd
Atlanta 938-6913
Ill Boston Gear Works 5445 W North Ave
Chicago 265-1089
NJ Boston Gear Works 400 Hollister Rd
Teterboro ....AT 8-9555
Ohio Boston Gear Works 1702 St Clair Ave
Cleveland ....MA 1-5140
Pa Boston Gear Works 1 Bala Ave
Bala Cynwyd ....TE 9-4830
Tex Boston Gear Works 7111 John W Carpenter Frwy
Dallas ....ME 1-8620
Can Boston Gear Works of Can Ltd
3141 Wharton Way Cookesville, Ont 277-3633

BOSTON PRECISION PARTS CO INC 46 SPRAGUE ST
HYDE PARK MASS 02136 ....617 EM 1-1000
A CICERONE EMP 85 ENG 6 $1,000-$2,500M

BOURNS PACIFIC MAGNETIC CORP
BOX 1398 HWY 74 ROMOLAND CAL 92380
TWX 910-332-1252 714-657-5195
R JABS EMP 100 ENG 6 $1,000-$2,500M

BOWMAR INSTRUMENT CORP 8000 BLUFFTON RD
FORT WAYNE IND 46809
TWX 810-332-1510 ....219 747-3121
C JACKSON EMP 480 ENG 78 OVER $10,000M
ADV PGS 201,235,391
Ariz Gramer & Co 110 W Camelback Rd
Phoenix 602-279-1221
Cal Bowmar Instr Corp 3407 W Olive St
Burbank 213 843-4545
Ga Bowmar Instr Corp 2551 Dresden Dr NE
Atlanta 404-457-1686
Ill MQ & Assoc, Inc 118 W Higgins Rd
Park Ridge 312-698-2044
Mass Bowmar Instr Corp 531 Main St Acton .617-263-7715
Minn Howard A Cullen & Assoc 1595 Selby Ave
St Paul 612 646-7371
Mo PEM Sales Co 9537 Lackland Rd
St Louis 314-427-7200
NJ Bowmar Instrument Corp 13 Incline Pl
Matawan 201 526-0400
NY Geo F McCarthy Corp 75 Plandome Rd
Manhasset ....516 MA 7-8790
Tex Bowmar Instr Corp 14220 Haymeadow Dr
Dallas 817 277-6911
Va Bowmar Instr Corp 1801 Sheridan Ct
McLean 703-356-3915
Wash Testco Inc Boeing Fld Adm Bldg
Seattle 206 762-8220
Can Bowmar Canada Ltd Box 4076 Sta E
Ottawa Ont 613 822-0463
GB Bowmar Instrument Ltd 1 Ormond Ave
Hampton Mdsx 01-979-2349
Isrl R D T Electronics Eng Ltd Box 21082
Tel-Aviv 22-92-93

BOW SOLDER PRODUCTS CO INC 25 AMSTERDAM ST
NEWARK N J 07105 ....201 621-6996
S TURKUS III EMP 27 ENG 2 $2,500-$5,000M
ADV PGS 273,578
Cal Claude Michael, Inc 703 W Ivy St Glendale ..245-8401
Minn Glen Scott 5209 W 60th St Minneapolis
NJ Simberkoff Sales 71 Valley St
South Orange 201 621-6996
Wash Larrabee & Assoc 2127 1st Ave
Seattle 206-623-2521

B P PLASTICS CO 2613 HUTCHINSON PL
TITUSVILLE FLA 32780 305-269-3872
C BRIGHT EMP 3 ENG 1

BRADFORD COMPONENTS INC 65 SOUTH AVE
SALAMANCA N Y 14779 ....716 945-2340
M TINGWALL EMP 45 ENG 1 $100-$250M
Cal Mossman-Pacific Inc Box 1105 Covina 331-2223
Ill W G Brouillette & Assocs 9855 Roosevelt Rd
Westchester 312-345-6500
Mass Autarch Assoc 405 Main St Wakefield .617-245-9155
NJ LBS Assoc 615 John St River Vale 201 391-9400
NY Niagara Elec Sales Co 505 Delaware Ave
Buffalo 716 886-4000
Ohio Rice Associates 28829 Chagrin Blvd
Cleveland 216-831-9710
Pa Paragon Sales Co 111 S 22nd St
Philadelphia 563-7060
Tex Scott Technical Sales Box 30324 Dallas 352-7698
Va Royalec Electronic Reps Box 254 Lynchburg .846-7117

BRADLEY LTD G & E NEASDEN LA LONDON NW 10
ENGLAND TWX 25583 ....01-450 7811
E CUTTER EMP 450 ENG 50 $2,500-$5,000M
Md Edwin Industries Corp 11933 Tech Rd
Silver Spring 301 622-0700
Can Conway Elec Enterprises Ltd 88-90 Arrow Rd
Weston Ont 724-6631
For Pirin 10 Graf Ignatler Str Sofia 8 15 7
For DEKSA Box 1897 Nicosia 77 45
For C O Donovan 29 Richmond Ave Fairview Dublin
For International Aeradio (Pakistan) Ltd Box 4681
Karachi 2 22008
For Eural Caixa Postal 2 466 Lisbon 2 53726
For P N Elctns Ltd 29 Duku Rd
Singapore 15 ....97802 4649
For S Cerid Instanbul-Mecidlyakoy Ortaklar ....Cad 52/
For Phisis Ltd El Corde Aptdo 13355 NVA GRDA
Caracas
Den A Classen Smith As Herlev Hovegade 201C
Copenhagen 0191 30 6
Fr Le Groupe Scientifique 114 Ave du Pres Wilson
Paris 243-22-4
Ger Magnetic A B GMBH Schussenriederstr 26
8 Munchen 60 ....08 11 87 64 3

Ger	E Schulze 1 Berlin 1Herbartstr 28 0311 302 74 84	
GB	M D Ewart Riverbank, Upper Thames St London, E C I	01-248 5711
Neth	Oltronix N V Kievitstraat 41 Masslius	01899-2847
Ital	Electronucleonica s p a 7, Pizza De Angeli 20146 Milano	463 520/286
Nor	J N Feiring As Langhrgrenda 1 Oslo 8	
SAfr	Racal Smd Electronics Box 1463 Pretoria	2-1071
Swed	Ajgers Elektronik Ab Postfach Stockholm 32	08 464246
Swit	Telemeter Electronic A G Box 140 8027 Zurich	051-257-872
Arg	S A E N srl Altolaguirre 1778 Buenox Aires	52-9701
Belg	Koning & Hartman Rue Gachard 53 Ixelles, Bruxelles	482655
Gr	Gimet Electrotechnical 3 Meandrou St Athens 612	720 291
Ind	Forbes Forbes Campbell & Co Ltd Box 79 Bombay 1	268081
Isrl	Racom Elctns Co Ltd 74 Nordau Blvd Tel Aviv	443244
NZ	Elekon (Overseas) Ltd 174 Gt North Rd Auckland W 2	16-188
Spn	cuarzo Radioelectric Espanol S A Calle Corcega 58 Barcelona 15	230 57 07
Fin	Nores & Co OY Fabianinkatu 32 Helsinki	13360
Aust	Ronald J T Payne Pty Ltd 385 Bridge Rd Richmond, Vic	42 1416

BRADLEY SEMICONDUCTOR CORP 275 WELTON ST
NEW HAVEN CONN 06506 .... 203 787-7181
I ISDALE EMP 75 ENG 8 $1,000-$2,500M

Cal	R Homer & Assoc 14436 Sherman Way Van Nuys	213 781-1236
Ill	Technical Devices Inc 6416 N Central Ave Chicago	312 774-8252
Md	Jade Electronics Box 115 Greenbelt	474-8161
Mass	Bahr Sales Co 91 Woodsley Rd Longmeadow	567-3488
NJ	Unicomp Inc 18 Sunny Ridge Rd Wayne	696-2888
NY	H C Johnson Agencies Inc 111 Mt Hope Ave Rochester	232-2688
Ohio	John O Olsen Co 16201 Shaker Blvd Cleveland	
Pa	Jade Electronics Box 5735 Philadelphia	455-3355

BRAD THOMPSON INDUSTRIES INC
83-810 TAMARISK ST INDIO CAL 92201 . 714 DI 70637
J THOMPSON EMP 20 ENG 4 $500-$1,000M

Mich	Anderson & Ellsworth 2608 N Woodward Royal Oak	313 JO 6-7171
NC	Lee Tld Bethania	924-8245
GB	Torvac Ltd Histon Cambridge	HIS 646
Swit	Fratelli-Kraus Box 31 Lugano-Cassarate	

BRADY CO, W H 727 W GLENDALE AVE MILWAUKEE
WIS 53201 TWX 910-262-3151 .... 414 332-8100
P VIENOT ENG 11
ADV PG 725

Cal	W H Brady Co 301 E Regent St Inglewood	213 678-4181
Colo	W H Brady Co 2785 N Speer Blvd Denver	303-455-6232
Conn	W H Brady Co 119 Ann St Hartford	203 247-1283
Fla	W H Brady Co 32A Western Union Bldg Tampa	813 229-8830
Ga	W H Brady Co 2793a Clairmont Rd N E Atlanta	404 636-5581
Ill	W H Brady Co 3158 Des Plaines Ave Des Plaines	312 622-2731
Ind	W H Brady Co 2525 E 38 St Indianapolis	317-545-5500
Mass	W H Brady Co 375 Moody St Waltham	617-893-8390
Mich	W H Brady Co 11000 W Mc Nichols Rd Detroit	313-862-2204
Minn	W H Brady Co 4522 Excelsior Blvd Minneapolis	612 926-4666
Mo	W H Brady Co 9313 Manchester Ave St Louis	314-968-0777
NJ	W H Brady Co 968 Stuyvesant Ave Union	201-687-4910
NY	W H Brady Co 3001 James St Syracuse	315-422-1956
NC	W H Brady Co 2201 Park Rd Charlotte	704-333-0928
Ohio	W H Brady Co 2111 S Green Rd Cleveland	216 382-5090
Pa	W H Brady Co 523 Bethlehem Pike Phila	215-242-0616
Tenn	W H Brady Co 3294 Poplar Ave Memphis	901 452-2640
Tex	W H Brady Co 5526 Dyer St Dallas	214-363-3710
Va	W H Brady Co 2523 Wilson Blvd Arlington	703-524-4868
Wash	W H Brady Co 11520 Lake City Way N E Seattle	206 364-8740

BRAININ CORP 312 WASHINGTON ST MT VERNON
NY 10553 914-668-5500
G SPRIGGS EMP 125 ENG 4 $5,000-$10,000M

BRAMCO CONTROLS DIV LEDEX INC
540 COLLEGE ST PIQUA OHIO 45356 ... 513 773-8271
D HAYNES EMP 63 ENG 5 $500-$1,000M

Cal	O'Donnell Assoc 18053 Crenshaw Blvd Torrance	323-9243
Cal	O'Donnell Assoc 1955B El Camino Real Palo Alto	327-9260
Fla	W Ben Wimberly Co 500 S Osceola St Orlando	425-3083
Fla	W Ben Wimberly Co 532 S Fort Harrison Ave Clearwater	446-7072
Ill	Bierhaus Sales, Inc 1013 E 31st St LaGrange Park	354-5100
Mass	K C Stevens & Co Box 24 Lexington	862-1812
Mich	R C Nordstrom & Co Box 32 Lathrup Village	444-4417
Minn	T H Ayre Assoc 5509 Eden Prairie Rd Minnetonka	935-2191
Mo	Automatic Gen Elect Sales Inc 6550-E Troost Ave Kansas City	333-8206
NY	L P Garner & Assoc Box 56 Liverpool	652-7911
NY	Bittan Assoc, Inc 381 Sunrise Hwy Lynbrook	593-3833
NC	A B Andrews Co Box 2627 Raleigh	833-5565
Ohio	Dynel Co Box 7, Centerville Br Dayton	434-6467
Pa	Russell F Clark Co 10517 Lindberg Ave Pittsburgh	242-9500
Pa	Victor S Malta Box 4007 Philadelphia	836-5122
Tex	Automatic Gen Elect Sales, Inc Box 1006 Richardson	235-3577

BRAM METALLURGICAL CHEMICAL CO
245 W CHELTEN AVE PHILADELPHIA
PA 19144 .... 215 GE 8-4900
H BRAM EMP 24 ENG 2 $100-$250M

Mo	J C Culver Co 39th & Main St Kansas City	WE 1-2288

BRANDENBURG LTD 139 SANDERSTEAD RD
SOUTH CROYDON SURREY U K 01-657-0225
A WILKINSON EMP 80 ENG 8 $500-$1,000M

BRAND-REX DIV AMER ENKA CORP BOX 498
WILLIMANTIC CONN 06226
TWX 710-440-2247 .... 203 423-7771
M WALKER EMP 900 ENG 20 OVER $10,000M

Ariz	Bruce Kinkner Assoc 2746 W Palm La Phoenix	272-7141
Cal	Brand-Rex Div 355 W Olive Ave Sunnyvale	245-3564
Cal	Brand-Rex Div 18001 E 4th St Tustin	838-9100
Colo	Robert Maich Co 300 E Hampden Ave Englewood	781-7909
Conn	R H Robinson Co Box 368 South Coventry	742-7323
Fla	Repco Sales Co Box 38-1164 Miami	757-2911
Ga	Emmett Rushin Co Box 486 Roswell	993-6498
Ill	Brand-Rex Div 615 Milwaukee Ave Des Plaines	729-5600
La	Plastic Glass Prods Co Box 10004 New Orleans	866-7549
Md	J A Maguire & Co 5716 York Rd Baltimore	ID 3-2613
Mass	R H Robinson Co 1420 Providence Hwy Norwood	762-3511
Mass	Brand-Rex Div 88 Orange St Clinton	365-4093
Mich	Nelson J Clark Box 8569 Kensington Sta Detroit	TU 5-1723
Minn	Hamilton, Grayden & Flemmer Hamilton Rd Hopkins	941-1120
Mo	Arthur Williams Co 9216 Clayton Rd St Louis	WY 3-2578
NJ	J A Maguire & Co 726 Cooper St Camden	WO 6-3118
NJ	J A Maguire & Co 705 Park Ave Plainfield	754-6400
NY	Brand-Rex Div 700 East Water St Syracuse	474-8281
NY	Brand-Rex Div 530 Fifth Ave New York	661-6600
NY	Thomas A Marden Box 83 Fayetteville	446-9280
NY	Brand-Rex Div 23 E Market St Red Hook	758-8060
NY	Newman Assoc Box 2 Woodbury	694-8690
NC	Brand-Rex Div Box 6094 Greensboro	288-1621
Ohio	Clark Sales Co 3570 Warrensville Center Rd Cleveland	991-2000
Ohio	Brand-Rex Div 16830 Park Circle Dr Chagrin Falls	543-9848
Ore	Brand-Rex Div 14025 SW Farmington Rd Beaverton	227-1151
Pa	Brand-Rex Div 345 Mt Lebanon Blvd Pittsburgh	531-1466
Tenn	Brand-Rex Div 2908 Walker Ave Memphis	452-9596
Tex	Brand-Rex Div 6434 Maple Ave Dallas	358-4691
Wash	Brand-Rex Div 18041 Bothell Way NE Bothell	486-0750
Wis	Brand-Rex Div Box 266 North Prairie	392-2311
Can	Samuel C Hooker (Can) Ltd 144 Ronald Dr Montreal, Que	HU 8-9114
Can	Samuel C Hooker (Can) Ltd 2602 St Clair Ave, W Toronto, Ont	767-7725
For	Brand-Rex Div 1010 Schaff Bldg Phila, Pa	564-4020
For	L T Gandia Box 3688 GPO San Juan PR	725-3473

BRANSON CORP VANDERHOOF AVE DENVILLE
N J 07834 TWX 710-987-8466 .... 201 625-0600
P SOPKO EMP 120 ENG 4 $1,000-$2,500M

Cal	Elsner-Rambo Co 2526 Hypersion Ave Los Angeles	NO 4-2928
Conn	Charles K Barton Assoc 343 New London Tpk Glastonbury	633-9417
Fla	Perrott Assoc 1607 Forsyth Rd Orlando	275-1132
Kan	Penzner Assoc Inc Box 4362 Overland Park	DU 1-0004
Mass	C K Barton Assoc 345 Auburn St Auburndale	DE 2-2021
Mo	Penzner Assoc Inc Box 1912, Bechtold Sta St Louis	CH 1-4385
NY	Kahgan Sales Corp 1261 Broadway New York	MU 4-7772
Ohio	Mulligan & Mathias Co 2011 Riverside Dr Columbus	486-2267
Pa	Danco Corp Fairview Village	BR 5-2600
Tex	Braden Engineering Co 2646 Andjon Dr Dallas	FL 2-4626
Can	Bayley-Milley, Ltd 8 Taber Rd Rexdale, Ont	244-5511

BRANSON EQUIPMENT DIV 51 TERMINAL AVE
CLARK N J 07066 .... 201 388-8600
R HARVEY EMP 36 ENG 2 $2,500-$5,000M

Ariz	H C Torrey Assoc 811 W Linger Lane Phoenix	944-0352
Cal	Branson Instru, Inc 5925 Noble Ave Van Nuys	785-8655
Colo	Crump Co 1971 W 12th Ave Denver	534-5183
Conn	Ultra-Clean Inc 378 Boston Post Rd Orange	795-5075
Fla	MacGregor Assoc 1817 Fox Circle Clearwater	446-7310
Haw	Thom Equipment Co 502 Kaaahi St Honolulu	59136
Ill	Branson Instru, Inc 2510 Dempster St Des Plaines	824-7175
Ky	Grover Equip Co 4411 Louisville Ave Louisville	363-5032
Md	Branson Instr Inc 7880 Coolridge Dr Camp Springs	449-7300
Mass	Branson Instruments, Inc Box 164 Hathorne	774-3215
Mich	Branson Instruments, Inc 177 W Big Beaver Troy	689-0070
Minn	McGee Engineering 2016 N Herschel St Paul	644-2767
Mo	Branson Instruments, Inc 1339 Brenthaven La Florissant	831-0030
Neb	Midwest Micronics 933 Meadow Rd Omaha	342-1616
NJ	Branson Instruments, Inc 19 Main Ave Clifton	667-7400
NY	Ultra-Clean Inc Box 326 Liverpool	457-5977
NC	Branson Instruments, Inc 1173 Commercial Ave Charlotte	332-7904
Ohio	Branson Instr Inc 4726 S Dixie Dr Dayton	298-0129
Pa	R L Holliday Co 525 McNeilly Rd Pittsburgh	561-7620
Tex	Production Engrg Sales Org 5526 Dyer Dallas	369-3181
Wis	Jack Gidley & Assoc 4893 N Green Bay Ave Milwaukee	374-7020
Can	Branson Instruments, Inc 125 Midwest Rd Scarborough Ont	751-8565
Neth	Branson-Europa Energieweg 2 Box9 Soest Neth	

BRANSON INSTRUMENTS CO PROGRESS DR
STAMFORD CONN 06904
TWX 710 474-0893 .... 203 324-6721
K HAYES EMP 500 ENG 25 OVER $10,000M

Cal	Branson Los Angeles 5925 Nobel Ave Van Nuys	213 785-8655
Cal	Branson San Francisco 4109 El Camino Way Palo Alto	415 328-2030
Ill	Branson Chicago 2510 Dempster St Des Plaines	312 824-7175
Md	Branson Washington 7880 Coolriage Dr Camp Springs	301 449-7300
Mass	Branson-New England 500 Maple St Hathorne	617 774-3215
Mich	Branson Detroit 177 W Big Beaver Troy	313 689-0070
Mo	Branson-St Louis 1339 Brenthaven La Florissant	314 831-0030
NJ	Branson Metropolitan 19 Main Ave Clifton	201 667-7400
NC	Branson-Carolinas 1149 Commercial Ave Charlotte	704 332-7904
NC	Branson-Carolinas 3011 Mornstar Pl Greensboro	918 292-5907
Ohio	Branson-Dayton 4726 Dixie Dr Dayton	513 298-0129
Can	Branson Canada 139 Bond Ave Don Mills	416 444-4512
Neth	Branson Europa Box 9 Soest Netherlands	

BRANSON SONIC POWER CO EAGLE RD DANBURY
CONN 06810 TWX 710-456-0452 ...... 203 744-0760
D KOLB EMP 112 ENG 12

Cal	Branson Sonic Power 1119 S Central Ave Glendale	213 247-1520
Colo	Crump Co 1971 W 12th Ave Denver	303-534-5183
Conn	Branson Sonic Power 9 Oak Ledge La Wilton	203 762-8492
Fla	MacGregor Assoc Box 1711 Clearwater	813 446-7310
Ga	MacGregor Assoc Box 327 Liburn	404 938-0681
Ill	Branson Sonic Power 2510 Dempster St Des Plaines	312 296-6141
Ky	Grover Equipment Co Box 21101 Standiford Sta Louisville	502 363-5032
Mass	Branson Sonic Power 254 Elliot St Beverly	617 927-3466
Mich	Branson Sonic Power 177 West Big Beaver Troy	313 689-4360
Minn	McGee Engineering Co 2016 N Herschel St Paul	612 644-2767
Neb	Midwest Micronics 933 Meadow Rd Omaha	402 342-1616
NJ	Branson Sonic Power 530 Main St Fort Lee	201 947-5702
NY	Branson Sonic Power 24 Jordan St Skaneateles	315 685-6045
NC	MacGregor Assoc 2501 Starbrook Dr Charlotte	704 366-9440
Ore	Muro Co 7538 NE Glisan St Portland	503 775-3535
Tex	I P Newby & Assoc 6211 Denton Dr Dallas	214 357-8354
Wash	Muro Co 11726 Aurora Ave Seattle	206 363-3100
Wis	Jack Gidley & Assoc 4893 N Green Bay Ave Milwaukee	414 374-7020
Can	Branson Sonic Power 2220 Midland Ave Scarborough Ont	416-291-7919
GB	Dawe Instruments, Ltd Concord Rd Acton W-3 London	
Swit	Branson Instr S A 14 Ave Industrielle 1227 Carouge Geneva	
Mex	Polimeros Plasticos SA Ave Ejercito Natl Despacho 105 Mexico City	45-80-20
Aust	Consolidated Ultrasonic Pty 12 Burnly Ave Turramurra NSW	

BRAUN TOOL & INSTRUMENT CO INC, H
140 FIFTH AVE HAWTHORNE N J 07507
TWX 710-988-4136 .... 201 427-1773
R BODERCK EMP 65 ENG 4 $500-$1,000M
ADV PG 59

Cal	Tech-Sources Unld 2104 Magnolia Blvd Burbank	213-VI-9-6863
Conn	C K Barton Assoc 343 New London Tpk Glastonbury	203-633-9417
Ill	Brock & Cushman Inc 6156 W Grand Ave Chicago	312-622-4110
Mass	R E Caron Sr 345 Auburn St Auburndale	617-332-2021
Mo	A Doran 200 N Meramec Clayton	PA 5-3377

BREEZE CORPS INC 700 LIBERTY AVE UNION
N J 07083 TWX 1-25558 201-686-4000
A CROSSEN EMP 350 ENG 40 $5,000-$10,000M

Cal	Components Corp 232 N Lake Ave Pasadena	MU 1-7448
NC	W K Hile Co Inc Box 325 Matthews	
Tex	C P Waggoner Co 233 SE 14th St Grand Prairie	AN 4-1601
Wash	Martin Poggi Co 845 106th St NE Bellevue	GL 4-2026
Can	Aviquipo of Canada Ltd Montreal Int'l Arpt Dorval, Que	631-3504

BRELONIX INC 106 N 36TH ST SEATTLE
WASH 98103 ....206 ME 3-1964
H BLAKE EMP 14 ENG 3 UP TO $100M

BREVEL PRODUCTS CORP BROAD & 16TH ST
CARLSTADT N J 07072 ....201 933-0220
R SOMAN EMP 500 ENG 12 $5,000-$10,000M
Cal Electric Motor Engrg 6515 Sunset Blvd
Los Angeles HO-9-7393
Ill Jerry Golten Sales 4319 W Irving Park Rd
Chicago 312-725-7870

BREW & CO INC, RICHARD D 90 AIRPORT RD
CONCORD N H 03301 ....603 225-6605
R FICKETT EMP 75 ENG 12 $500-$1,000M
Cal Fieldtec 3822 Campus Dr Newport Beach . . .860-4000
Cal Long & Assoc, Inc 505 Middlefield Rd
Redwood City 369-3324
NY Ad Auriema Inc 85 Broad St New York 269-7750
Wash Eustis Co Inc 69 Marion St Seattle 623-7060

BRIDGEPORT INSULATED WIRE CO
51 BROOKFIELD AVE BRIDGEPORT
CONN 06610 ....203 333-3191
R PELLETIER EMP 70 ENG 1 $1,000-$2,500M
Cal R Moye 244 Milton Dr San Gabriel 282-7117
Cal Advance Electrical Sales 850 Montgomery La
San Carlos 591-9651
Conn C O Pfannkuch 935 White Plaines Rd
Trumbull 268-4950
Fla Barrett Assoc Box 14205 Orlando 277-2857
Mich Plus Sales Co box 9696 Bay Village
NJ Ned Krouse Box 34 Marlton 424-3543
NY Wm Franklin Sales 2 Standish Terr
Syracuse 446-2246
WVa Andrews & Andrews Sales 140 E Main St
Huntington 427-1313

BRIGHT INDUSTRIES INC 1 MARITIME PLAZA
SAN FRANCISCO CAL 94111 415-421-6664
D NEWTON EMP 200 ENG 30 $2,500-$5,000M

BRIGHT STAR INDUSTRIES INC 600 GETTY AVE
CLIFTON N J 07015 ....201 772-3200
P BARNTHOUSE EMP 450 ENG 20
$5,000-$10,000M
Cal Bright Star Industries 1355 Market St
San Francisco ....MA 1-3956
Ga Bright Star Industries 171 Simpson St NW
Atlanta 688-3191
Ill Bright Star Industries 445 N Lakeshore Dr
Chicago 321-0148
Tex Bright Star Industries 1317 Motor St
Dallas 638-6633

BRILMAYER LABS INC, E W 111 CALVERT ST
HARRISON NY 10528 ....914 PE 85115
J BRILMAYER EMP 4 ENG 2 $100-$250M

BRINKMANN INSTRUMENTS INC CANTIAGUE RD
WESTBURY N Y 11590
TWX 510-222-8254 ....516 334-7500
J BROWN EMP 100 ENG 10 $5,000-$10,000M
Cal Brinkmann Instr, Inc 841 Hinckley Rd
Burlingame 375-3888
Ill Brinkmann Instr, Inc 110 River Rd
Des Plaines 297-1700
Md Brinkmann Instr Inc Metropolitan Bldg
Silver Spring 587-1588
Mo Brinkmann Instr Inc 34 N Brentwood Blvd
St Louis 761-0565
Tex Brinkmann Instr Inc 3100 W Alabama
Houston 526-4068

BRISTOL BRASS CO 580 BROAD ST BRISTOL
CONN 06010 ....203 582-3161
P COLEMAN EMP 600

BRISTOL DIV, AMERICAN CHAIN & CABLE CO
BOX 1790 EBG WATERBURY
CONN 06720 ....203 756-4451
H MENGEL EMP 1800
Ala Bristol Co Box 7663 Birmingham 871-6111
Cal Bristol Co 6800 E Acco St Los Angeles 723-9751
Colo Bristol Co 4555 E 46th Ave Denver 388-1661
Conn Bristol Co 1 Park Dr Farmington 677-2839
Del Bristol Co 2008 1/2 Penn Ave Wilmington . .652-3166
Fla Bristol Co 945 Central Ave St Petersburg . . .862-7591
Ga Bristol Co 4579 Lewis Rd Stone Mountain . . .939-2227
Ill Bristol Co 2040 N Hawthorne Ave
Melrose Park 378-8931
Ind Bristol Co 4002 Meadows Dr Indianapolis . . .547-2022
La Bristol Co 3414 Hessmer Ave Metairie 888-2041
Md Bristol Co 320 Hillen Rd Baltimore 825-6466
Mass Bristol Co 137 California St Newton 244-6281
Mich Bristol Co 15769 Wyoming Detroit 864-4284
Minn Bristol Co 7100 France Ave Mnpls 920-3222
Mo Bristol Co 1750 S Brentwood Blvd St Louis .961-1113
NJ Bristol Co 420 Morris Ave Springfield .....DR 6-3810
NY Bristol Co 4446 Main St Buffalo 839-1483
NY Bristol Co 230 Park Ave New York 686-8800
NC Bristol Co 1143D Commercial Ave Charlotte .375-7658
Ohio Bristol Co 20800 Center Ridge Rd Cleveland .333-3915
Okla Bristol Co 5553 E Skelly Dr Tulsa 627-5695
Pa Bristol Co 2250 Nobletown Rd Pittsburgh . . .922-1515
Pa Bristol Co 551 W Lancaster Ave Haverford . .527-0301
Tenn Bristol Co Box 10555 Knoxville 588-3326
Tex Bristol Co 8383 Stemmons Frwy Dallas 637-4510
Tex Bristol Co 3920 Hartsdale Dr Houston 782-2727
Wash Bristol Co 101 Jones Bldg Seattle ....MA 3-3361
Wis Bristol Co 5594 N Hollywood Ave Milwaukee .962-4710

BRISTOL MOTORS-TIMER DIV VOCALINE CORP OF
AMER INC COULTER ST OLD SAYBROOK
CONN 06475 ....203 388-3414
G WILLIS EMP 100 ENG 10
Cal C E Mello 406 S Main St Los Angeles . . . . .MA 6-9159
Cal W I Carson & Assoc 124 El Camino Real
San Carlos 593-4262
Conn Sales Engineering Co Baker Ave
West Concord 247-4015
Fla Steele Technical Sales 2106 Woodcrest Dr
Winter Park ....MI 7-1304
Ill Jerry Golten Co 4319 W Irving Park Rd
Chicago 725-7870
Mass Sales Engineering Co Baker Ave, Box 7
W Concord ....EM 9-3943
Minn Jos-Co Sales 6621 Southcrest Dr
Minneapolis 927-5858
Mo Wells-White 7607 Page Blvd St Louis . . . . .PA 6-2511
Mo Wells White 1965 Colony La Independence .SY-6-4333
NJ Grimm Siegel Assoc 246 Clifton Ave
Clifton 201-PR-3-5010
NJ Boenecke-Hile Inc Box 325
Haddonfield 609-429-7449
NY Grimm Siegel Assoc 246 Clifton Ave
Clifton NJ 212-LO-5-1764
NY Canavan Scanlon Assoc 23 Eastern Ave
Syracuse 463-9161
NY Canavan Scanlon Assoc Box 39 Fishers 924-3266
NC Robert W Chapman & Co Box 4430
Charlotte 375-4495
Ohio Technical Assoc Inc Box 388 Fairborn 878-2484
Tenn Automated Design & Devel Co Box 3701
Nashville 832-8851
Tex Koch Engineering & Sales 309 Meadows Bldg
Dallas 369-5136
Can Burlec Sales Ltd 1179 Decarie Blvd
Montreal 9, Que 744-0165
Can Burlec Sales Ltd 125 Nantucket Blvd
Scarborough, Ont 757-5151
For R I Mendels Co 21 Gray Oaks Ave Yonkers . .965-4210
GB Appliance Conponents Ltd
Martin Rd, Cordwallis Ind Est
Maidenhead, Berk

BRITISH RADIO ELECTRONICS (BREL)
1742 WISCONSIN AVE N W WASHINGTON
D C 20007 ....202 338-1520
R KINEK EMP 6 ENG 1 $100-$250M
Cal Southwest Scientific Co 912 Marguerita Ave
Santa Monica 213-870-8332
Fla Wm J Irvine Co 1641 Santa Barbara Dr
Dunedin 813-733-5382

BROADCAST ELECTRONICS INC
8810 BROOKVILLE RD SILVER SPRING
MD 20910 ....301 588-4983
J NEFF EMP 36 ENG 3 $1,000-$2,500M

BRONSON CORP, SUB KURZ & ROOT CO
1000 N MEADE ST APPLETON
WISC 54911 ....414 RE 3-6641
W MEYER EMP 60 ENG 4 $100-$250M

BROOKFIELD ENGINEERING LABS INC
240 CUSHING ST STOUGHTON
MASS 02072 ....617 344-4310
L DI CORPO EMP 100 ENG 7

BROOKFIELD WIRE CO INC BOX 248 BROOKFIELD
MASS 01506 TWX 617 867-6534 ......617 867-6474
J HARRINGTON EMP 100 ENG 1 $2,500-$5,000M

BROOKS INSTRUMENT DIV 407 W VINE ST
HATFIELD PA 19440 TWX 83-4211 .....215 368-2000
H WEBSTER EMP 544 ENG 23 $250-$500M
Ala Frank A Thomas Co Box 6415 Mobile 471-1593
Ariz J T Aldrich Co Box 1299 Scottsdale 945-8598
Cal Brooks Instr Div 3106 W Beverly Blvd
Montebello 685-5980
Colo James B Drummond 3021 S Broadway
Englewood 789-2281
Del Brooks Instr Div 1501-C N Broom St
Wilmington ....OL 5-2382
Fla Le Roy Rogers Co 110 Sea Island La
Boca Raton 395-7922
Ga Stallings, Inc 4220 Pleasantdale Rd Atlanta .451-2391
Haw Berkley Eng & Equip Co Box 3856 Honolulu . .581-921
Ill Brooks Instrument Div 2510 Dempster St
Des Plaines 824-0105
Ind Booth/Spearing Corp 5335 W Raymond St
Indianapolis 244-7819
Iowa Miller & Morse Co Inc Des Moines 243-4287
Ky Allan K Cook Co 1244 4th St Louisville 635-6316
La Petro Chem Equipment Box 358
Baton Rouge 348-7593
Md Brooks Instr Div 621 York Rd Towson 828-5422
Mass King Gage Engineering Corp 33 Trowbridge St
Newton Ctr ....BI 4-7200
Mich Smith Instr Grand Rapids Corp 3011 Madison SE
Grand Rapids 245-2259
Minn G R Mellema Co 3430 Nicollet Ave
Minneapolis 827-2616
Mo Brooks Instr Div 10135 Manchester Rd
St Louis 966-6366
NJ Brooks Instrument Div 121 Cedar La
Teaneck ....No 1-1188
NY O R Lawrence Co 4446 Main St Buffalo . . .TF 9-4422
NC Robert S Hudgins Co Box 17217 Charlotte . .366-4887
Ohio Brooks Instrument Div 6500 Pearl Rd
Cleveland 884-7036
Okla Ernie Graves Co 201 S Houston Tulsa .....LU 4-4708
Ore Branom Inst Co 6019 NE Union Ave
Portland ....BU 5-5205
Pa John F Kraus & Co 345 Mt Lebanon Blvd
Pittsburgh 531-1200
SC Robert S Hudgins Co Box 8254 Greenville . .CE 2-7025
Tenn Janis Equipment Co 4711 Poplar Ave
Memphis ....MU 3-1511
Tex Gay Eng & Sales Co Box 8414 Dallas .....EM 8-2325
Va Dynamation Inc Box 3191 Richmond 272-5001
Wash Branom Inst Co 2137 Second Ave Seattle .MA 2-7320
WVa Process Inst & Equip Co Inc Box 2428
Charleston ....DI 2-2151
Wis Chipley & Jensen Inc 3500 N Sherman Blvd
Milwaukee ....HI 2-8170
Can Industrial Suppliers Ltd 13 Waddell St
Dartmouth, NS 466-2461
Can Mechanical Valve & Eng Spec Ltd 184 Henry Ave
Winnipeg ....WH 2-1912
Can Brooks Instrument Div 3300 Cavendish Blvd
Montreal 482-9121
Can Brooks Instrument Div Box 150 Markham . .297-1030
For M R Franceschini Box 13696 Santurce, P R .723-4511
BC Proval Equipment Ltd 550 Beatty St
Vancouver 684-7571
Mex Servo-Mex SA Aptdo 6-873 Mexico City . . .25-50-10

BROOKS INSTRUMENT DIV EMERSON ELEC
CANADA LTD BOX 150 MARKHAM ONT
L CONNOLLY
Can Brooks Inst Div 3300 Cavendish Blvd
Montreal 514-482-9121

BROOKS & PERKINS INC 1950 W FORT ST DETROIT
MICH 48216 TWX 810 221-5181 ....313 259-1900
G CLELAND EMP 472 ENG 30 OVER $10,000M
Cal T H Foraker Box 1356 Torrance 213 375-5081
Conn H P Dunne Box 568 New Canaan 203 966-0070
Wis J H Yeager 550 Elizabeth Waukesha . .414-271-1427

BROOMER RESEARCH CORP 23 SHEER PLAZA
PLAINVIEW N Y 11803 ....516 249-1544
M BROOMER EMP 14 ENG 10 $250-$500M

BROWER LABS INC 237 RIVERVIEW AV WALTHAM
MASS 02154 ....617 899-6515
W ERAMO EMP 17 ENG 2
Cal Griot Assoc 3002 Midvale Av
Los Angeles 213-474-1587
Conn Northeast Assoc 516 Pepper Ridge Rd
Stamford 202-329-0012
Ill Brooks Eng Co 227 E Walton Pl
Chicago 312-944-1227
Mass Northeast Assoc Box 31 Marblehead . .617-595-1000
Minn Brooks Eng Co Box 60 Stillwater 612-439-7222
NJ E C Smith & Co 797 Springfield Av
Summit 201-273-8881
NY Barnett Assoc 40 Aberdeen Rd
Hauppauge 516-724-0202
Pa C E Snow Co 258 N Main St Ambler . . .215-646-9451
Va Duskin Assoc 1007 Mountfort Ct SW
Vienna 703-281-3638

BROWN-BRIDGE MILLS INC E WATER ST TROY
OHIO 45373 TWX 810-456-2902 ....513 332-1266
J WILT EMP 180 ENG 2 $5,000-$10,000M
Cal Brown-Bridge Mills Inc 420 Market St
San Francisco ....YU 2-2665
Ill Brown-Bridge Mills Inc 175 W Jackson Blvd
Chicago ....WA 2-6759
Mo Brown-Bridge Mills Inc 4378 Lindell Blvd
St Louis ....FR 1-4942
NY Brown-Bridge Mills Inc 6 E 45th St
New York ....MU 7-0320
Pa Brown-Bridge Mills Inc 215 Ford Rd
Bala Cynwyd ....GR 7-8855

BROWN ENGINEERING-A TELEDYNE CO
300 SPARKMAN DR MS 050 HUNTSVILLE
ALA 35807 TWX 810 726-2103 ....205 532-1425
D BODEKER EMP 3600 ENG 1100
OVER $10,000M
Cal QPL Inc 1015 Fremont Ave
South Pasedena 213-682-3705
Colo Hilleary Assoc 2552 Ridge Rd Littleton .303-794-4279
DC Sigma Software & Tech Inc 4600 Duke St
Alexandria Va 703-751-8800
Fla Gra-Mar, Inc 3113 Lawton Rd Orlando .305 423-2159
Mich Walt Mullins & Assoc Box 5006
Dearborn 313-563-3340
Mo F R Krabbe Box 776 Bridgeton 314-739-6817
NM Hilleary Assoc 311 Washington SE
Albuquerque 505-265-7631
NY L-Tron Corp Box 147 Skaneateles 685-6172
Pa R T Pearson Sales Inc 1125 York Rd
Abington 215-887-0186
Tex Hilleary Assoc 8888 Dyer El Paso 915-751-5491
Wash Brennan Assoc 208 Carlson Bldg
Seattle 206-454-9332

BROWN MFG CO 2000 DEMPSTER ST EVANSTON
ILL 60204 ....312 869-8800
E TAX EMP 200 ENG 20
Cal Brown Mfg Co 3865 Grandview Blvd
Los Angeles 213 870-5420
DC Brown Mfg Co 4380 MacArthur Blvd
Washington 202 337-5557
NJ Brown Mfg Co 264 US Hwy 46 Fairfield . 201 227-2188

B & R RELAYS LTD TEMPLEFIELDS HARLOW
ESSEX ENGLAND HAR-26231
K DURANT EMP 320 ENG 35 $2,500-$5,000M

BRUCE DIAMOND CORP LOWER COUNTY ST
ATTLEBORO MASS 02703 ....617 222-3755
R PULESTON EMP 100 ENG 3 $1,000-$2,500M
Neth A Pelger Boskampsbrugweg Havolte

BRUCE INDUSTRIES INC 1528 W 178TH ST
GARDENA CAL 90247 ....213 321-2677
O HUFFMAN EMP 52 ENG 3 $500-$1,000M
Ariz Henry Sales 15 N 40th Pl Phoenix 275-5411
NY Podeyn-Schmidt 420 Northern Blvd
Great Neck ....HU 7-1173
Pa Gray-Williams Assoc 18 Washington Ave
Haddonfield 429-5300
Tex Geo Weinreich & Assoc 11554 E Northwest Hwy
Dallas 321-2800
Wash James Findlay Co 10237 Main St Bellevue . .454-5200

BRULIN & CO INC 2920 MARTINDALE AVE
INDIANAPOLIS IND 46205 ....317 923-3211
F MONTOVANI EMP 65 ENG 3

BRUNSWICK INSTRUMENTS BOX 813
NEW BRUNSWICK N J 08903 ....201 CH 7-5919
E HORODNER EMP 2 ENG 1 UP TO $100M

BRUSH BERYLLIUM CO 17876 ST CLAIR AVE
CLEVELAND OHIO 44110
TWX 810 421-8826 ... 216 486-4200
H PIPER EMP 1043 OVER $10,000M
Cal Brush Beryllium Co 14450 Hindry Ave
Los Angeles ... 213-679-3634
Conn Brush Beryllium Co 357 E Center St
Manchester ... 643-0600
Ill Penn Precision Prods Inc 1001 Rohlwing Rd
Rolling Meadows ... 392-8880
Mich Brush Beryllium Co 3516 Cadieux Rd
Detroit ... 886-0900
NJ Brush Beryllium Co 5 Just Rd Fairfield ... 212 267-0339
Ohio Brush Beryllium Co Talbott Tower Dayton ... 228-6021
Pa Brush Beryllium Co 201 Penns Center Blvd
Pittsburgh ... 271-6669
Tex Brush Beryllium Blanton Tower Dallas ... 358-4595
GB Brush Beryllium Ltd Reading England

BRYANT COMPUTER PRODUCTS 850 LADD RD
WALLED LAKE MICH 48088
TWX 810 232-1550 ... 313 624-4571
W SIEBERT EMP 600 ENG 68
Ariz Hytronic Measurements 1017 N 3rd St
Phoenix ... 253-6104
Cal E Hagenbuch 1310 Bayshore Hwy
Burlingame ... 347-7095
Colo Hytronic Measurements 4940 E 39th Ave
Denver ... 388-4081
Fla Currie Aerospace Assoc Box 13239 Orlando ... 855-0843
Mass R A DeMattio 21 A Muzzey Lexington ... 862-1221
NM Hytronic Measurements 205 San Pablo SE
Albuquerque ... 268-3941
Pa John G Rohr 510 Penna Ave
Fort Washington ... 646-7416
Tex Carey-Wolf Box 12425 Fort Worth ... 738-1702
Utah Hytronic Measurements 2022 S Main
Salt Lake City ... 466-4924
Va Gans Fryling Inc 2030 16th St N Arlington ... 527-3262
Wash Thorson Co 1767 15th Ave S Seattle ... 325-5000
Can Communication Systems Inc 335 Catherine St
Ottawa ... 235-8700
Ger G Warta Darmstadterst 21
Reinheim ODW 6101 ... 06162-200
GB Munzig Intl Inc McGraw-Hill House
Maidenhead Berks ... MAI 20260
Neth K Austin 138/139 Schiphol Airpt
Amsterdam ... 73-79-12
Jap Munzig Intl Japan Inc
15-1 1-Chome Nishi-Shimbashi
Minato-ku Tokyo ... 503-4751
Isrl Stg Intl Ltd 52 Nachlat Benyamin St Tel Aviv

BRYS INSTRUMENT CORP 7026 SIXTH AVE
BROOKLYN N Y 11209 ... 212 BE 80305
A THOMPSON EMP 8 ENG 2 $100-$250M
Ohio

BTU ENGINEERING CORP BEAR HILL RD WALTHAM
MASS 02154 ... 617 894-6050
D BARRY EMP 150 ENG 10 $2,500-$5,000M
Ariz Engineering Sales Assoc Box 544
Scottsdale ... 602-945-5781
Cal Weightman & Assoc 120 Santa Margarita
Menlo Park ... 325-2885
Ill BTU Engrg Corp 2400 Greenfield Dr
Glenview ... 312-729-6707
Kan Mid-American Mktg Box 3423
Merriam ... 913-432-8678
NJ BTU Engrg Corp 46 Tremont Pl Montclair
NY Watmet Inc 290 Larkin St Buffalo ... 716 852-3057
Ohio R G Sidnell & Co 14701 Detroit Ave
Cleveland ... 216-221-1313
Tex Teamwork Inc 2646 Andjon Dallas ... 214 352-7747
Wash Larrabee & Assoc 2127 First Ave
Seattle ... 206-623-2521
Wis Industrial Heating & Controls 8926 N 91st St
Milwaukee ... 414 354-8335
Can Waters Metal Products Box 492
Fonthill Ont ... 716-852-3057
Fr BFI Electronique S A R L 52 Ave de New York
Paris 16 E ... KLE 6969
Ger BFI Elektronik GMBH Hainerweg 26/28
6 Frankfurt am Main ... 616099
GB BTU Engineering Corp 42 Queens Rd
Farnborough Hants ... 46264
Ital BFI Elettronica S P A via Ferruccio 6
20195 Milano ... 316716
Jap Hakuto & Co Ltd Box 25 Tokyo ... 501-3160
Isrl Talviton Box 3282 Tel-Aviv ... 236666

BUCHANAN ELECTRICAL PRODUCTS CORP
1065 FLORAL AVE UNION NJ 07083 ... 201 289-8200
P VANCE EMP 200 ENG 18 $5,000-$10,000M
Ala James E Heusser 620 Sundale Dr
Birmingham ... 836-3896
Ariz Norman F Ross 4227 N 68th St
Scottsdale ... WH 5-7262
Cal Peter Jasin 3506 Skylark Dr Concord ... 686-0905
Cal H C Van Ysselkyk 412 Seaton St
Los Angeles ... MA 9-3855
Cal Bill Green 4533 F W Imperial Hwy
Inglewood ... 678-2446
Colo Paul A Douden Co 1645 Wazee St Denver ... 534-6798
Fla Belcher & Assoc Inc 8751 Atlantic Blvd
Jacksonville ... RA 4-7811
Fla Belcher & Assoc Inc Box 7567-Ludlam Br
Miami ... FR 1-1700
Fla Belcher & Assoc Inc 1900 1st Ave N
St Petersburg ... 862-7575
Ga Jack H Awtry 34 Peachtree St NW Atlanta ... 525-4221
Haw William E Niven 1168 Waimanu St Honolulu ... 512644
Ill Donald E Andersen 799 Roosevelt Rd
Glen Ellyn ... 469-7805
Ill Harry Dale 600 W Jackson Blvd Chicago ... 332-0080
Ind William E Jobes 1010 E 86th St Indpls ... 846-0390
Ky A L Pickens Co 614 Club La Louisville ... 583-3636
La Strickland Assoc Box 5081 Shreveport ... 861-6834
Md A D Wilson 508 St Paul St Baltimore ... SA 7-1424
Mass Harold Standish 3 Wilson Dr Framingham ... 879-1220
Mich Linder Assoc 24454 Telegraph Rd
Southfield ... 353-4334
Minn Lee-Noonan Co 4575 W 77th St
Minneapolis ... 920-7851
Miss William L Strickland 152 Chippewa Circle
Jackson ... EM 6-6195
Mo Martin Electrical Sales 136 W Adams St
Kirkwood ... YO 6-8659
Mo Charles L Arehart 6621 Sterling Raytown ... FL 6-3488
Neb Ed Taber & Sons 3240 S 31st St Lincoln ... 423-4420
NJ William J Waldron 15 Pond Hill Rd
Morristown ... 538-5607
NJ E Pucilowski 1065 Floral Ave Union ... 289-8200
NM Tom Deskin Box 808 Albuquerque ... CH 2-3581
NY A C Schultz 2095 Kensington Ave Buffalo ... 839-1010
NY McKay-Burgoyne Assoc 110 Vesey St
Newark NJ ... 201-624-6526
NY K Todd 949 Palmer Rd Bronxville ... FA 4-5466
NY McKay-Burgoyne Assoc New York ... 212-532-9796
NC C C Niedringhaus Box 424, Rte 1 Matthews ... 847-9288
Ohio Pogue C Sherrill 1117 Lanette Dr Cincinnati ... 231-2217
Ohio Vaughn O'Neill 1090 Homeland Dr Cleveland ... 331-4273
Okla J E Morton & Assoc Box 165 Moore ... SW 4-2157
Ore Martin Gerrard 523 NW Everett St
Portland ... CA 7-0593
Pa William Cusick 1240 Penna Ave Oreland ... 885-3633
Pa Myles F Smith Assoc 2015 Swallow Hill Rd
Pittsburgh ... 276-5363
Tenn Hal Beard 2160 York Ave Memphis ... 274-1744
Tex McIver & Slavin 3200 Audley St Houston ... JA 4-1155
Tex J E Morton 10015 Vistadale Dr Dallas ... 341-1414
Utah Dale Blomquist 328 W 2nd St
Salt Lake City ... 363-3838
Wash Tal Agencies Inc 1043 6th Ave South
Seattle ... MA 4-3355
Wis Andersen Elec Sales 4858 North Idlewood Avenue
Milwaukee ... 332-2948
Can Esna Ltd Box 250 Agincourt Ont ... 293-2431

BUCHLER INSTRUMENTS INC 1327 16TH ST
FORT LEE N J 07024 ... 201-945-1188
D GELFAND EMP 70 ENG 3 $1,000-$2,500M

BUCKBEE-MEARS CO. 245 E 6TH ST ST PAUL
MINN 55101 ... 612 227-6371
A AMUNDSON EMP 600 ENG 15 OVER $10,000M
Cal J F Swisher 14711 Emerywood Rd Tustin ... 827-0241
Cal L J Van Tol Box 600 Cupertino ... 286-0163

BUCKEYE BOBBIN & MFG DIV PREC PAPER TUBE
CO 761 SHARON DR WESTLAKE
OHIO 44091 ... 216 871-9020
G YOUNG EMP 60 ENG 2
Ariz Electrical Specialty Co 120 S 29th St
Phoenix ... 275-5739
Cal Electrical Specialty Co 213 E Harris Ave
S San Francisco ... 589-9611
Colo Electrical Specialty Co 2026 Arapahoe St
Denver ... CH-4-4588
Ill Precision Paper Tube Co 1033 S Noel Ave
Wheeling ... 537-4250
Mass H W Peterson 12 Overbrook Terr Natick ... OL-3-3855
Mo Tanler & Co 7720 E Big Bend Blvd
St Louis ... MI-5-0590
Ore Electrical Specialty Co 2360 NW Quimby St
Portland ... CA-7-3601
Can Anbac Sales Co 3208 Lenworth Dr
Cookesville Ont ... 625-1061
For Man Rep Co Box 130 N Miami Beach Fla ... 949-6391
Mex Gimbel Mexicana SA Av Sonora 170
Mexico 11 DF

BUCKEYE STAMPING CO 555 MARION RD
COLUMBUS OHIO 43207 ... 614 443-9458
R OSBORNE EMP 50 ENG 2 $500-$1,000M
Cal Paul Nurches & Co 2396 E Foothill Blvd
Pasadena ... MU 1-8957
Colo Gordon Moss Elctns Inc Box J Greeley ... 353-1452
Fla Orbe Inc 300 31st St St Petersburg ... 813 894-0687
Ill Wm J Doyle Co 7426 N Western Ave
Chicago ... BR 4-6685
Mass Electronic Components & Serv 611 Trapelo Rd
Waltham ... 894-6921
Minn A J Warner Co 4927 34th Ave Minn ... 612 729-7371
Mo Maury E Bettis Co 3706 Broadway
Kansas City ... LO 1-0772
NY P Saftler Assoc 157 W 57th St New York ... CI 7-3855
Ohio Martech Sales, Inc 814 W Third Ave
Columbus ... 299-4161
Pa Tyler Griffin Co 46 Darby Rd Paoli ... 647-1550

BUDD CO POLYCHEM DIV 70 S CHAPEL ST NEWARK
DEL 19711 TWX 302-737-1057 ... 302 368-0671
D HUTTON EMP 1200 ENG 10 OVER $10,000M
Ariz Shefler-Kahn Co Box 1587 Phoenix ... AL 8-7893
Cal Budd Co 3050 E 11th St Los Angeles ... AN 8-4115
Cal Marwood Ltd 357 9th St San Francisco ... HE 1-7893
Colo Plastronics Inc 2320 W 2nd Ave Denver ... 744-1227
Conn Budd Co 119 Ann St Hartford ... CH 7-1000
Ga Budd Co 3182 Clifton Church Rd SE
Atlanta ... 524-1153
Ill Budd Co 1515 N Harlem Ave Oak Park ... EU 3-5270
Ind Budd Co 925 E 38th St Indianapolis ... WA 5-9803
Md Budd Co 2135 Fountain Hill Dr Timonium ... VA 5-1457
Mass Buddo Co 46 Park St Mansfield ... GR 2-2150
Mass Budd Co 51 Cleveland Rd Wellesley ... GR 2-2150
Mich Budd Co 11000 W McNichols Rd Detroit ... 861-1990
Minn Budd Co 4522 Excelsior Blvd Minneapolis ... 927-9611
Mo Budd Co 2911 S Brentwood Blvd St Louis ... 962-4450
NM Shefler-Kahn Co Box 8342 Alburquerque ... 265-7077
NY Budd Co 1965 Sheridan Dr Buffalo ... 875-9866
NY Budd Co 41 E 42nd St New York ... OX 7-9617
Ohio Budd Co 1717 Section Rd Cincinnati ... 531-4110
Ohio Budd Co 836 Euclid Ave Cleveland ... 241-5220
Ore Marwood Ltd 209 SW First Ave Portland ... CA 3-5123
Pa Budd Co 1725 Washington Rd Pittsburgh ... 563-1911
Pa Budd Co Front & Ford Sts Bridgeport ... 275-0800
SC Budd Co Box 291 Spartanburg ... 582-5286
Tex Earl T Summers 510 Good-Latimer Expwy
Dallas ... RI 8-6533
Tex Bakoring Inc Box 18367 Houston ... 622-3735
Wash Marwood Ltd 1714 First Ave S Seattle ... MA 3-4747
Can Arborite Co 46 Hollinger Rd Toronto 16 ... 755-5211
For Budd Co Plastics Intl Bridgeport, Pa ... 275-0800

BUDWIG MFG CO BOX 97 RAMONA
CAL 92065 ... 714 789-0900
G BUDWIG EMP 50 ENG 2 UP TO $100M

BUHL OPTICAL CO 1009 BEECH AVE PITTSBURGH
PA 15233 ... 412 321-0076
I STAPSY EMP 125 ENG 5 $1,000-$2,500M

BULLOCK MAGNETICS CORP
2818-A METROPOLITAN PL POMONA
CAL 91767 ... 714 953-3561
W BULLOCK EMP 20 ENG 2 $100-$250M

BULOVA WATCH CO INC ELCTNS DIV FREQUENCY
CONTROL PRODS 61-20 WOODSIDE AVE
WOODSIDE N Y 11377
TWX 710-582-2637 ... 212 335-6000
J CARPENTER EMP 700 ENG 42 OVER $10,000M
Cal Carnes-Thurston Assoc 420 South D St
Tustin ... 714-838-0575
Cal Straube Assocs 483 Willow Rd
Menlo Park ... 415-323-2476
Colo Straube Assoc Mtn States Inc Box 1649
Boulder ... 303-443-8600
Conn Samuel C Hooker Inc Box 369
W Hartford ... 203-233-8000
Fla Perrott Assoc Inc 1607 Forsyth Rd
Orlando ... 305 275-1132
Fla Perrott Assoc Inc Box 4532 Clearwater ... 813 531-5513
Fla Perrott Assoc Inc Box 6277
West Palm Beach ... 305 967-1770
Ill Mar-Con Company 4836 Main St
Skokie ... 312-675-6450
Ill J R Sales Engineering 7132 N Harlem Ave
Chicago ... 312-774-8550
Iowa J R Sales Engineering
3550 Cottage Grove Ave S E
Cedar Rapids ... 319 365-5259
Md Callas Electronics Inc 6409 Frederick Ave
Baltimore ... 301 744-7711
Mass Samuel C Hooker Inc Box 352
Winchester ... 617 729-5482
Minn Wenco Sales, Inc 7728 Morgan Ave S
Minneapolis ... 612 866-3639
Mo J C Mankus & Assoc 400 Brooks La
Hazelwood ... 314 PE 1-4334
NY H C Johnson Agencies Inc 111 Mt Hope Ave
Rochester ... 716 232-2688
NY Comtronic Assoc 370 Old Country Rd
Garden City ... 516 PI 1-8966
NY H C Johnson Agencies, Inc
Box 86 Brandywine Sta Schenectady ... 518-882-9303
NY H C Johnson Agencies, Inc
Box 215, 404 E Genessee St
Fayetteville ... 315 637-9383
NY H C Johnson Agencies, Inc 8 Los Robles St
Williamsville ... 716 632-7880
NY Kahgan Sales Corp 556 Peninsula Blvd
Hempstead ... 516-538-2300
Ohio Augey Natalino Assoc 209 Harmony Hills
Akron ... 216-666-1447
Pa C H Newson & Assoc Inc 711 Bethlehem Pike
Phila ... 215 248-3377
Tex Blackburn Assoc 137 Walnut Hill Vlg
Dallas ... 214-351-9991
Wash Jas J Backer Co 221 W Galer St
Seattle ... 206 AT 3-6470
Can Canadian Micro Electronics 323 Bank St
Ottawa ... 613-233-519

BULOVA WATCH CO INC ELCTNS DIV SERVO
PRODUCTS 61-20 WOODSIDE AVE WOODSIDE
NY 11377 TWX 710-582-2637 ... 212 335-6000
O HELLER EMP 700 ENG 42 OVER $10,000M
Cal El Com Sales Co 3600 Motor Ave
Los Angeles ... 213 870-4707
Cal Straube Assoc 483 Willow Rd
Menlo Park ... 415-323-2476
Colo Straube Assoc Mtn States Inc Box 1649
Boulder ... 303-443-8600
Conn Garrettson Co Inc 99 Hillside Ave
Williston Park, NY ... 516 747-6610
Fla Perrott Assoc 1607 Forsyth Rd Orlando ... 305 275-1132
Fla Perrott Assoc Box 4532 Clearwater ... 813 531-5513
Fla Perrott Assoc Box 6277
West Palm Beach ... 305 967-1770
Ga Aero Reps Inc Box V Perry ... 912-926-5871
Ill Communications Eng 7106 N Western Ave
Chicago ... 312 RO 1-0548
Md Callas Electronics Inc 6409 Frederick Ave
Baltimore ... 301 744-7711
Mo J C Mankus & Assoc 400 Brooks La
Hazelwood ... 314 PE 1-4334
NY Comtronic Assoc 370 Old Country Rd
Garden City ... 516 PI 1-8966
NY Rep Tech Inc Pickard Bldg Box 98
Syracuse ... 315-454-0761
Ohio Sheridan Assoc 10 Knollcrest Dr
Cincinnati ... 513-761-5432
Pa Garrettson Co Inc 92-14 Masland St
Philadelphia ... 215-HO4-2275
Tex Blackburn Assoc 137 Walnut Hill Vlg
Dallas ... 214-351-9991
Can Canadian Micro Elctns 323 Bank St
Ottawa Ont ... 613-233-5129

BULOVA WATCH CO INC, TIMER LAB BULOVA PARK
FLUSHING N Y 11370 ... 212 335-6000
H GITTER
Can Bulova Watch Co 105 Bartley Dr Toronto Ont
For Bulova Intl Ltd Jardine House Hong Kong
Fr Montres Bulova SA 33 Rue Galilee Paris 16e
Ger Bulova GMBH Vertrieb Schliessfach 332
7530 Pforzheim

GB Bulova U K Ltd 44 Wellesley Rd
Croydon Surrey CR9 3PT
Ital Bulova Watch Co S p a Piazza Diaz 1
Milan 20123
SAfr Bulova Africa (Pty) Ltd
110/115 Goldenhuys 33 Jorissen St
Johannesburg
Swit Bulova Watch Co 1, Rue du Musee 2500 Bienne
Mex Bulova de Mex SA de CV Amberes 38M Mexico 1

BULOVA WATCH CO INC, WATCHMASTER
PRODUCTS DIV 75-20 ASTORIA BLVD
JACKSON HEIGHTS N Y 11370 ....212 335-6000
D SCOTT EMP 50 ENG 3 $1,000-$2,500M
Cal Ray H Murphy 1736 Golden Rain Rd
Walnut Creek 939-7120
Cal E A Carlston 2621 W Olympic Blvd
Los Angeles 213 387-5211
Colo W Seielstad 1444 Ivanhoe St Denver .....DE 3-1851
Fla Francis E Hatchell 2913 San Nicholas
Tampa 256-2763
Haw Edw D Sultan Co Ltd 939 Kapiolani Blvd
Honolulu 515-211
Ill Wm Pillath Jr 10607 W Cermak
Westchester 562-6661
Mass Mahar & Engstrom Co 373 Washington St
Boston ....LI 2-5280
Minn C R Leeds Co 627 First Ave N Minneapolis .FE 3-2317
Mo Glenn Averill 108 E 68th Terr Kansas City ..JA 3-2118
NY Robert A Hunt Hollow Rd
Clinton Corners 914-266-5235
Pa Peter A DeMaria 544 Twickenham Rd
Glenside ....TU 4-2344
Tex Sy Kessler 12660 Coventry Rd Dallas .....AD 9-1418
Tex Kurtz Inc 1212 Main St Houston.........CA 7-0193
Wash L A Clark Co 1417 Fourth Ave Seattle ....MA 3-7861
For Bulova Watch Co Inc 75-20 Astoria Blvd
Flushing, N Y 335-6000

BUNDY ELECTRONICS CORP DIV COVINGTON CORP
44 FADEM RD SPRINGFIELD N J 07081
TWX 710-983-4451 ....201 376-8150
H PASCALE EMP 75 ENG 4 $1,000-$2,500M
Fla W A Brown Assoc 222 Weber Ave
Orlando 305-425-5505
NJ Eng Sales Corp 263 Central Ave
East Orange 201-674-6505
NC W A Brown Assoc 1108 Burke St
Winston-Salem 919-725-5384

BUNKER-RAMO CORP DEFENSE SYSTEMS DIV
8433 FALLBROOK AVE CANOGA PARK CAL 91340
TWX 213-348-2361 ....213 346-6000
F CUNNINGHAM EMP 1700 ENG 800
OVER $10,000M
Md Eastern Technical Ctr 2121 Industrial Pkwy
Silver Spring 301 622-3100
Mass Bunker-Ramo Corp 275 Wyman St
Waltham 617 891-5310
NY Bunker-Ramo Corp 1333 E Dominick St
Rome 315 337-6100
Ohio Bunker-Ramo Corp 4130 Linden Ave
Dayton 513-254-2659
Fr Bunker-Ramo Corp 2001 Wisconsin Ave, NW
Washington 202 337-1500

BUREAU OF ENGRAVING INC, INDUSTRIAL DIV
219 N 2ND ST MINNEAPOLIS MINN 55401
TWX 910-576-2733 ....612 339-8001
J PATTERSON EMP 465 ENG 8 $5,000-$10,000M
Cal Colbuk Inc 9232 Independence Ave
Chatsworth 341-4000
Fla H R Gross & Co 314 S Missouri Ave
Clearwater 446-6649
Ill G McL Cole Co 6514 W Higgins Rd Chicago..774-3535
Ind R O Whitesell & Assoc 6691 E Washington St
Indpls 359-5374
Mass Manreps 60 Washington St Salem 592-9000
Mo Brig Inc 230 Heather Crest Cir Chesterfield .469-1566

BURGESS & ASSOCIATES INC 13000 ATHENS AVE
CLEVELAND OHIO 44107..............216 221-2720
D BURT EMP 35 ENG 4 $500-$1,000M
Cal T A Stempel Jr 7350 Atoll Ave
N Hollywood 213-764-5657
NJ G E Spreen Box 492 Paramus 201-261-5103

BURGESS BATTERY DIV CLEVITE CORP FREEPORT
ILL 61032.........................815 232-2161
W RIDDELL EMP 1500 ENG 25 OVER $10,000M
Cal Burgess Battery Div 1916 Tubeway Ave
Los Angeles 213 728-0156
Ill Burgess Battery Div 6272 W North Ave
Chicago 312 889-1131
NY Burgess Battery Div 76 Ninth Ave
New York ....212 CH 2-2270

BURKE & JAMES INC 333 W LAKE ST CHICAGO
ILL 60606.........................312 372-5422
J MITCHELL EMP 85 ENG 1

BURLING INSTRUMENT CO 23 RIVER RD, BOX 298
CHATHAM N J 07928 ....201 635-9481
A BARROWCLOUGH EMP 21 ENG 3 $500-$1,000M
Ala Electro-Pneumatic Control Co
416 Shenandoah Dr Birmingham........822-5350
Cal Charles Meriam Co 5017 Telegraph Rd
Los Angeles ....AN 9-8271
Colo Toncray Equipment Co 1711 Blake St
Denver ....CH 4-1102
Conn M A Selmon Co 215 Casmir Dr Fairfield 374-1114
Fla Maurice M Henning Box 69-H Miami......NA 4-5832
Ga Joe R Stilwell Co Box 18803 Atlanta 237-9488
Ill Kelburn Engineering Co 6545 N Olmsted Ave
Chicago 775-5722
Ind Kelburn Engrg Co Box 40251 Indianapolis ..846-5574
La Gilbert & Assoc Box 4376 New Orleans ....UN 6-7444
Md George Goodman Co 1800 N Charles St
Baltimore..........................837-3210
Mass H Wood Bacon Co Box 130 Concord 369-6950

Mich H C Engelman Co 24405 Gratiot Ave
E Detroit 777-0750
Minn Industra Co 6504 Walker St Minneapolis ...929-6224
Mo H & R Sales & Eng Co 3942 W Pine
St Louis ....OL 2-5540
Neb H G Klug Co Inc Box 4006, Benson Sta
Omaha 553-1377
NJ Mechanical Specialties Co Box 441
Westfield 233-9188
NY H C Johnson Agencies Inc 111 Mt Hope Ave
Rochester 232-2688
NC Brown & Morrison Box 4307 Charlotte ....ED 3-0774
Ohio Clarke H Joy Co Box 9695 Bay Village ....TR 1-5900
Okla Quigg Process Equipment Co 303 Center Bldg
Tulsa ....LU 7-0166
Pa John C Whiddett Co 7714 W Chester Pike
Upper Darby ....JA 8-6400
Tenn George H Giesler Co Inc Box 10345
Knoxville 588-9321
Tex Pan-Tech Engineering Co Box 22491
Houston ....MO 6-0248
Utah Toncray Equip Co 566 W 7th S
Salt Lake City 363-9822
Va George Goodman Co 220 E Belt Blvd
Richmond 232-7402
Wash Instrumentation Eng Sales & Serv Co
1331 3rd Ave Seattle...............MU 2-1123
Can Baker Instruments Ltd 185 Davenport Rd
Toronto 924-9708
For Masten-Wright Corp Box 1896
New Haven, Conn ....AT 8-1638
BC John Sherman 855 E Hastings St
Vancouver 254-3113

BURNDY CORP RICHARDS AVE NORWALK
CONN 06852 TWX 250 ....203 838-4444
A AUNE EMP 3500 OVER $10,000M
ADV PGS 157,160,161,169,622,625
Ariz Burndy of Calif Inc 3918 N 30th Ave
Phoenix 264-2701
Ark C H Stout Inc 2207 Cantrell Rd Little Rock .FR 4-8201
Cal Burndy of Calif Inc 1111 E El Segundo Blvd
El Segundo 772-5401
Cal Burndy of Cal 3975 E Bayshore Rd
Palo Alto 961-9110
Colo Burndy of Colo Inc 4049 St Paul St Denver .377-8891
DC Bradley Electro Sales Corp 7981 Eastern Ave
Silver Spring, Md 587-1866
Fla Burndy Southeast Inc 725 W Smith Ave
Orlando ....CH 1-1576
Ga Burndy Southeast Inc 4005 Indian Lake Cir
Stone Mountain 289-5469
Haw Honolulu Elect Prods Co Ltd Box 459
Honolulu 581-111
Ill Burndy Midwest Inc 9420 W River Rd
Schiller Park 678-5211
Ind Bundy of Ohio Inc 2511 E 46th St
Indianapolis 545-2224
Iowa Burndy Corp 2731 Douglas Ave Des Moines .274-3804
La C H Stout Inc 409 Fairfield Bldg Shreveport .425-5485
Md Bradley Electro Sales Corp 6901 Bel Air Rd
Baltimore..........................665-5020
Mass Burndy of N E Inc 31 Washington St
Wellesley Hills......................235-8686
Mich Burndy of Mich Inc 28630 Southfield Rd
Lathrup Village 444-1424
Minn Bundy of Minn Inc 1821 University Ave St Paul
Miss C H Stout of Miss Inc 618 Electrical Bldg
Jackson 354-4326
Mo Penzner Assoc Inc 5600 W 95th St
Overland Park....................DU 1-0004
NY Canavan-Scanlon Assoc 23 Eastern Ave
Eastwood Station ....HO 3-9161
NY Canavan-Scanlon Assoc 564 Ellicott Square Bldg
Buffalo ....TL 2-1122
NC Glenn & Larson of Carolina 1321 E Morehead St
Charlotte ....ED 4-3994
Ohio Burndy of Ohio Inc 5710 Wooster Pike
Cincinnati.........................272-0255
Ohio Burndy of Ohio Inc 3435 Brookpark Rd
Cleveland 749-5607
Pa Muller, Harper & Assoc Inc 7805 McKnight Rd
Pittsburgh 931-6460
Pa Burndy of Pa Inc 251 West DeKalb Pike
King of Prussia.....................265-1615
Tenn C H Stout of Tenn Inc 3506 Tchulahoma Rd
Memphis 362-1616
Tex E B Robertson Inc 4101 San Jacinto
Houston ....JA 9-3797
Tex E B Robertson Inc 1339 Plowman St
Dallas ....WH 2-8486
Va Bradley Electro Sales 627 E Main St
Richmond 649-8787
Wash Burndy Northwest Inc 4724 Rainer Ave S
Seattle ....PA 5-8100
WVa Skaff Engineering Co 3418 Staunton Ave SE
Charleston 342-0131

BURNELL/NYTRONICS THIRD AVE ALPHA NJ 08865
TWX 510-235-2918..................201-454-1143
J SMITH EMP 250 ENG 7 $1,000-$2,500M
Cal Cardinal Assoc 16024 Ventura Blvd
Encino 213-788-4540
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Minn	Cadillac Plas & Chem Co 1607 S Hennepin Minneapolis	612-FE9-9741
Mo	Cadillac Plas & Chem Co 8680 Olive St St Louis	314-WY1-1790
NJ	Cadillac Plas & Chem Co 1761 Edgar Rd Linden	201-925-8900
NY	Cadillac Plas & Chem Co 35-21 Vernon Blvd Long Island City	212-RA1-8484
NC	Cadillac Plas & Chem Co 3100 South Blvd Charlotte	704-523-7880
Ohio	Cadillac Plas & Chem Co 4533 Willow Pkwy Cleveland	216-441-2200
Okla	Cadillac Plas & Chem Co 4920 E Admiral Pl Tulsa	918-TE5-9926
Tex	Cadillac Plas & Chem Co 2546 Irving Blvd Dallas	214-ME1-4460
Wash	Cadillac Plas & Chem Co 2427 6th Ave S Seattle	206-MU2-7252
Wis	Cadillac Plas & Chem Co 517 N Broadway Milwaukee	414-276-9700
Can	Cadillac Plas Can Ltd 81 Kelfield St Rexdale Ont	416-249-8315
Can	Cadillac Plas Can Ltd 736 Renaud Ave Montreal Que	514 636-4876
BC	Cadillac Plas Can Ltd 156 W Second St Vancouver	604-879-9431

CAE INDUSTRIES LTD, ELCTNS DIV MBOX 6166
MONTREAL 3 QUE TWX 610-422-0363 . 541-631-6781
P DERVILLER EMP 1000 ENG 300

NY	Oneida Electronics Inc 805 Court St Utica	736-5247
Ger	CAE Electronics GMBH 519 Stolberg Rhld Schulstr 6	Sto 3033

CAELUS MEMORIES INC 967 MABURY RD
SAN JOSE CAL 95133 ... 408 298-7080
D JONES EMP 250 ENG 25 OVER $10,000M

Cal	B E Colegrove 1290 Bayshore Hwy Burlingame	415-347-7077
Ga	P Sitton Box 502 Marietta	404-436-7070
Ill	F G Becker II 21 N Skokie Hwy Lake Bluff	312 234-9050
Md	W J Lally 4400 East West Hwy Bethesda	301 654-0883
NJ	R L Rosato 1430 Bergen Ave Fort Lee	201-461-6313

Belg Conrad C Kohlheyer 38 Rue Dautzenberg
Brussels 5 49-84-61

**CAIG LABS INC 155 SULLIVAN LANE WESTBURY
N Y 11590 ....516 742-0278
O LOHKEMPER EMP 16 ENG 2 $100-$250M
ADV PG 129**
Cal P Dooley Co 18826 Devonshire St
Northridge 360-2231
Fla J V Demarest Box 787 Deland 734-0883
Ill J Clark 501 W Hellen Rd Palatine 358-5095
Mass L J Maroni Assoc 15 Arbetter Dr
Framingham 617 785-5414
Mich Stoner Tech Sales 19896 Kelly Rd
Harper Woods 371-6000
Pa Reese Engrg Sales Box 600 Paoli 215 644-8717
Wash United Power & Control Sys Inc 431 N 34 St
Seattle ....206 ME 2-8425

**CALABRO PLASTICS INC 8738 WEST CHESTER PIKE
UPPER DARBY PA 19082 ....215 789-3820
A CALABRO EMP 15 ENG 2
ADV PGS 290,496**
Mass Henik Assoc 53 Lexington St West Newton
NJ R L Ringer Co Box 114 Glen Rock
Pa J Donleavy 102 Montrose Ave Rosemont
Wash F W Aurich & Co 3601 Gilman Ave W Seattle

CALBEST ELECTRONICS 4801 EXPOSITION BLVD
LOS ANGELES CAL 90016 ....213 731-7291
I DUBIN EMP 100 ENG 6

CALCON MFG CORP 100 OAKLAND AVE
WASHINGTON PA 15301 ....412 222-8190
D HASTINGS
Ark Dick Bellew Sales, Inc. Box 1835
El Dorado ....501 UN 3-8325
Cal H & K Sales Inc Box 2087 Menlo Park .415-369-6244
Colo McLoud & Raymond Co 2151 S Grape St
Denver 756-1589
Fla John F Thompson Co 322 Riverside Dr
Ormond Beach ....904 OR 7-2298
Ga Dixie Electronic Sales Box 107
Alpharetta 404 475-7833
Ill Ray R Hutmacher Assoc 6668 Northwest Hwy
Chicago 312-631-3248
Ind Shamrock Electronic Sales 2511 E 46th St
Indianapolis 317 251-7669
Kan Forristal & Young Co Box 552 Mission .913-432-1420
La Dick Bellew Sales 3017 D 18th St Metairie .833-6496
Md Brothers & Conneen Assoc 6302 Lincoln Ave
Baltimore 301 754-7189
Mass W A Hendrickson Co 766 Country Way
North Scituate 545-0652
Mich Riley & Petchell Sales Inc 16515 Schoolcraft
Detroit 313-838-9100
Mo Forristal & Young Co 7110 Oakland Ave
St Louis 314-645-2360

Pain Killer.

If vendors have you in a pinch and another source of supply will help, turn to the Electronics Buyers' Guide. You'll find all the information you need on over 1,363 sources of power supplies, listed under 11 headings from *AC Regulated Power Supplies to Laser Power Supplies.*

Electronics Buyers' Guide

NY Marty Bettan Sales 77-15 164th St
Flushing ....212 OL 7-6659
Ohio Shamrock Electronic Sales 1755 W Market St
Akron 216 864-3090
Pa R Tanner Co 486 Broadmoor Ave Pittsburgh .561-4687
Tenn Dixie Electronic Sales 109 Webster St
Madison 615 895-5666
Tex Hays Company 777 S Central Expwy
Richardson ....AD 1-1426
Wash Ron Merritt Company 1320 Prospect St
Seattle 682-7337
Can Allwyn Sales Co, Ltd 27 Claremont Ave
Winnipeg Mani
For Manrep Corp Box 68 N Miami Beach ..305-949-6391

CALCOR SPACE FACILITY INC
1010 W PHILADELPHIA WHITTIER CAL 90601
TWX 65-7419 ....213 RA 3-0211
J LONGCRIER EMP 250 ENG 10 $2,500-$5,000M

CALCULAGRAPH CO 272 RIDGEDALE AVE HANOVER
N J 07936 ....201 TU 7-5000
H SMITH EMP 100 ENG 10

CALEDONIA ELCTNS & TRANSFORMER DIV
CONNREX CORP MAPLE ST CALEDONIA
N Y 14423 TWX 510 254-0422.........716 538-4423
W HARRINGTON EMP 250 ENG 12
$2,500-$5,000M
NY Sweeney Engineering Sales 149 Morris Dr
East Meadow

CALFONEX INC 166 COOLIDGE AVE ENGLEWOOD
N J 07631 TWX FBM 201 567-5190
EMP 25 $250-$500M

CALIFORNIA CHASSIS CO 5445 E CENTURY BLVD
LYNWOOD CAL 90262 ....213 636-9931
F GONZALES EMP 65 $500-$1,000M
Cal Wes Alderson Co 8548 Washington Blvd
Culver City ....UP 0-1030
Colo Nelson Co 1294 S Bannock Denver 733-5528
Fla W F Hemminger Box 2506
Port Charlotte 813 625-6050
NM Nelson Co Box 938 Albuquerque
Tex Branum Co 747 Sherman St
Richardson ....214 AD 1-6148
Utah Nelson Co Box 1871 Salt Lake City

CALIFORNIA COMPUTER PRODUCTS INC
305 MULLER AVE ANAHEIM CAL 92803
TWX 910 591-1154 ....714 774-9141
R MARK EMP 750 ENG 75 OVER $10,000M
Ala Calif Computer Prods 2407 S Memorial Pkwy
Huntsville 205-536-6677
Cal Calif Computer Prods 455 Mathew St
Santa Clara 408-244-2300
Cal Calif Computer Prods 3636 Fifth Ave
San Diego 714-291-2010
Cal Calif Computer Prods 931 S Douglas
El Segundo 213-679-0691
DC Calif Computer Prods 12345 Parklawn Dr
Rockville Md 301-946-0006
Fla Calif Computer Prods 7000 Lake Ellenor Dr
Orlando 305-851-1580
Ga Calif Computer Prods 1455 Tullie Rd NE
Atlanta 404-634-6276
Haw Calif Computer Prods 2003 Kalia Rd
Honolulu 808-949-7296
Ill Calif Computer Prods 9501 Devon Ave
Chicago 312-825-2125
La Calif Computer Prods 3949 Veterans Hwy
New Orleans 504-888-4655
Md Calif Computer Prods 12345 Parklawn Dr
Rockville
Mass Calif Computer Prods 118 Cedar St
Wellesley 617-237-2170
Mich Calif Computer Prods 17000 W 8 Mile Rd
Southfield 313-358-3130
Mich Calif Computer Prods 1611 Portage St
Kalamazoo 616-381-9302
Minn Calif Computer Prods 7615 Metro Blvd
Mnpls 910-576-2413
Mo Calif Computer Prods 2210 W 75 St
Prairie Village 913-EN2-0426
Mo Calif Computer Prods 25 S Bemiston St
St Louis 314-725-2996
NM Data Handling Co 209 San Pablo, SE
Albuquerque 505-268-0928
NY Calif Computer Prods 2414 Morris Ave
Union NJ 201-686-7100
NY Calif Computer Prods 474 Thurston Rd
Rochester 716-464-9570
Ohio Calif Computer Prods 1700 Needmore Rd
Dayton 513-276-3915
Ohio Calif Computer Prods 21010 Center Ridge Rd
Cleveland 216-331-7181
Okla Calif Computer Prods 4407 S Peoria
Tulsa 918-742-8039
Pa Calif Computer Prods 1 Decker Sq
Bala Cynwyd 215-MO7-1740
Pa Calif Computer Prods 301 S Hills Vlg
Pittsburgh 412-343-6166
Tex Calif Computer Prods 1625 W Mockingbird La
Dallas 214-637-0040
Tex Calif Computer Prods 6575 Rookin St
Houston 713-771-3821
Wash Calif Computer Prods Joseph Vance Bldg
Seattle 206-622-2802
Can Computrex Computer Ctr Ltd 717 7th Ave SW
Calgary Alb 403-AM3-1190
Can Computrex Computer Ctr Ltd 1111 Albion Rd
Rexdale Ont
Can Computrex Computer Ctr Ltd 424 Queen St
Ottawa Ont
For Compania Nacional de Comput SA
Reale de Sabana Gr Eqq Los Jabillos
Caracas Ven
Fr Calcomp SA 20 Rue du Gen Bertrand Paris .566-02-09
Ger Calcomp GmbH Dusseldorfer Str 25a
Dusseldorf-Oberkassel 56-0-17
GB CalComp Ltd Hampton Wick
Kingston Surrey 997-7612
Neth ANRU Wijnhaven 80 Rotterdam 11-59-90
Neth Calcomp NV Nieuwe Herengracht 91
Amsterdam 23-81-38
Ital Fab Elettrotecniche Riunite Viale Monza 270
Milan 257-5851
Jap CalComp 1-chome Takaracho
Chuo-kuTokyo 561-0181
Jap Yoshizawa Business Mach KK
11-7 Uchikanda 3-chome Chiyoda-ku Tokyo
Nor Hugo Riso A/S Box 8 Taasen Oslo 23-25-80
SAfr A C Gowlett Pty Ltd Box 1257
Johannesburg 724-9341
Swed Tel Inter AB Filipstadsbacken 48 Farsta 1 641800
Swit Kontron Electronic Ltd Hardstr 235 Zurich ..44-56-90
Belg Regulation-Mesure SPRL 22 rue St Hubert
Bruxelles 71-20-20
Gr Marios Dallegio Reps 2 Alopekis St Athens 710669
Isrl Eastronics Ltd 75, Haifa Rd Tel Aviv 446060
Mex Phoenix Exp Services Box 998
Irving Tex 214-637-0163
Aust Dynamco Elctns Pty Ltd 90 Alexander St
Crows Nest NSW 43-3333

CALIFORNIA ELECTRONIC MFG CO INC BOX 555
ALAMO CAL 94507 ....415 932-3911
S CUFF EMP 15 ENG 4 $100-$250M
Ala Currie Aerospace Assoc Box 1424 Huntsville .536-5650
Fla Currie Aerospace Assoc Box 13229 Orlando .855-0843
Mich H Teplitz & Co 26847 Grand River Ave
Detroit 537-9058
NY Calif Electronic Mfg Co Box 124
Chappaqua 238-8619
Ohio H Teplitz & Co 3718 Salem Ave Dayton 277-9178
Tex Carl Tinch Sales 1st Bank & Trust Bldg
Richardson 231-1322
Den K S Kaalund Bueager 4 Trorod
Jap Cosmos Trading Corp 7-5 5 Chome Himonya
Tokyo 711-3888

CALIFORNIA ELECTRO-SCIENTIFIC CORP
2203 S GRAND AVE SANTA ANA
CAL 92705 714-546-9550
A BARANOFF EMP 17 ENG 7 $500-$1,000M
Ala Lee Assoc, Inc 5R Traylor Is Huntsville 539-0761
Cal Control Devices Pacific, Inc 1485 Bayshore Dr
San Francisco 467-2270
Fla Lee Assoc Inc 200 E Marks St Orlando 241-4445
Md Lee Assoc Inc 12250 Wilkins Ave Rockville ..949-4800
NY Good Counting Instr Co 17 High Park Blvd
Buffalo 834-3333
NC Lee Assoc Inc 829 Burke St Winston-Salem .724-2406
Can Whittaker Elctns Ltd 42 Howden Ave
Ottawa, Ont 224-1221
Can Whittaker Elctns Ltd Box 216
Roxboro, Que 684-3000
BC Whittaker Elctns Ltd 1144 Millstream Rd
W Vancouver, B C 926-3411

CALIFORNIA FINE WIRE CO 338 S FOURTH ST
GROVER CITY CAL 93433 ....805 489-5144
M GREENELSH EMP 10 ENG 1 UP TO $100M
Cal Mar-Land Enterprises Box 101 Arcadia 681-9440

CALIFORNIA INSTRUMENTS CORP
3511 MIDWAY DR SAN DIEGO
CAL 92110 ....714 224-3241
H CLARK EMP 55 ENG 6 $1,000-$2,500M
Cal RDP Instruments 1338 S Atlantic Ave
Los Angeles 213 263-9441
Colo D E Bond Assoc 2149 S Clermont St
Denver 303-756-1234
Conn Instrument Consultants, Inc 2381 Whitney Ave
Hamden 248-4174
Fla Nine Assoc Box 23830 Ft Lauderdale ..305-584-6999
Ill Systems Engrg Assoc 6253 Milwaukee Ave
Chicago 312 774-1452
Ind Systems Engrg Assoc 1010 E 86th St
Indianapolis 846-2593
Mass Instrument Consultants, Inc Box 25 Waban .969-9881
Mich Elias Electronics 26817 W 7 Mile Rd
Detroit 313 255-2111
Minn Systems Engrg Assoc 8633 Harrison S
Minneapolis 612-881-6386
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis 647-4350
NJ Data-Rep Assoc, Inc Box 645 Ridgewood ...447-0660
NM D E Bond Assoc Box 11331
Albuquerque 505-255-7634
NY Labronics, Inc 130 Pickard Bldg Syracuse ..454-9314
NY Data-Rep Assoc, Inc Box 164
Huntington Sta 423-7677
Ohio Instrumentations Systems, Inc
3481 Office Park Dr Dayton 216 442-4470
Pa Data-Rep Assoc, Inc Box 349 Norristown ...279-8210
Pa Essay Sales Assoc 201 Penn Center Blvd
Pittsburgh 412 242-5151
Tex SESCO Box 36844 Houston 713-782-6837
Va Nine Assoc Box 328 Annandale 703 256-9105
Wash ARVA, Inc 1320 Prospect St Seattle 622-0177
Can John Degroot Assoc Box 241 Scarborough PO
Ontario 416-267-0724

CALIFORNIA MICROW AVE, INC. 455 W MAUDE AVE
SUNNYVALE CAL 94086
TWX 910-339-9231 ....408 732-4000
A KENRICK EMP 75 ENG 12 $1,000-$2,500M
Cal Cain & Co 522 S Sepulveda Blvd
Los Angeles 213-476-2251
Fla Cain & Co 3112 W Kennedy Blvd
Tampa 813-876-1233
Ill Cain & Co 1203 Ironwood Dr
Mt Prospect 312-253-3578
Mass Cain & Co 45 Essex St Melrose 617-665-8600
NY Cain & Co 324 First St Liverpool 314-457-4871
Ohio Cain & Co 2485 Lipton Rd Columbus ...614-861-2119

Tex Norvell Assoc 10210 Monroe Ave
Dallas ... 214 357-6451

CALIFORNIA SYSTEMS COMPONENTS, INC
9176 INDEPENDENCE AVE CHATSWORTH
CAL 91311 ... 213 341-1050
G BECK EMP 21 ENG 6 $1,000-$2,500M
Cal Datacom Assoc Box 4321
San Fernando ... 213-367-9111
Ill Cain & Co 1203 Ironwood Dr
Mt Prospect ... 312-253-3578
NJ KLS Assoc 387 Passaic Ave Fairfield ... 201-288-2525
Ohio Cain & Co 2485 Lipton Rd Columbus ... 614-861-2119
Tex Cain & Co 8609 Northwest Plaza Dr
Dallas ... 214-369-2897

CALLINS INDUSTRIES INC BOX C GREENFIELD
TENN 38230 TWX 810 590-3779 ... 901 235-2234
F ACUFF EMP 824 ENG 5
Cal W D Butler Co 3721 Oleaner Ave
Seal Beach ... 213-430-6010
Colo Vinson Assoc 3600 S Lincoln
Englewood ... 303-789-2203
Conn Electro Products Sales Co Box 92
Meriden ... 203-235-4040
Fla Components Sales Corp Box 9545
St Petersburg ... 813-360-7460
Ill Rayber Sales Co 4750 N Milwaukee
Chicago ... 312-736-0236
Ind A Bolenbaugh RFD 4 Columbus ... 812-372-2960
Kan Impala 5424 N 95th St Kansas City ... 913-299-9622
Md W R Trainor 210 W Pennsylvania Ave
Towson ... 609-428-7440
Mich Norwood Scroggs Co 2221 Arbor Hills Rd
Jackson ... 517-782-5211
NJ Kahgan Sales Co 556 Peninsula Blvd
Hempstead ... 516-538-2300
NY Chas L Avery Assoc Box 87 Rye ... 914-937-3633
Pa Stitzer Assoc Box 144 Paoli ... 215-644-5500
Tex P J Scanlon Co 724 South Sherman St
Richardson ... 214-231-4661
Wash C Lyle Reeve Mktg Assoc Box 7087
Seattle ... 206-542-5889

CALMA CO 707 KIFER RD SUNNYVALE
CAL 94086 ... 408-245-7522
C HEFTE EMP 52 ENG 10 $1,000-$2,500M
Ala Lee Assoc 5R Taylor Island Huntsville ... 205 539-0761
Cal Calma Co 4630 Campus Dr
Newport Beach ... 714-540-6047
Conn CALMA 132 Broadway Norwich ... 203 889-1329
Fla Lee Assoc 200 E Marks St Orlando ... 305 241-4445
Mass W E Weeton Assoc Box 77 Needham ... 617 HI 4-1012
NC Lee Assoc 825 Burke St
Winston-Salem ... 919 724-2406
Tex Calma Co 6601 Hillcroft Blvd Houston ... 713-771-6256
Va Calma Co 1930 Isaac Newton Sq
Reston ... 703-471-1450
Wash Data Rep Assoc 250 Market St
Kirkland ... 206 VA 2-4688
Wis Arthur Engrg Sales Co 10720 W Scharles Ave
Hales Corners ... 414 425-5919

CALMONT WIRE & CABLE INC 420 E ALTON ST
SANTA ANA CAL 92707 ... 213 625-1835
F STEFKOVICH EMP 30 ENG 4 $1,000-$2,500M
Cal John J Colbert Co 2501 Via Vista La Jolla

CALOWA ELECTRONICS 295 EDGEWOOD DR
PACIFICA CAL 94044 ... 415-993-5193
EMP 2 ENG 2 UP TO $100M

CAL-POWER CORP 140 KANSAS ST EL SEGUNDO
CAL 90245 TWX 910 348-6678 ... 213 322-5320
D HARNEY EMP 110 ENG 7 $1,000-$2,500M

CALTRON INDUSTRIES 2015 SECOND ST
BERKELEY CAL 94710 ... 415 548-1966
R WERSEN EMP 7 ENG 1 UP TO $100M
NY Herbert Shprentz Co 126 Deertrack La
Irvington ... LY1-7970

CALTRON PRODUCTS CO 3518 W PICO BLVD
LOS ANGELES CAL 90019 ... 213 734-2420
T PEDERSON EMP 6 ENG 2 UP TO $100M

CAMBRIDGE FILTER CORP
7645 SEVENTH NORTH RD SYRACUSE N Y 13201
TWX 937311 ... 315 457-1000
V CRANE EMP 150 ENG 10

CAMBRIDGE METALLURGICAL CORP OF OHIO
PRECISION SYS DIV 1183 CHESAPEAKE AVE
COLUMBUS OHIO 43212 ... 614-488-0771
EMP 10 ENG 2 $250-$500M

CAMBRIDGE PLATING CO INC 39 HITTENGER ST
BELMONT MASS 02178 ... 617 489-2750
L TOSI JR EMP 50 ENG 3 $500-$1,000M

CAMBRIDGE SCIENTIFIC INDUSTRIES INC
101 VIRGINIA AVE CAMBRIDGE
MD 21613 ... 301 228-5111
E BRADLEY EMP 50 ENG 5 $500-$1,000M
Ariz Carter Assoc Inc Box 94 Scottsdale ... 949-0123
Cal C B Rush Assoc 1830 W Olympic Blvd
Los Angeles ... 388-7111
Colo Franklin Sales Co 2149 S Clermont St
Denver ... 757-1371
Ill Dave Hausten Co 614 Arbor Ave Wheaton ... 668-7312
Mass John J Goode Assoc 44 Ledgewood Weston ... 235-3900
NY Everett Sales Engineering Co 160 Plandome Rd
Manhasset ... 627-7750
Tex Carter Assoc 514 S Garland Ave Garland ... 276-7151
Utah Franklin Sales Co 1415 S Main St
Salt Lake City ... 486-7251
Wash Harry Levinson Co 1211 E Denny Way
Seattle ... 323-5100
Can E G Lomas Ltd 227 Laurier Ave W
Ottawa, Ont ... 232-7106

For B Freudenberg Inc 50 Rockefeller Plaza
New York NY ... 757-9130

CAMBRIDGE SYSTEMS INC 50 HUNT ST NEWTON
MASS 02158 ... 617 969-6400
V CORTINA EMP 50 ENG 15 $500-$1,000M
Ala Craft Assoc Co Box 1053 Huntsville ... 205-837-7-0221
Ariz Pacific Scientific Co 15 N 40th Pl
Phoenix ... 602-273-7464
Cal Pacific Scientific Co 6280 Chalet Dr
City of Commerce ... 213-773-2020
Fla Craft Assoc Co Box 986 Maitland ... 305-645-2242
Ga Craft Assoc Co Box 11716 Atlanta ... 404-237-2282
Ill Space Assoc 24 N Wabash Chicago ... 312-641-1437
Kan Pacific Scientific Co 8020 Santa Fe Dr
Overland Park ... 913 381-2600
Mo Pacific Scientific Co 11771 Natural Bridge Rd
Bridgeton ... 314 291-2440
NJ E C Smith & Assoc 797 Springfield Ave
Summit ... 201-273-8881
NM Pacific Scientific Co 209 San Pablo, SE
Albuquerque ... 505-265-6638
NY E C Smith & Assoc 941 Granite Bldg
Rochester ... 716-546-5090
Ohio Space Assoc 1717 Section Rd
Cincinnati ... 513-631-0402
Okla Pacific Scientific 4407 S Peoria Ave
Tulsa ... 918-749-1244
Ore Pacific Scientific Co 1208 SE 7th Ave
Portland ... 503-233-6177
Pa Roberts Engrg Sales Co Box 9 Radnor ... 215-688-6525
Tex Pacific Scientific Co 702-A Abram St
Arlington ... 817-275-3236
Wash Pacific Scientific Co 432 Yale Ave
Seattle ... 206-762-4260
Wis Process Msmt & Control Co Box 7292
Milwaukee ... 414-774-3290
Can Willer Engrg & Sales Co 1800 Avenue Rd
Toronto, Ont ... 416-783-3373
For Ad Auriema, Inc 85 Broad St
New York, N Y ... 212-269-7750

CAMBRIDGE THERMIONIC CORP 445 CONCORD AVE
CAMBRIDGE MASS 02138
TWX 710-320-6399 ... 617 491-5400
W NOWLIN EMP 495 ENG 10
Ala Young & Lawrence Assoc 601 N New York Ave
Winter Pk Fla ... 305-647-6929
Cal Melvin Sales Co 113 El Camino Real
Millbrae ... 697-6922
Fla G F Bohman Assoc 7040 Lake Ellenor Dr
Orlando ... 855-0274
Ill Jay C Angel & Co 2743 Peterson Ave
Chicago ... 878-0653
Iowa Thomas & Modrcin Assoc 890 17th Ave
Marion ... 377-6261
Kan Thomas & Modrcin Assoc Box 189
Shawnee Mission ... 432-2131
Mich Villani-Pitcher Inc 20233 Ann Arbor Trail
Dearborn ... 313-271-4600
Minn Fred B Hill Co 6110 Excelsior Blvd Mnpls ... 929-6727
Mo Thomas & Modrcin Assoc 47 Village Sq
Hazelwood ... 838-6446
NY ERA Inc 330 Great Neck Rd Great Neck ... 482-9320
NC Candor Co Bethania ... 924-1480
Pa Kenneth B Erdman Co 7906 Montgomery Ave
Phila ... 215 224-1833
Tex R F Kimball Co 5531 Dyer St Dallas ... 214 363-5431
Wash Jas J Backer Co 221 W Galer St
Seattle ... 206-283-6470
Can Samuel C Hooker (Can) Ltd 2602 St Clair Ave W
Toronto, Ont ... 767-7725
Can Samuel C Hooker (Can) Ltd 144 Ronald Dr
Montreal, Que ... 488-9114
Den Scandinavian Semiconductor Supply AS
59 Thorsgade Copenhagen
Fr Techmation 113, Rue Lamarck Paris ... BAT 14-02
Ger Techmation GbmH Bilker Str 12 4 Dusseldorf
GB Cambion Electronic Prods Ltd
Castleton nr Sheffield ... HOPE 406
Neth Techmation, NV Keizersgracht 522 Amsterdam C
Ital Centro Ital Comp Elettronici Via E Ximenes 3
Rome ... 803 800
Nor J M Feiring, A/S Box 4376, Torshov Oslo 4 ... 21 82 12
Swed AB Rectronic Inc Margretelundsvagen 17
Stockholm ... 24-61-60
Swit W Blum Electronics Honggerstr 115 Zurich ... CH -8037
Belg Techmation 189-191 rue de la Victoire Bruxelles
Ind Forbes Campbell & Co Ltd Home St Bombay ... 268081
Mex Distrimex, SA Box 60-506 Mexico 18, DF
Spn S A C H I Fuentes 13 Madrid
Aust General Eletn Services Pty Ptd 5 Ridge St
N Sydney, NSW

CAMBRIDGE WIRE CLOTH CO CAMBRIDGE
MD 21613 TWX 510 642-2311 ... 301 228-3000
EMP 300 ENG 5 $5,000-$10,000M
Cal J Yarber 2072 W Manchester Ave
Los Angeles ... 750-6717
Ga Wm P Edmondson 174 W Wieuca Rd NE
Atlanta ... 252-1332
Ill H Claycombe 425 E 164th St South Holland ... 333-1343
Kan Andrew J Lutz 7009 W 81st St
Overland Park ... NI 2-4677
Md J Ben Coster 506 Washington Ave Towson ... 823-9211
Mass Jim Shuttleworth 230 Main St Stoneham ... 438-1616
Mich Richard C Carmean 384 Penobscot Bldg
Detroit ... 961-4134
NJ K Patchett 1156 E Ridgewood Ave
Ridgewood ... 652-4747
NY J C Peters 429 White Plains Rd
Eastchester ... WO 1-3300
Ohio R D Reinersman 8613 Winton Rd Cincinnati ... 729-1787
Pa Robert J Adams 3450 Babcock Blvd
Pittsburgh ... 931-0515
Tex N R Bumpers 7009 Long Dr Houston ... MI 4-4364
Va G Stephenson 1004 Lakewater Dr Richmond ... 282-7372
Can R D Travers 1 Duke St Hamilton, Ont ... JA 2-3823

CAMCAR SCREW & MFG, A TEXTRON DIV
600 18TH AVE ROCKFORD ILL 61101
TWX 910 631-3424 ... 815 965-9451
B REAVES EMP 500 ENG 10
Cal Camcar Screw & Mfg 5300 Pacific Blvd
Huntington Park ... 213 581-2510
Ky Camcar Screw & Mfg Co
2003 Old Shepherdsville Rd Louisville ... 458-5367
Mich Camcar Screw & Mfg Co 17700 Northland Pk Ct
Southfield ... 836-5045

CAMIE CO INC 9225 WATSON IND PARK ST LOUIS
MO 63126 ... 314 962-7901
J SHELBY EMP 35 ENG 1 $1,000-$2,500M

CAMLOC DIV REX CHAINBELT INC
22 SPRING VALLEY RD PARAMUS N J 07652
TWX 710 990-5142 ... 201 845-6900
J ENGLISH EMP 330 ENG 16 $5,000-$10,000M
Tex Camloc Div 723 N Collins Ave Arlington ... 817 274-3711
Can Keith MacMillan 24 Ronson Dr Rexdale, Ont ... 241-4700
Fr Camloc-France Sarl 17 Blvd Dulac
95 Enghien-Les-Bains ... 964-90-32
Ger Camloc Fastener GmbH 6233 Kelheim Taunus
Industriestr ... 06195-2001
GB Camloc Ind Fixings U K Ltd 41 Highmere Rd
Leices Ter ... 533-66437
Neth VIBA NV Koningin Emmakade 199 Den Haag ... 394905
Ital F A S Tec Corso Ferrucci, 58 I-10138 Turin ... 33-90-73
Swed G A Lindberg & Co Sturegatan 46 Box 5146
Stockholm 5 ... 63-16-30
Swit Koenig A G Lagerstr 10 CH-8953 Dietikon ... 88-26-61
Spn V E Pavillard Box 1152 Madrid-11 ... 247.11.24

CAMPBELL/TAYLOR INC
BOX 289 CANAL ST AT ROPES ST SALEM
MASS 01970 ... 617 745-3370
J TAYLOR EMP 20 ENG 3
Cal Dennis Don & Assoc 2833 Leonis Blvd
Vernon ... 213 581-8237
Fla H G Wilson & Assoc 2903 Salzedo St
Coral Gables ... 446-0014
Haw Dennis Don & Assoc 1441 Kapiolani Blvd
Honolulu ... 808 966-737
Wash Dennis Don & Assoc 535 Warren Ave
Seattle ... 206 AT 4-3588
For F L Agresar & Assoc Inc Box 366 Hato Rey, P R

CAMWIL INC 835 KEEAUMOKU HONOLULU
HAW 96814 ... 946-1110
EMP 14

CANADIAN MARCONI CO 2442 TRENTON AVE
MONTREAL 16 QUEBEC
TWX 610 421-3564 ... 514 738-9441
O CORNETT EMP 4300 OVER $10,000M
Cal Kaar Electronics Corp 2250 Charleston Rd
Mountain View ... 415 961-8220
Ga N American Engrg Co 3030 Peachtree Rd NW
Atlanta
La Kaar Electronics Corp 1127 S Rampart St
New Orleans ... 504 522-5113
Mass Kaar Elctns Corp 97A Cambridge St
Burlington ... 617 272-6264
Mo Kaar Electronics Corp 3136 Wyoming Ave
St Louis ... 314 773-1703
NJ Kaar Electronics Corp 232 Wescott Dr
Rahway ... 201-338-3211
Ohio N American Engrg Co 1563 E Dorrthy La Dayton
Va N American Engrg Co 1925 N Lynn St Arlington

CANADIAN MOTOROLA ELECTRONICS LTD
3125 STEELES AVE E WILLOWDALE 425 ONT
TWX 02-29944 ... 293-8141
J HOOPER
Can P Bullock 1294 Madison St Winnipeg, Man ... 775-0351
Can H W Seibel 155 Graveline St Montreal Que ... 735-4152
Can W Galpin 10544 110th St Edmonton, Alta ... 422-8111
Can G W Landstrom 3125 Steeles Ave E
Willowdale Ont ... 293-8141
BC D Hollingshead 1395 Pemberton Ave
N Vancouver ... 985-3141

CANADIAN PORCELAIN CO LTD BOX 428 HAMILTON
ONT TWX 021-633 ... 416 522-4648
E LADESICH EMP 200 ENG 4 $2,500-$5,000M

CANADIAN RESEARCH INSTITUTE 85 CURLEW DR
DON MILLS ONT ... 416 445-6363
S VASQUEZ EMP 29 ENG 5 $500-$1,000M

CANBERRA INDUSTRIES 45 GRACEY AVE MERIDEN
CONN 06450 ... 203 347-6995
G EMBRY EMP 180 ENG 22 $2,500-$5,000M
Cal Canberra Industries 1499 Bayshore Dr
Burlinggame ... 415-692-1790
Ga J Wilson 3237B Buford Hwy Atlanta ... 404-636-5039
Ill Canberra Industries 1053 E Sayles Dr
Palatine ... 312-358-6832
Md Canberra Industries 3812 Warburton Dr
Oxon Hill ... 301-292-1500
Mass Canberra Industries 3 Spruce St
Boston ... 617-742-0398
NY T Moir 25 Victory Blvd Staten Island ... 212 981-8284
Ohio Canberra Industries 28829 Chagrin Blvd
Cleveland ... 216-831-1288
Tex Overall Engrg Box 31273 Dallas ... 214-363-0563
Can Applied Technology Co Box 272
Don Mills, Ont ... 416-444-1264
Den Hans Buch & Co Svanevey 6 Copenhagen NV
Ger Canberra Industries 65 Mainz Sommerringstr 42
GB High Voltage Ltd 8 Kildare Close
Eastcote Ruislip Mdsx
Jap Nichimen Ltd, Inc Box Central No 1136 Tokyo
SAfr Ash Brothers Pty Ltd Box 6061 Johannesburg
Swed Polyamp AB Fack 17500 Jakobsberg
Belg H V L 1026-1048, Chaussee de Louvain Bruxelles
Mex Nucleoelectronica SA Merida 164-202
Mexico 7 DF
NZ Philips Electrical Ind Box 2097 Wellington

Fin Instrumentarium OY Mikonkatu 6C Helsinki
Aust Australian Electrical Indus Box 110, Crows Nest NSW

CANNON CO, C F SPRINGWATER
N Y 14560 ... 716 669-2550
A SHRINER EMP 45 $250-$500M

CANOGA INDUSTRIES 1901 AVENUE OF THE STARS
LOS ANGELES CAL 90067
TWX 910-494-1214 ... 213-277-4400
O KNOWLTON EMP 700 OVER $10,000M
Ala P T Miller Assoc Box 1334 Huntsville ... 205 534-2652
Cal Electronic Lab Assoc 1911 Fifth Ave San Diego ... 714 232-7195
DC Canoga Electronics 1629 K St NW Washington ... 202-296-3369
Fla Jaeger Assoc 999 Woodcock Rd Orlando ... 305 841-1511
Mass Zieco Inc 18 Muzzey St Lexington ... 617-861-8300
Minn Systems Engr Assoc 8633 Harrison So Minneapolis ... 612 881-6386
NJ Dynamic Sales Co 39 E Front St Red Bank ... 201 747-5353
NM Bowden Engrg Sales Co 2633 Texas NE Albuquerque ... 505-296-6600
Wash Paratech 2208 NW Market St Seattle . 206 783-3900
Ger Elektro-Metall Export GMBH Jagerhofstr 39 4000 Dusseldorg ... 48-30-41

CANON USA INC 64-10 QUEENS BLVD WOODSIDE
NY 11377 ... 212-478-5600
EMP 55 $2,500-$5,000M

CANRAD PRECISION INDUSTRIES INC
630 FIFTH AVE NEW YORK N Y 10020 ... 212 CI 60460
C KRIEGER EMP 125 ENG 10
Cal Robt Martin Co 1812 Chanticleer Anaheim
Fla U S Airmotive 5437 N W 36 St Miami Springs
Ill Diverse Products Box 625 Richton Park
Iowa Iowa-Midland Supply Inc 823 Rockford Rd SW Cedar Rapids
Mass Wm Stickney Assoc 12 Priscilla La Lynnfield
Mich Reichold Assoc 14 Weston St SE Grand Rapids
Pa Sencor & Co 2222 Glendale St Philadelphia
Tex Al Kine & Co Box 31161 Dallas

CAPCO INC 5262 W 34TH LUBBOCK TEX 79407
TWX 910-896-4346 ... 806-792-4713
M KLINECT EMP 60 ENG 3 $500-$1,000M
Cal E B Schwerin 4922 LaGama Way Santa Barbara ... 805 967-7317
Conn Impact Sales Box 448 West Hartford .. 203 521-1221
Fla Irby & Connolly Inc Box 60348 Orlando . 305-423-8270
Md Jadelectronics Box 115 Greenbelt ... 301 474-8161
Mass Impact Sales Co 223 Crescent St Waltham ... 617 893-2850
Minn Countryman Assoc 1955 University Ave St Paul ... 612 645-9151
Ohio Coy & Co Box 2078 Kettering Sta Dayton ... 513 885-7222
Pa JADElectronics Box 5735 Philadelphia . 215 GL 5-3355

CAPCON INC 61 STANTON ST NEW YORK
N Y 10002 ... 212 GR 5-0080
R HENRY EMP 132 ENG 12 $500-$1,000M

CAPITOL MACHINE & SWITCH CO 87 NEWTOWN RD
DANBURY CONN 06810
TWX 710 456-0365 ... 203 744-3300
A WILSON EMP 100 ENG 4
ADV PG 592
Cal Ed Landa Co 2288 Westwood Blvd Los Angeles ... 272-9525
Colo Franklin Sales Co 2149 S Clarmont St Denver ... 757-1371
Conn Comp Rep Assoc 14 Bowling Green Ave North Haven ... 239-9762
Fla Floyd Fausett & Co 711 N Magnolia Ave Orlando ... 424-0701
Ga Floyd Fausett & Co 145 W Spring St Smyrna ... 436-5169
Ill George Petitt Co Inc 349 N Ashland Ave River Forest ... 261-0342
Kan Lowell, Kangas & Assoc Box 4116 Overland Park ... 888-3200
Mass Comp Rep Assoc Inc 1116 Great Plain Ave Needham ... 444-2484
Mich Heick & Ralph Assoc 26847 Grand River Ave Detroit ... 538-3350
Mo Lowell, Kangas & Assoc, Inc Box 26, Creve Coeur Sta St Louis ... 647-1111
NJ Varrelman-Gorman Co 2 E Northfield Rd Livingston ... 992-2505
Ohio Edmund C Frost & Co 30170 S Woodland Cleveland ... 831-1442
Pa John Biernbaum Box 7142 Phila ... 635-1030
Tex Blackburn Assoc Box 20073 Dallas ... 351-9991
Wash Electronic Sales Corp 621 S Michigan St Seattle ... 767-3160
Can Hans W Brieger Sales Co 5253 Decarie Blvd Montreal ... 482-0722
Can John R Tilton Ltd 51 McCormick St Toronto . 762-7571
SAfr Morton Sherry Pty Ltd 104 Raschers Cor Loveday St Johannesburg ... 834-8167

CAPTOR CORP 5040 DIXIE HWY TIPP CITY
OHIO 45371 ... 513 667-8484
O BRUNS EMP 50 ENG 5 $1,000-$2,500M
ADV PGS 266,271
Cal Andrews & Assoc Box 251 Northridge .. 213 349-0586
Fla Kirkwood & Assoc Box 52 Winterpark .. 305-645-2220
Ill Croydon Elctns Inc 1915 N Harlem Ave Chicago ... 312 237-4343
Kan Avionics Sales Engineering 230 Ida Wichita ... 316 264-6201
Mass L Roffer 12 Nancy La Framingham ... 617 877-4900
NY T-X Sales Inc 900 Walt Whitman Rd Melville ... 516-271-5850
NY R W Mitscher Co 496 Ellicott Sq Bldg Buffalo ... 716 854-2517
NC R W Mitscher Co Box 10541 Raleigh ... 919 828-0575
Pa Magyar & Assoc Box 8506 Philadelphia ... 215-763-5044
Tex Dyna-Reps Box 11436 Ft Worth ... 817-926-3344
Can David R Beattie Ltd 2104 Bromsgrove Rd Clarkson Ont ... 416 274-3445

CARBOLINE CO 328 HANLEY INDUSTRIAL CT
ST LOUIS MO 63144 ... 314 MI 4-1000
R ROSENTHAL JR EMP 100 ENG 40
$5,000-$10,000M
Ala Applied Eng Sales Co Box 7392 Mobile ... 471-4458
Cal T G Cullen 3710 Grand Ave Oakland ... 452-3982
Colo Alldredge & McCabe 1550 S Pearl St Denver ... 744-6351
Fla J J Parkinson Box 10665 St Petersburg ... 894-7708
Haw American Equip Co 2815 Kilihau St Honolulu
Ill Stoltenberg & Co 6778 Northwest Hwy Chicago ... 312 775-6138
La Carboline of LA 3007 22nd St Metairie ... 833-8563
Mass O'Connor Assoc 60 Hickory Dr Waltham ... 899-1644
Mich Absolute Equip Co 470 N Woodward Ave Birmingham ... 642-6240
NJ Stanley Drexler 429 Cherry Hill Blvd Cherry Hill ... 663-4491
NY S J Fiebach Box 186 Nanuet Nanuet . 914-NA-3-7282
NC L E Parks 200 Industrial Dr Matthews ... 847-9828
Ohio J P Ashburn 3914 Miami Rd Cincinnati ... 271-9040
Okla Haynes Co 11 E 12th St Tulsa ... LU 4-8748
Pa Corrosion Equip Sales Co Box 274 Chester . TR 2-2597
Tex Carboline of Texas 813 Rosine Houston ... JA 6-4753
Utah Reeves & Co 334 W 17th S St Salt Lake City ... 485-9864
Va Atlas-Misrock 2405 Westwood Ave Richmond ... EL 8-4501
Wash Chemical Proof Corp 625 S Alaska St Seattle ... MA 2-5805
Wis R G Anderson 6480 W College Ave Appleton ... RE 3-1251
Can Corrosion Service Co Ltd 50 Maitland St Toronto 5, Ont ... 925-5901
For Carboline Dex, Austr Pty Ltd 10 Clyde St Rydalmere N S W
Fr Navy Plastic France, Carboline Dept 8 Square Chanton Neuilly s/Seine
GB Tretol Coatings Ltd The Hyde, Tretol House London NW 9
Neth Bureau R De Vries 2 Terwee Park, Box 187 Leiden
Ital Apsacoat-Carboline Via GB Pirelli 30 Milano
Jap Sumitomo Shoji Kaisha Box Osaka-Higashi 481 Osaka ... 203-1221
Nor Wilson Walton Intl Box 1620 Haakon VII's Gate 1 Oslo
Swed AB Zinkoplast Mariesholmsgaten 66 Goteborg N
Mex Carboline SA de CV Aptdo 22-103 Tlalpan
Spn Turco Espanola SA Infanta Carlota 57 Barcelona

CARBONARA INC, VICTOR E 90 HARBOR RD
PORT WASHINGTON N Y 11050 ... 516 767-4680
V CARBONARA EMP 12 ENG 3 $250-$500M

CARBONE CORP 400 MYRTLE AVE BOONTON
N J 07005 ... 201 334-0700
R WYCKOFF EMP 285 ENG 32 $5,000-$10,000M
Cal Advance Carbon Prods Inc 2505 Mariposa St San Francisco ... HE 1-4034
Cal Industrial Engrg & Equip Co 2975 Wilshire Blvd Los Angeles ... 213 381-1281
Cal John H Ormond Co 3718 Grand Ave Oakland ... 415 893-3235
Conn Shick's Selling Service 766 Main St Newington ... 666-4233
Fla Joseph Krupinski 1344 SW 12th Ave Boca Raton ... 305 395-5970
Ga Dixie Bearings Inc & Assoc 276 Memorial Dr SW Atlanta ... 524-5601
Ill Carbone Corp 18154 Harwood Ave Homewood ... SY 8-7400
Ill Rick R Rozner Sales Co 4708 N Central Ave Chicago
Ind H A Smolen Co 2647 Highway Ave Highland . 838-2700
Mich R C Dakin 1520 N Woodward Ave Bloomfield Hills ... MI 7-2262
NJ David A Rugg Co 2 Dove Ct Middletown . 201 671-0662
NJ H Reid Assoc 530 Main St Fort Lee ... 201 944-9323
NY J Pitcher 16 Oakwood La Fairport ... 716 586-9125
NC Powertronics Assoc Inc 2454 Medway Dr Raleigh ... 834-6947
Ohio Norco Indus Sales Corp 3439 Brainard Rd Cleveland ... 216 831-5191
Pa Bowman Co 56 Oakhurst Cir Pittsburgh . 412 781-5949
Pa Patterson Electric Corp 1844 Ardmore Blvd Pittsburgh ... 412 244-1818
Wis F C DuBois & Assoc 2364 N 117th St Milwaukee ... 414 774-3100
Can R & M Bearings Canada Ltd 5385 Pare St Montreal, Que ... 342-1490

CARBONNEAU INDUSTRIES INC
100 LEXINGTON AVE SW GRAND RAPIDS
MICH 49504 ... 616 GL 6-9528
J CARBONNEAU EMP 200 ENG 3
Cal Mann & Smith Box 852 Northridge
La Gordon V Peck Co 4771 Spain St New Orleans ... 282-1553
Mich Lamb & Smith Assoc 20111 James Couzens Detroit 25 ... 342-3050
NY S A Shaw Co 361 Central Park Ave Yonkers ... YO 3-5700
Okla Gordon V Peck Co Box 15671 Tulsa ... WE 9-3047
Tex Gordon V Peck Co 210 Casa Linda Plaza Dallas ... DA 8-3511

CARBORUNDUM CO ELECTRICAL & ELCTNS BR
BOX 339 NIAGARA FALLS NY 14302
TWX 710-524-1657U ... 716 278-2546
K ROBINSON EMP 550 ENG 100
$5,000-$10,000M
Cal O'Donnell Assoc 18053 Crenshaw Blvd Torrance ... 213 323-9243
Cal O'Donnell Assoc-North 1955 El Camino Real Palo Alto ... 415-327-9061
Colo Inland Assoc 1136 Pearl St Boulder ... 303-442-1336
Conn Westwood Assoc Box 502 Milford ... 203-878-8528
Ill Thos B Hunter Assoc 5653 W Irving Park Rd Chicago ... 312-777-2500
Ind Technical Reps Inc 4000 Meadows Dr Indpls ... 317-546-4967
Minn G E Arneson & Co 4900 Viking Dr Mnpls ... 612-920-2086
Mo Engineering Services Co 6716 Vernon Ave St Louis ... 314-726-2233
NY Samuel S Egert Co 146 Meacham Ave Elmont ... 516 488-2255
NY J Lazor Assoc 39 Saginaw Dr Rochester ... 716 473-8337
Ohio R G Sidnell & Co 3300 S Dixie Dr Dayton ... 513-293-1194
Pa Arnold Assoc Inc 528 Ryers Ave Cheltenham ... 215 742-0600
Tex Wm Reese Assoc 3130 Springwood Dallas ... 214 339-4280
Can Lazor Sales Corp 39 Saginaw Dr RochesteP ... 716 473-8337
For Southern Intl Sales Co Box 1896 San Juan, PR ... 809-723-3879

CARCO ELECTRONICS 1180 O'BRIEN DR
MENLO PARK CAL 94025 ... 415 321-8174
W SPONT EMP 50 ENG 24 $1,000-$2,500M
Cal Russell Assoc Inc 3951 E Huntington Dr Pasadena ... 795-9521
Ill Aironic Accessory Co Inc 3618 W Elm St McHenry ... 385-4220
Md Aironic Accessory Co Inc Washington Ave Baltimore ... VA 3-3350
Mass Aironic Accessory Co, Inc 235 Bear Hill Rd Waltham ... 891-5640
NJ Aironic Accessary Co, Inc 47 E Blackwell St Dover ... 366-7377
NM Electronic Enterprises 1900 Washington St NE Albuquerque ... 256-1585
NY Aironic Accessory Co Inc 161 Orinoco Dr Brightwaters ... MO 6-6500
Den O Breiner Jensen 13 Lyngen Kgs Lyngby ... 88 11 34
Fr Comptoirs Imex France 2 rue Navoiseau Montreuil ... TOU 19-20
Ger Telco GMBH Franz-Pruller-Str 15 8 Munchen 8 ... 443424
GB E T S Ltd Prudential House Croydon, Surrey ... MUN-3232
Swed Special-Metall Surbrunnsgatan 6 Stockholm . 31 20 60

CARDION COMMUNICATIONS LONG ISLAND EXPWY
WOODBURY N Y 11797
TWX 510-221-2179 ... 516 921-7300
R FEISTEL EMP 250 ENG 90 $1,000-$2,500M
Cal Robertson Communications 3631 Cahuenga Blvd Los Angeles ... 462-6591
ND Dakota Electric Supply Co Box 871 Fargo .. 230-3301
Ohio Buckeye Tel & Supply Co 1250 Kinnear Rd Columbus ... HO 8-0655
Ore Tarbell Communications Sales 312 Standard Plaza Portland ... 228-4111
Tex Nelson Electric Supply Co 1123 Slocum St Dallas ... RI 1-6341

CARDION ELECTRONICS DIV GEN SIGNAL CORP
LONG ISLAND EXPWY WOODBURY N Y 11797
TWX 510-221-2179 ... 516 921-7300
J RILEY EMP 250 ENG 90 $5,000-$10,000M

CARDWELL CONDENSER CORP
80 E MONTAUK HWY LINDENHURST
N Y 11757 ... 516 TU 44300
R HERMAN EMP 70 ENG 2 $1,000-$2,500M

CAREY ELECTRONIC ENGINEERING CO
1880 CLIFTON AVE SPRINGFIELD
OHIO 45505 ... 513 323-6300
R CAREY, JR EMP 20 ENG 3 $250-$500M
Ariz Arizona Air Filter Co 3803 N 35th Ave Phoenix
Cal Sanford Mech Equip Co Inc Bayshore Annex, Box 4675 Oakland
Cal Yates Products 711 W Ivy St Glendale ... 245-6951
Colo W H Strickland 1378 Jasmine St Denver
Haw Aluminum Prods Hawaii Ltd 669 Sheridan St Honolulu
Mich Carl J Bush Co 27320 Southfield Rd Lathrup Village
Minn Minneapolis Theatre Supply 51 Glenwood Ave Minneapolis
NY Bailey Distributors, Inc 73 Sullivan St Brooklyn
Ohio George Oberklein Assoc 1758 Elmore St Cincinnati
Pa Leon Wolkov 73 Greenhill Rd Media
Tex Robert C Gilkey Box 12548 El Paso
Wash J O Ross Eng Co 2909 Third Ave Seattle
Fr Jex R P 374 Seine G M E, No D'Entr 363-75-102. 0002 Paris
Ital European-Amer Trade Develop Corp 757 Third Ave New York, N Y
Mex Electro Constructora, S A Leibnitz 34-60, Piso Mexico 5, D F

CARGOCAIRE ENGINEERING CORP
8-10 CHESTNUT ST AMESBURY MASS 01913
TWX 710-347-0613 ... 617 388-3131
T MCCRAINE EMP 100 ENG 14 $5,000-$10,000M

CARLER PRODUCTS CORP 6200 E MOLLOY RD
E SYRACUSE N Y 13056 ... 315-437-2608
P KELLER EMP 33 ENG 2

Cal Wadsworth-Pacific Mfg Assoc 15920 Temecula St Pacific Palisades 213-454-4313
Cal Wadsworth-Pacific Mfg Assoc 71 Parker Ave Atherton 415-365-1956
Conn Wadsworth Mfg Assoc 23 Gregory Blvd East Norwalk 203-866-6622
Ill Wadsworth-Midland Mfg Assoc 1229 Jarvis Ave W Chicago 312-274-0601
NY Wadsworth Mfg Assoc 181 Buckley Rd Liverpool 315-652-2865
NY Wadsworth Mfg Assoc 12 Jamstead Ct Williamsville 716-634-8650
Tex Wadsworth Midland Mfg Assoc 201 S Dorothy Dr Dallas 214-231-1805

CARLETON CONTROLS CORP JAMISON RD
EAST AURORA N Y 14052
TWX 710 264-1446 .... 716 NL 2-4838
J SCHEIDER EMP 113 ENG 9 $1,000-$2,500M
Ala Russell Assoc 2516 N Memorial Pky Huntsville 205-539-7211
Cal Ensa Corp 5919 W 3rd St Los Angeles 934-1144
Fla Russell Assoc 211 W Fairbanks Ave Winter Park 305-MI 7-2251
Ga Russell Assoc 6427 Roswell Rd Atlanta 404-255-8422
Ill Russell Assoc 1303 N Richmond Rd McHenry 815-385-4220
Md Russell Assoc 102 N Main St Bel Air 301-838-9292
Mass Russell Assoc 69 Hickory Dr Waltham 617-891-4570
Mich Russell Assoc 24634 Five Mile Rd Detroit 313-KE2-5770
NJ Russell Assoc 569 River Rd Fair Haven 201-747-0600
NY Russell Assoc 6789 Main St Buffalo 716-634-3377
Ohio Russell Assoc 4 Eswin St Green Hills 513-825-0930
Tex Bill McClung Co 2245 Valwood Pky Dallas 214-241-3655
Wash E Darlington 6770 Parimeter Rd S Seattle .... RO 7-3870

CARLING ELECTRIC INC 505 NEW PARK AVE
WEST HARTFORD CONN 06110
TWX 710-425-0034 .... 203 233-5551
R COUGHLIN EMP 250 ENG 3
Cal Pacific Switch Controls, Inc 14048 Burbank Blvd Van Nuys 213-873-4802
Ga Switch Controls Inc 5299 Buford Hwy Doraville 404-451-3017
Ill Carling Electric 201 N Gables Blvd Wheaton 312-653-1130
For Joseph Gross Co 41 Union Sq New York, NY 212-CO 7-0280

CAROL CABLE CO 249 ROOSEVELT AVE
PAWTUCKET R I 02862 TWX 92-7750 .... 401 722-3100
L BONOFF EMP 1500 ENG 15 OVER $10,000M
Ala Maxwell & Scivley 1904 Greenvale Rd Birmingham 822-1336
Cal Electrorep Inc 650 19th St San Francisco 626-0225
Colo L D Hood Co 87 S Kalamath Denver 222-8001
Conn Senese Sales Co 22 Lee Rd Prospect 756-6052
Fla Cary Chapman & Co 301 E Tenth Ave Hialeah 885-4681
Ga Maxwell & Scivley Inc 600 Trusco Way SW Atlanta 758-4506
Ill J L Rowe & Sons 3005 W Franklin Blvd Chicago 722-0330
Ind A Lee Clifford & Co 1801 W 18th St Indianapolis 639-5248
Iowa Jim Bixler & Assoc 2822 Ave A Council Bluffs 328-1841
La Zeller & Constantine Inc Box 746 Metairie 834-6830
Mass Yusen Assoc 345 Franklin St Cambridge 547-0435
Mich Young & Champagne 91 E Milwaukee Ave Detroit 871-0720
Minn Royal Agency Inc 7716 Winpark Dr Minneapolis 544-8985
Mo Ajax Electrical Sales Co 4006 Papin St St Louis 533-3288
NY Sullivan-Swanberg 940 S Salina St Syracuse 476-1681
NC Pete Oldham & Assoc Box 4257 Greensboro 273-9473
Ohio Block & Fields 1050 Meta Dr Cincinnati 242-2196
Okla The Hodges Co Box 7331 Tulsa 742-0917
Ore Bruce-Emmett Co 830 SE Alder St Portland 232-8117
Pa Wm B Bleiman & Sons 252 N Third St Phila 627-0152
Tenn Maxwell & Scivley Inc 712 Fogg St Nashville 244-2109
Tex Hodges Co 1336 Crampton St Dallas 631-8460
Utah Bruce-Emmett Co 49 N 2nd W Salt Lake City 328-3902
Wash Bruce-Emmett Co 270 S Hanford St Seattle 623-6840
Wis Jack L Rowe & Sons Inc 1348 N 37th St Milwaukee 342-1886

CAROL CABLE CO WEST 1747 FLOWER ST
GLENDALE CAL 91201 TWX 677394 213-245-8494
J WEISS EMP 125 ENG 5 $2,500-$5,000M
Tex Allied Components Inc Box 38009 Dallas 214-348-6660
Wash Richard Legg Co Box 25327 Portland 503-292-8824

CAROL ELECTRONICS DIV WEECO INC
315 W STEPHEN ST MARTINSBURG
W VA 25401 .... 304 267-8911
J CARPER, JR EMP 60 ENG 5 $500-$1,000M
Va Watson Elctns & Engrg Co 2603 S Oxford St Arlington 671-6233

CARPENTER MFG CO INC FAIRGROUNDS DR
MANLIUS NY 13104 .... 315 682-9176
C NORTHRUP EMP 25 ENG 2 $250-$500M
Ala Powertronics Inc Box 3384 5020 Rickwood Court NW Huntsville 205-852-6347
Cal Macdonald & Co 213 S Brand Blvd Glendale 213-245-5253
Colo Soldering Supply Spec 1630 Platte St Denver 303 455-1352
Fla H R Gross & Co 314 S Missouri Ave Clearwater 813-446-6649
Ill A Rich Box 499 Arlington Heights 312 392-2950
Ind Blind & Assoc 1635 N Gent Ave Indianapolis 317-635-6291
Md Jones & Assoc 2026 Maryland Ave Baltimore 301-752-0577
Mass E P E Corp 6 Kane Ind Pk Hudson 617-562-9123
Mich C A Geer Co 221 Graceland NE Grand Rapids 616-361-9252
Minn D A Schultz Co 801 Southeast Eight St Mpls 612-339-7701
NJ Mills Equipment Co 13 Tanner St Haddonfield 609 429-1005
NY Maloney Sales Co 115 Sunnybrook Dr Syracuse 315-488-3440
NY Salit Assoc 254 Hempstead Rd Spring Valley 914-352-4443
NC Powertronics, Inc Box 403 Thomasville 919-476-4257
Ohio Perry Lohse & Co 537 Richmond Rd Cleveland 216-381-7788
Ore Essex Intl/iwi Div 1900 NE 181st Ave Portland 503-665-0138
Tex Sivright Co 10028 Monroe Ave Dallas 214-357-6681
Wash Essex Intl/iwi Div 325 Westlake Ave N Seattle 206-622-4161
Can Willer Engrg Sls 1800 Avenue Rd Toronto, Ont 416-783-3373
Can Witler Engrg Sls 1179 Decarie Blvd Montreal 9, Que 514-747-9316
For L P Dodero 145 W 55th St New York, NY 212-246-0193
For J Talviton Box 3282 43 Ben-Jehudaro Tel-Aviv 236 666
Den P H Aisinger Ulborgvej 17 Maalev .... (01)-97-5871
Fr European Elctns Inc 41 E 42 St New York NY 212-682-5343
Ger E Henkel 6083 Walldorf VB Reviolstr 34 .... 06105/5649
GB Frank Whitelegg Ltd 304 High St Sutton, Surrey 6429025
Neth N V Zeva-Verkoopkantoor Box 142 Schipholweg 903 Vijfhuizen Amsterdam 02501284
Ital Sogema Soc Gen Via LeoPardi 27 Milan 896-393
Jap Anzen Trading Co Ltd 2-1 3 Chome Uita-Aoyama Minato-Ku Tokyo 402-6575
Swed Hugo Tillquist Box 303 176 03 Solna 3 Solna 3 830100
Swit Jacques Baerlocher Corp Box 8021 Zurich 429900
Aust Rutherford Elctns Pty Ltd Box 30 N Balwyn Victoria 8 483033

CARPENTER TECHNOLOGY CORP
101 W BERN ST, BOX 662 READING
PA 19603 .... 215 372-4511
W KUNKELMAN EMP 3100 ENG 2
OVER $10,000M
Cal Carpenter Tech Corp 4423 E District Blvd Los Angeles 587-9131
Conn Carpenter Tech Corp 277 New Park Ave Hartford 233-7581
Fla Carpenter Tech Corp 4326 E Tenth La Hialeah 681-7423
Ga Carpenter Tech Corp Murphy & Bluff Sts SW Atlanta 525-8616
Ill Carpenter Tech Corp 4501 James Pl Melrose Park 681-3500
Ind Carpenter Tech Corp 1618 W Washington St Indpls 632-4351
Mass Carpenter Tech Corp 1616 Hyde Park Ave Hyde Park 361-3400
Mich Carpenter Tech Corp 7170 E McNichols Rd Detroit 365-7600
Minn Carpenter Tech Corp 2809 Winter St, NE Minneapolis 331-8440
Mo Carpenter Tech Corp 3942 Laclede Ave St Louis 652-6700
NJ Carpenter Tech Corp 99 Clinton Rd West Caldwell 226-8343
NY Carpenter Tech Corp 3810 Union Rd Buffalo 684-3000
NC Carpenter Tech Corp 1238 Amble Dr Charlotte 596-7555
Ohio Carpenter Tech Corp 4901 W 150th St Cleveland 267-6700
Okla Carpenter Tech Corp 2703 Dawson Rd Tulsa 582-9908
Ore Carpenter Tech Corp 720 SW Washington St Portland 223-8186
Pa Carpenter Tech Corp Ft Wash Ind Park Ft Washington 248-2500
RI Carpenter Tech Corp 66 Dudley St Providence 331-5769
Tex Carpenter Tech Corp 2605 Freewood Dr Dallas 352-1771
Wis Carpenter Tech Corp 4330 W Greentree Rd Milwaukee 353-4900
Can Carpenter Tech Of Canada Ltd 100 Sheppard Ave W Willowdale, Ont 223-6500

CARR FASTENER CO DIV UNITED-CARR INC
31 AMES ST CAMBRIDGE MASS 02142
TWX 710 320-0827 .... 617 547-4900
R MALONEY EMP 1500 ENG 30
ADV PGS 250,251
Cal Carr Fastener 1433 Venice Blvd Los Angeles 213 387-4322
Ga Carr Fastener 349A Peachtree Hills Ave NE Atlanta 404-261-6512
Ill Carr Fastener 10544 Lunt Ave Rosemont 312 296-7192
Ky Carr Fastener 190 Colony Way Louisville 502-897-2527
Mass Carr Fastener 459 Watertown St Newtonville 617 244-7313
Mich Carr Fastener 2832 E Grand Blvd Detroit 313 873-9500
NY Carr Fastener 24 W 40th St New York 212 594-5650
Ohio Carr Fastener 2829 Euclid Ave Cleveland 216 861-7557
Tex Carr Fastener 1066 W Mockingbird La Dallas .... 214 ME 1-0410

CARSON MFG CO INC 2426 E 55TH ST
INDIANAPOLIS IND 46220 .... 317 251-9591
G LOCKWOOD EMP 125 ENG 5 $1,000-$2,500M

CARSTEDT RESEARCH INC 2501 E 68TH ST
LONG BEACH CAL 90805
TWX 213 634-4318 .... 213 ME 0-5821
B SMITH EMP 78 ENG 4 $1,000-$2,500M
Ariz Dorton Enterprises, Inc Box 1297 Scottsdale 946-6213
Cal King & Assoc 663 Princeton Dr Sunnyvale 738-2570
Ill Robt Bernstein Sales Co 9009 Golf Rd Desplaines 824-7526
Mass Denning & Assoc 30 Waldren Rd Wakefield 245-4986
Ore L A Lawson 630 SE Belmont Portland .... BE 2-0161
Tex Finis Roberts Box 1118 Richardson 239-8991

CARTER CO, J C, ELECTRONICS DIV 671 W 17TH ST
COSTA MESA CAL 92627
TWX 714 642 1336 .... 714 548-3421
C JOBBINS EMP 250 ENG 20 $5,000-$10,000M

CARTER MFG CORP 23 WASHINGTON ST HUDSON
MASS 01749 .... 617 562-6987
L BURGESS EMP 45 ENG 6 $500-$1,000M
Conn Chas K Barton Assoc Inc 343 New London Tpke Glastonbury 633-9417
Mass Chas K Barton Assoc Inc 345 Auburn St Auburndale 332-2021
NJ Podeyn & Schmidt 207 Hackensack St Wood-Ridge 201 438-2780
NY Podeyn & Schmidt 420 Northern Blvd Great Neck 516 487-1173
Ohio Bek Assoc, Inc 330 Salem Ave Dayton 513 278-1343
Tex Southern Engrg & Sales Co 1823 Levee St Dallas .... 214 RI 8-5760
Wis Gentron Co 744 N 4 St Milwaukee 414 271-2110

CARTER MOTOR CO 2763 W GEORGE ST CHICAGO
ILL 60618 .... 312 JU 8-7700
E MITCHELL EMP 100 ENG 4
Cal R S Hopkins Co 15016 Ventura Blvd Sherman Oaks .... ST 8-5501
Cal Ewing Foley Inc 900 N San Antonio Rd Los Altos 941-4525
Conn AID Eng Sales Co Box 247 Rocky Hill 673-3692
Fla Floyd Fausett & Co 711 N Magnolia Ave Orlando 305 424-0701
Ga Fausett & Co Box 278 Smyrna 436-5169
Ill A G Erickson Assoc 170 Longfellow Dr Wheaton 665-3499
Md Clisby & Assoc 231 E 25th St Baltimore .... BE 5-3726
Mass Aid Engineering Sales 28 Picard Terr Framingham 873-3011
Mich Robert Reed Box 27 Marshall .... ST 1-7287
Minn A J Warner Co 4927 34th Ave, S Minneapolis 729-7271
Mo Ray Deane 10825 McGee St Kansas City .... WI 2-0130
NY R W Mitscher Co 496 Ellicott Sq Bldg Buffalo .... TL 4-2517
NY Cushing Electro Sales 7 Mayflower Pl Floral Park 775-7170
NY L B Townsend Rte 82A Salt Point 266-5975
NC R W Mitscher Co Box 10541 Raleigh 828-0575
Ohio Electro-Com Inc 8761 Snow Rd Cleveland .... TU 6-2404
Ohio Electro Com, Inc 1700 Needmore Rd Dayton 276-3993
Okla R D Jay 1554 N Marion Tulsa .... WE 9-5956
Ore Northwestern Agencies 3950 S Elmran Dr West Linn .... NE 6-5777
Pa Clisby & Assoc 1017 N 5th St Philadelphia .... GA 5-7724
Tenn Floyd Fausett & Co Box 12091 Memphis
Tex M F Klicpera Co Box 2668 Houston .... RI 7-3868
Tex E W Haley Box 4117 Sta A Dallas .... RI 2-2515
Va R W Mitscher Co 3100 Basin Ct Virginia Beach 464-0500
Wash Northwestern Agencies 4130 First Ave S Seattle .... MA 3-8882
Can Charles W Pointon Ltd 66 Racine Rd Rexdale, Ont .... CH 7-8777
For Carrington H Stone 205 W Wacker Dr Chicago, Ill .... RA 6-7725

CARTER PRECISION ELECTRIC CO
3401 MADISON ST SKOKIE ILL 60076
TWX 910-223-3674 .... 312 OR 4-0340
G YOUNG EMP 350 ENG 17 $2,500-$5,000M
Ala Fred Wamble Sales Co 3745 Marie Cook Dr Montgomery
Cal W S Harmon Co 6118 Venice Blvd Los Angeles
Conn COM/PAK 104 Apple Hill Wethersfield
Fla Fred Wamble Sales Co 1816 Maywood Rd Winter Park
Md Mount & Co 7735 Old Georgetown Rd Bethesda
Mass COM/PAK 14 Oak St Needham
Minn Heiman Co 5603 Lyndale Ave Minneapolis 827-5457
NJ Joseph Norton 60 Midvale Rd Mountain Lakes
NY Martin P Andrews Fayetteville
Ohio G & H Sales Co Box 37416 Cincinnati
Pa W Henry Cordray Sales Co 1 Radnor Sta Radnor
Can Munro Elctn Components Ltd Box 147 Ajax Ont

CARY INSTRUMENTS A VARIAN SUB
2724 S PECK RD MONROVIA CAL 91016
TWX 910 582-1613 .... 213 446-7181
W WRIGHT EMP 520 ENG 70 $5,000-$10,000M
Cal Cary Instruments 23 Orinda Way Orinda 415 254-3075
Ga Cary Instruments 3110 Maple Dr, NE Atlanta 404 261-8020
Ill Cary Instruments 205 W Touhy Ave Chicago 312 825-7781
Md Cary Instruments 4720 Montgomery La Bethesda 301-656-8177
Mass Cary Instruments 400 Wyman St Waltham 617 891-5079

NJ Cary Instruments 25 Rte 22
Springfield 201-376-5900
Ohio Cary Instruments 5912 Hamilton Ave
Cincinnati 513 542-0606
Tex Cary Instruments 3939 Hillcroft
Houston 713 781-0192
Swit M Brandes, Varian AG Baarerstr 77, 6300 Zug

CASCO MUSIC SYSTEMS INC 56 GLENWOOD AVE
HYDE PARK MASS 02136 ....617 361-5733
S LEONDAR EMP 10 ENG 3

CASTALL RESEARCH LAB INC
46 N MANCHESTER ST BROCKTON
MASS 02402 617-828-1122
R LOTHROP EMP 27 ENG 6 $100-$250M

CATALYST RESEARCH CORP 6101 FALLS RD
BALTIMORE MD 21209 ....301 DR 77100
J KULP EMP 200 $1,000-$2,500M

CATHEY ENTERPRISES
2235A OLD MIDDLEFIELD WAY
MOUNTAIN VIEW CAL 94040 ....415 967-1555
J CATHEY EMP 6 ENG 1

CATHODEON CRYSTALS LTD LINTON CAMBRIDGE
ENG ....LIN 501
A FINLAYSON EMP 400 ENG 20 $100-$250M

CAVITRON ULTRASONICS DIV CAVITRON CORP
11-70 BORDEN AVE LONG ISLAND CITY
N Y 11101 ....212 EM 1-2060
M FROST EMP 89 ENG 12 $2,500-$5,000M

CAYUGA ASSOCIATES INC PARKER RD
LONG VALLEY NJ 07853 201-876-3166
P BREEN JR

CBC INDUSTRIES INC 2601 N HOWARD ST
PHILADELPHIA PA 19133 ....215 GA 32797
H GOODMAN EMP 35 ENG 3 $100-$250M
Ind Shamrock Electronic Sales Box 918 Angola
Mass E L Montague Assoc 404 Jerusalem Rd
Cohasset 616 383-0634
Minn Carl-M Co 1926 Wellesley Ave St Paul .612-699-8004
Mo C W Dreese 3710 Canterbury Pl
Independence ....IN 1-7294
NY Al Friedman Assoc 189-19 Jamaica Ave
Jamaica 776-4800
Ohio Shamrock Electronic Sales 789 Orlando Ave
Akron
Pa Henry Goodman 401 W Mt Airy Ave Phila ..CH 7-7116
Wash Don Smith Sales 2320 N 45th St Seattle ..ME 3-3160
Can William Cohen Ltd 8900 Park Ave Montreal

C C A ELECTRONICS CORP 716 JERSEY AVE
GLOUCESTER NJ 08030..............609 456-1716
B WISE EMP 40 ENG 6 $1,000-$2,500M
Ala Wm Moats General Delivery Athens 205-766-3360
Cal J Miller 165 Crestview Camarillo......805-485-4622
Ga H M Suber Box 1177 Moultrie 912-985-2653
Ill G DuVall 6838 N Ottawa Chicago 312-774-5115
Mass J Ring Box 587 W Dennis 617-398-3776
Neb T & M Gleason Box 531 York 402 362-4433
NY C G Cunningham Rte 1, Box 51 Taos ...505 758-2686
NC L Behr Box 2901 Greenville 919-758-4509
Ohio G Waslo 10860 Goslin Rd Cincinnati....513 931-1801
Okla C Hill 2815 4th Nat'l Bank Bldg Tulsa .918 LU 3-1061
Pa F Chassey Box 17 Lafayette Hills 215 828-5847
Tenn W O Barry Box 609 Lebanon.........615 444-0305
Wash J McClamrock 137 SW 153rd St
Seattle ....206 CH 4-9391
Can Caldwell A/V Equip Co Ltd 135 Midwest Rd
Scarborough, Ont 416 751-0881
For Telesco Intl Corp 171 Madison Ave
New York ....212 MU 3-9420

C-COR ELECTRONICS INC 60 DECIBEL RD
STATE COLLEGE PA 16801 ....814 238-2461
J WINNETT EMP 110 ENG 5 $2,500-$5,000M
ADV PGS 21,34
Ariz R A Mayes Co 4747 N 16th St Phoenix 279-5243
Cal Astroel Inc 349 First St Los Altos 948-3636
Cal Crown Electronics Box 4741
North Hollywood 877-3550
Colo R A Mayes Co Box 9 Broomfield 466-6311
DC Eastern Instru Inc 2600 Virginia Ave N W
Washington 333-8880
Fla Gra-Mar Inc 3113 Lawton Rd Orlando 841-2330
Ill Communications Engineers 7106 N Western Ave
Chicago 761-0548
Md Eastern Instrumentation Inc 1002 Ingleside Ave
Baltimore 744-3675
Mass Addelco Corp 56 Pickering St Needham 444-4754
NJ F & F Assoc 58 Arcadia Rd Woodcliff Lake ..778-6767
NM R A Mayes Co 8016 Zuni Rd SE
Albuquerque 265-7989
NY Tesco Assoc 2002 Teall Ave Syracuse......463-4566
NY F & F Assoc 461 Old Country Rd Westbury ..334-1160
NC P J Nahser Co 2709 Amherst Ave
Burlington 226-8053
Pa Eastern Instrumentation Inc 613 Cheltenham Ave
Philadelphia 927-6269
Tex R A Mayes Co Box 1021 Richardson 235-3043
Va Eastern Instrumentation Inc Ross Bldg
Richmond 644-6622
Wash Paratech Box 5427 Seattle 784-6447
Can Componetics Ltd 62 Alness St Downsview ...636-3673
Can Componetics Ltd 6420 Victoria Ave
Montreal 342-4117
For Sylvan Ginsbury, Ltd 72 W 45th St
New York, N Y 687-3213

C & D BATTERIES DIV ELTRA CORP
WASHINGTON & CHERRY STS CONSHOHOCKEN
PA 19428 TWX 510-660-8346 ....215 828-9000
H JENSEN EMP 849 ENG 28 OVER $10,000M
Ala Swift Industrial Power 2423 29th Ave N
Birmingham 322-2437
Ark Gregory-Salisbury & Co Inc 500 E Markham St
Little Rock ....FR 5-1383
Cal Fred Pelletier Co 3436 San Fernando Rd
Los Angeles 254-2544
Cal McCormick-Morgan Inc 1745 Evans Ave
San Francisco 826-9559
Cal C-D Batteries Div 2117 S Anne St
Santa Ana 540-2977
Colo Toncray Equipment Co 1711 Blake St
Denver 244-1102
Conn Packaged Ind Power Inc 29 Whalley Ave
New Haven 624-8876
DC C & D Batteries Div 1735 K St NW
Washington 296-6491
Fla C E Singleton Co 551 N Ellis Rd Jacksonville .384-3401
Fla Chas E Singleton Co 11112 19th St Tampa .935-4808
Ga Mark C Pope Assoc 240 Walker St SW
Atlanta 523-3292
Haw Intelect Inc 818 Kapiolani Blvd Honolulu 531-6855
Ill Hubill Inc 121 E Lake St Peoria 688-2449
Ill Agair Equipment Inc 4053 May St Hillside .ES 8-7070
Ind Macco Industrial Power Inc 652 E Bridge St
Mooresville 831-0933
Iowa Hubill Inc 1025 W 2nd St Davenport 323-8031
Kan R M Ash & Assoc 5000 Johnson Dr
Shawnee Mission ....RA 2-3191
La Gregory-Salisbury & Co Box 1126
Baton Rouge 342-2871
La Gregory-Salisbury & Co 805 S Front St
New Orleans 524-5207
Md C F Gross Assoc 19 E 21st St Baltimore 539-1007
Mass John J Shaunessy Assoc Inc 12 A Green St
Woburn 935-3730
Mich C & D Batteries Div 25120 Grand River Ave
Detroit 255-1170
Minn John A Hansen Co 2119 Grand Ave St Paul ..690-1244
Miss Gregory-Salisbury & Co Inc 350 N Mart Plaza
Jackson 362-1671
Mo Elmer H Boyer & Assoc Inc
5460 Highland Park Dr St Louis ....JE 1-2115
Neb Western States Supply Co 1517 Harney ST
Omaha 342-4828
NJ Packaged Industrial Power Inc 240 Fairmont Ave
Jersey City 434-0671
NY Jos F Kolenberg Assoc 5 Herbert Dr Latham .785-7278
NY C & D Batteries Div 45 Scoville Ave Buffalo .825-8050
NY C & D Batteries Div 3100 Monroe Ave
Rochester 586-9300
NY J & M Schaefer Inc 3418 Burnet Ave
Syracuse 463-5223
NC William G Baynard Box 11423 Charlotte ...333-3860
Ohio Robt H Welf & Assoc Inc 20850 Sheldon Rd
Brookpark 243-1900
Ohio Power Operated Products 5912 Hamilton Ave
Cincinnati 541-1399
Ohio C & D Batteries Div 782 McNaughton Rd
Columbus 237-5565
Ore C & D Batteries 218 Oregon Pioneer Bldg
Portland 228-4280
Pa Charles F Gross Assoc 8004 Traymore Ave
Philadelphia 247-2408
Pa A C Moore 727 Penn Ave Pittsburgh.......241-9051
Tenn Swift Industrial Power 4315 Papermill Rd
Knoxville 584-2921
Tenn Gregory-Salisbury & Co 240 South Pkwy E
Memphis 948-0496
Tex Southwestern Battery Supply Co Box 1209
Garland ....BR 6-9475
Tex C & D Batteries Div 3310 Richmond Ave
Houston ....JA 2-0620
Utah Toncray Equipment Co 566 W 7th S St
Salt Lake City 363-9822
Va John J Wilson Assoc Box 9533 Richmond ...266-0761
Wash C & D Batteries Div 5201 1st Ave S Seattle .762-9460
Wash Joseph C Platt Co Inc 400 Aurora Ave
Seattle 632-6500
Wash B Wilkening Co 125 Mission Ave E Spokane .FA 7-7722
Wis Battree CO 8828 N Port Washington Rd
Milwaukee 352-652

CEA DIV BERKLEONICS INC
1221 S SHAMROCK AVE MONROVIA
CAL 91016 213-359-9261
R CANNON EMP 55 ENG 6 $500-$1,000M
Ala Mekco Assoc Holiday Off Ctr Huntsville .205-881-3721
Ariz Vinson Assoc 44 E Indian School Rd
Scottsdale 602-947-7371
Cal M A Stolaroff Co 4622 W Slauson Ave
Los Angeles 213-295-7781
Cal Long & Assoc Inc 505 Middlefield Rd
Redwood City 415-369-3324
Colo Vinson Assoc 3600 S Lincoln
Englewood 303-789-2203
Fla Mekco Assoc 3165 McCrory Rd
Orlando 305-841-2215
Md S & S Assoc Inc 7720 Wisconsin Ave
Bethesda 301-654-1434
Mich Carter McCormic & Peirce Inc
23995 Freeway Pk Dr Farmington ..313-477-7700
Minn Systems Engineering Assoc 8633 Harrison S
Minneapolis 612-881-6386
NH Engineering Assoc of N Eng Inc 319 Lincoln St
Manchester 603-623-7294
NJ Marchand-Fara 15 Alden St Cranford
NM Vinson Assoc Box 3827 Sta D
Albuquerque 505-298-7442
NY Marchand-Fara 1295 Northern Blvd
Manhasset 516-617-1151
NC Mekco Assoc 100-B Lindsey Burlington .919-226-7177
Ohio Carter McCormic & Peirce Inc 3691 Lee Rd
Cleveland 216 921-1360
Ohio Carter McCormic & Peirce Inc 3406 N Main
Dayton 513-278-5873
Pa S & S Assoc Inc Boro Line Rd
King of Prussia 215 265-3450
Tex Lear & Assoc Box 1266 Richardson ...214-231-7696
Wash Dewar Assoc 6361 1st Ave S Seattle ..206-763-2233
For Trans-World Trade 11973 San Vicente Blvd
Los Angeles Cal 213-472-0444

CEC-BENMAR 3000 W WARNER AVE SANTA ANA
CAL 92704 TWX 67-8338 714-540-5120
J MASUCCI EMP 112 ENG 5 $2,500-$5,000M
Cal N Mitchell 3000 W Warner Ave Santa Ana ..540-5120
Fla L Weidman 2225 NE 16th St Ft Lauderdale .564-5249
La A Gaudin 1220 Jung Blvd Marrero 341-0760
Mich R Krause 1570 Bournemouth
Grosse Pte Woods 886-8690
NY C B McManus Jr Box 674 New Rochelle 632-9200
Can H Fraser 6955 Somerled Ave
Montreal 265 Que 487-4224

CEDAR DIV CONTROL DATA CORP 5806 W 36TH ST
MINNEAPOLIS MINN 55416
TWX 910-576-3434 612-929-1681
C TEICHERT EMP 450 ENG 40 $5,000-$10,000M
Cal Jack Pyle Co 1611 Borel Pl San Mateo .415 349-1266
Cal W Orndorff 8616 La Tijera Blvd
Los Angeles 213-670-3640
Cal Cairns Engrg Sales Corp 6151 W Century Blvd
Los Angeles 213-670-1700
Fla W A Brown & Assoc 222 Weber Ave
Orlando 305-425-5505
Fla W A Brown & Assoc 3037 NE 32nd Ave
Fort Lauderdale 315-564-8000
Ga Aero Reps Inc 1212 Swift St Box V
Perry 912-987-2174
Mass Underwood Sales Corp 32 Shawsheen Plaza
Bedford 617-275-8656
Minn D Sundell 5806 W 36th St Mnpls 612-929-1681
NM A L S Electronics Box 11626
Abuquerque 505 298-2575
NY F Watson 210 Plaza New York 212-594-6200
Ohio Research Devel Prod Assoc
Box 3145 5877 Huberville Ave
Dayton 513 253-6175
Ohio Research Devel Prod Assoc Box 205
Cleveland 216 526-5260
Tex Hamilton & Assoc 3018 Shady Springs
San Antonio 512-342-9905
Tex Hamilton & Assoc 911 Omar St
Houston 713-862-0639
Tex M S Taylor 6909 Dubuque La Austin ..512-926-3102
Tex Texport Co 2411 Farrington St Dallas .214-631-6270
Va W A Brown & Assoc 325 First St
Alexandria 703-836-1800
Wash Avionics Liaison Inc 6770 Perimeter Rd S
Seattle 206-767-3870
Can Aero Sales Engrg Co 4 Racine Rd
Rexdale, Ont 416 249-9139
Can Aero Sales Engrg Co 2695 Regina St
Ottawa, Ont 613 828-8560

C-E ELECTRONICS DIV AMETEK
880 PENNSYLVANIA BLVD FEASTERVILLE
PA 19047 215-355-6900
C MILLER EMP 60 ENG 10 $2,500-$5,000M

CEI DIV, WATKINS-JOHNSON CO
6006 EXECUTIVE BLVD ROCKVILLE MD 20852
TWX 710-824-9603 301-881-3300
R MAY EMP 360 ENG 26 $5,000-$10,000M
Ala Gentry Assoc 2901 W Clinton Ave
Huntsville 205-534-9771
Cal L & M Engrg Inc 9911 Inglewood Ave
Inglewood 213-678-5409
Fla Reynolds & Assoc Box 1043 Eau Gallie .305-727-3205
Mass Lancer Assoc 16 Adams St Burlington
NJ Bonn Assoc 266 Lake Ave Metuchen ...201-549-9573
NY Ossmann Instr Inc 101 Pickard Dr
Syracuse 315-454-2461
Tex J W Casey III Rte 10 Box 189 San Antonio

CELANESE PLASTICS CO 550 BROAD ST NEWARK
NJ 07102 TWX 710-995-4446 ....201 877-2300
J GIORDANO EMP 2500 OVER $10,000M
Cal Celanese Plastics Co 21515 Hawthorne Blvd
Torrance 542-3773
DC Celanese Plastics Co 1101 17th St NW
Washington 296-2890
Ga Celanese Plastics Co 443 E Paces Ferry Rd NE
Atlanta 261-7850
Ill Celanese Plastics Co 6050 W Touhy Ave
Chicago ....NE 1-8600
Mass Celanese Plastics Co 824 Boylston St
Brookline-Chestnut Hill 734-9420
Mich Celanese Plastics Co 702 Northland Towers E
Southfield 444-1150
Mo Celanese Plastics Co 200 S Bemiston Ave
St Louis 863-3421
NJ Celanese Plastics Co 160 Terminal Ave
Clark Twp ....FU 1-4400
NY Celanese Plastics Co 522 Fifth Ave
New York ....TN 7-2000
Ohio Celanese Plastics Co 14701 Detroit Ave
Lakewood 228-3700
Can Canadian Chemical Co Ltd 800 Dorchester Blvd W
Montreal 878-1581
For Amcel Co Inc 522 Fifth Ave New York, NY .TN 7-2000

CELCO 70 CONSTANTINE DR MAHWAH N J 07430
TWX 710-988-1018 ....201 327-1123
E RYDER EMP 45 ENG 18 $1,000-$2,500M
Cal CELCO 1150 E 8th St Upland 982-0215
Fla CELCO 311 NE 78th St Miami 751-1132

CELTIC INDUSTRIES INC 14743 OXNARD ST
VAN NUYS CAL 91401 ....213 787-3615
C WHITE EMP 10 ENG 2 UP TO $100M
Jap Sunny Ltd Box 207 Tokyo

CENTORR ASSOCIATES INC BOX 175 RTE 28
SUNCOOK N H 03275 603-485-9504
D THOMAS EMP 38 ENG 3 $500-$1,000M
Ariz Electronic Enterprises 45 W First Ave
Scottsdale 602-946-9860
Cal West Kensington Engrg 1025 Glendale Blvd
Los Angeles 213-384-2010
Colo Applied Engrg Prod Co 1850 S Columbine
Denver 303-733-2649

Md Kinney Technical Prod Inc 3923 Plyers Mill Rd Kensington 301-942-1033
Mich Anger Assoc 13126 Michigan Ave Dearborn 313-584-9853
Minn Arjay Sales 6121 Excelsior Blvd Mnpls . 612-921-1853
NJ Richards Assoc 287 Haledon Ave Haledon 201-684-8700
NM Electronic Enterprises 5206 Constitution Ave NE Albuquerque 505-256-1585
NC Lee Ltd Bethania 919-924-8245
Ohio RDP Assoc 5877 Huberville Ave Dayton . 513-253-6175
Pa J M Donoghue & Assoc Box 8818 Pittsburgh 412-371-7233
Utah Applied Engrg Prod Co 6375 Emigration Canyon Salt Lake City 801-364-4942
Wash Brett Assoc 2705 Calif Ave S W Seattle 206-935-8054
Ger R H Stern Nuclear Div 6 Frankfurt/Main Kaiserstr 13 Frankfurt
GB H Yeomans 6 Fairwater Pk Barnwood Gloucester
Neth Technisch Advies-En Handelsburo Oostzeedijk 138 Rotterdam

CENTRALAB, DIV GLOBE-UNION INC
5757 N GREEN BAY AVE MILWAUKEE WIS 53201
TWX 910-262-3084 .... 414 228-1200
E CLEMICK EMP 2700 OVER $10,000M
ADV PG 123

Ariz Toward Engrg Assoc 4240 E Clarendon Phoenix 602 955-3193
Cal Logan Sales Co 463 Brewster 5 Redwood City 415 369-6726
Colo Electro-Rep Inc 1051 S Platte River Dr Denver 303 744-2821
Fla Cartwright & Bean 609 E Colonial Dr Orlando 305 425-8284
Ga Cartwright & Bean 3223 Cain's Hill Pl NW Atlanta 404 237-2273
Ill Centralab 7418 W Belmont Ave Chicago 312 889-2900
Ind Les M DeVoe Co 4010 Washington Blvd Indnpls 317 283-1395
Iowa Jerry Vrbik Co 2818 A Ave NE Cedar Rapids 319 365-0461
Kan Lowell, Kangas & Assoc Inc Box 4116 Overland Park 913 888-3200
La Cartwright & Bean 1812 Bullard Ave Metairie 504 887-0482
Md Jerry Bresson Assoc 511 N Charles St Baltimore 301 685-0100
Mass Centralab 60 Dedham Ave Needham ... 617 444-4847
Mich R C Merchant & Co Inc 18411 W McNichols Rd Detroit 313 535-6000
Minn Centralab 4901 W 77th St Minneapolis . 612 920-4130
Mo Lowell, Kangas & Assoc Inc Box 26 Creve Coeur Sta St Louis 314 647-1111
NJ Centralab 136 Lakeview Ave Clifton ... 201 478-5300
NM Electro-Rep Inc 1415 Richmond NE Albuquerque 505 256-1749
NY W H Zimmerman 112 Dewitt St Syracuse 315 474-4889
NC Cartwright & Bean 625 Harwyn Dr Charlotte 704 537-7965
Ohio Mike Roth Sales Co 678 S Green Rd Cleveland 216 382-9090
Pa Jerry Bresson Assoc 107 Forrest Ave Narberth 215 839-6770
Tenn Cartwright & Bean 560 S Cooper St Memphis 901 276-4442
Tex Robert E Nesbitt Co 4810 Hazard Houston 713 528-3811
Wash Jas J Backer Co 221 W Galer St Seattle 206 283-6470
Wis Mueller Elctn Sales Inc 10721 W Capitol Dr Milwaukee 414-464-4210
Can Centralab Canada Ltd 106 McMaster Ave Ajax, Ont 416 942-1541
For Globe-Union Intl Div 5757 N Green Bay Ave Milwaukee, Wis 414 228-2801

CENTRALAB SEMICONDUCTOR DIV GLOBE-UNION
INC 4501 N ARDEN DR EL MONTE CAL 91734
TWX 910-587-3429 .... 213 686-0567
F ANGIER EMP 456 ENG 30

Ariz Toward Engrg Assoc 4240 E Clarendon Phoenix 602 955-3193
Cal Logan Sales Co 463 Brewster 5 Redwood City 415 369-6726
Colo Electro-Rep Inc 1051 S Platte River Dr Denver 303 744-2821
Fla Cartwright & Bean 609 E Colonial Dr Orlando 305 425-8284
Ga Cartwright & Bean 3223 Cain's Hill Pl NW Atlanta 404 237-2273
Ill Centralab 7418 W Belmont Ave Chicago 312 889-2900
Ind Les M DeVoe Co 4010 Washington Blvd Indianapolis 317 283-1395
Iowa Jerry Vrbik Co 2818 A Ave NE Cedar Rapids 319 365-0461
Kan Lowell, Kangas & Assoc Box 4116 Overland Park 913 888-3200
La Cartwright & Bean 1812 Bullard Ave Metairie 504 887-0482
Md Durkin Assoc 2708 Bartlett La Bowie .. 301-262-0942
Mass Centralab 60 Dedham Ave Needham ... 617 444-4847
Mich R C Merchant & Co 18411 W McNichols Rd Detroit 313 535-6000
Minn Centralab 4901 W 77th St Minneapolis . 612 920-4130
Mo Lowell, Kangas & Assoc Box 26, Creve Coeur Sta St Louis 314 647-1111
NJ Elcom Inc 130 Easton Rd Glenside 215-885-1325
NM Electro-Rep Inc 1415 Richmond NE Albuquerque 505 256-1749
NY Centralab New York 212 564-7540
NC Cartwright & Bean 625 Harwyn Dr Charlotte 704 537-7965
Ohio Mike Roth Sales Co 678 S Green Rd Cleveland 216 382-9090

Tenn Cartwright & Bean 560 S Cooper St Memphis 901 276-4442
Tex Robert E Nesbitt Co 4810 Hazard Houston 713 528-3811
Wash Jas J Backer Co 221 W Galer St Seattle 206 283-6470
Wis E A Dickinson & Assoc 3612 N Green Bay Ave Milwaukee 414 264-1080
Can Lake Engrg Co Ltd 123 Manville Rd Scarborough Ont 416-751-5980
For Globe-Union Intl Div 5757 N Green Bay Ave Milwaukee 414 228-2801

CENTRAL COIL CO INC 110 W MORGAN ST
MARTINSVILLE IND 46151 .... 317 DI 2-3361
J KEITH EMP 150 ENG 3 $1,000-$2,500M

NY KBC Engineering Co 300 Northern Blvd Great Neck
Pa KBC Engineering Co Box 117 Prospect Park
Tex Jack Morgan Co Box 35887 Dallas

CENTRAL DYNAMICS LTD 147 HYMUS BLVD
PTE CLAIRE QUE TWX 610-422-3906 .. 514 697-0811
D WEISE EMP 350 ENG 39 $2,500-$5,000M

Cal Central Dynamics Corp 2016 Tondolea La LaCanada 213-790-4393
Ga Central Dynamics Corp 2336 F Ashley Oaks Dr Atlanta 404-636-0594
Ind Central Dynamics Corp RR 6 Marion ... 317-662-1507
NJ Central Dynamics Corp Cherry Hill Ind Ctr Cherry Hill 609-424-3900

CENTRAL RESISTOR CORP 507 FACTORY RD
ADDISON ILL 60101 312-543-3814
K MAISEL EMP 110 ENG 4

CENTRAL SCIENTIFIC CO 2600 S KOSTNER AVE
CHICAGO ILL 60623 .... 312 277-8300
L MILLER

Ala Central Scientific Co 2128 7th Ave S Birmingham .... FA 4-2433
Ariz Central Scientific Co 15 N 40th Pl Phoenix .. 273-1431
Cal Central Scientific Co 1040 Martin Ave Santa Clara .... CH 8-1600
Mass Central Scientific Co 160 Washington St Somerville .... PR 6-1800
NJ Central Scientific Co 237 Sheffield St Mountainside .... AD 3-2000
Okla Central Scientific Co 6910 E 12th St Tulsa . TE 6-4681
Tex Central Scientific Co 6610 Stillwell St Houston .... MI 4-1401
Can Central Scientific Co 14920 Stony Plain Rd Edmonton, P A 489-0404
Can Central Scientific Co 104 Gun St Pte Claire, Que 695-2610
Can Central Scientific Co 376 Churchill Ave Ottawa 613-2-1601
Neth Cenco Instru MIJ NV Box 336 Konijnenberg 40, Breda 01600-22477
BC Central Scientific Co 1206 Homer St Vancouver 684-5384

CENTRAL SCREW CO 2530 CRESCENT DR
BROADVIEW ILL 60153 .... 312 344-7722
R MUNSON EMP 400 ENG 3 $5,000-$10,000M

Cal Central Screw Co 2901 S Tanager Los Angeles 723-9666
Iowa W Clason 4612 40th St Des Moines
Ky Central Screw Co Steadmantown La Frankfort 223-2121
Mich Johnston Cutting Inc 22100 Coolidge Hwy Oak Park .... JO 4-5641
Mo Leander & Co 12025 Manchester Rd St Louis 966-0410
Neb J A & R J Clancey Co 3527 Broadway Kansas City, Mo 931-3090
NH Central Screw Co 149 Emerald Keene ..... EL 2-5121
NM Tom Deskin 116 Lomas Blvd NE Albuquerque .... CH 2-3581
Tex Berry Co 2710 Oaklawn Ave Dallas 528-0461
Va Allie B Kreger Box 1971 Roanoke 345-7011

CENTRAL TRANSFORMER CO
850 W JACKSON BLVD CHICAGO
ILL 60607 .... 312 TA 9-1936
M WHITMAN EMP 85 ENG 5 $1,000-$2,500M

Cal Jack Logan & Assoc 801 Mahler Rd Burlingame 697-6377
Fla H D Sarkis 671 Dommerich Dr Maitland 305 647-3671
Ill Hill-Gray Assoc 2 Salt Creek La Hinsdale ... 325-4810
Md Ansell Eng Co 816 Thayer Ave Silver Spring . JU 8-4222
Mass Bordewieck Eng Sales Co 221 Grove St Braintree .... VI 3-0845
Mo F V Becklean Jr 382 Gascony Way Warson Woods YO-6-0360
NY Ray Fara Assoc Box 81 Manhasset ...... MA 7-1151
Ohio Augey Natalino Assoc 209 Harmony Hill Akron .... MO 6-1447
Ore Bern Doran Sales Box 115 Forest Grove 357-3333
Tex Bauer Co 1017 Norwood St, Box 9007 Fort Worth .... ED 6-4884

CENTROID INC 50 WASHINGTON AVE
GARDEN CITY PARK N Y 11040 .... 516 PI 77250
G STARR EMP 25 ENG 2 $1,000-$2,500M

CENTURION PRODUCTS DIV 7607 PAGE AVE
ST LOUIS MO 63133 .... 314 PA 6-2511
J WHITE EMP 20 ENG 2 $100-$250M

Wash M K Widdekind Co 815 W Ewing St Seattle . AT 4-8020

CENTURY AUTOMATION, INC. 9315 ARIZONA PL
LOS ANGELES CAL 90045
EMP 25 ENG 6

DC B Combs 1625 Eye St NW Washington 393-6246

CENTURY ELECTRIC CO 1806 PINE ST ST LOUIS
MO 63166 .... 314 CE 1-4920
J BOLTON EMP 1800 ENG 65 OVER $10,000M

Cal F R Hattfield 1485 Bayshore Blvd San Francisco .... JU 4-0602
Colo M G Mueller 1644 Blake St Denver 222-3515
Fla R L Jethro 5445 Mariner St Tampa 872-8549
Ga D J Pesall 5105 Peachtree Ind Blvd Chamblee 457-6391
Ill R E Emo 6835 W Higgins Rd Chicago ..... SP 4-6969
Ind H C Roberts 6919 E 10th St Indianapolis ... 357-8734
Iowa L T Kelly 2435 Kimberly Rd Bettendorf 355-4775
La C Espy Reed 501 N St Patrick St New Orleans .... HU 2-3106
Md R P Kraus 6800 Loch Raven Blvd Baltimore . 828-8888
Mass S Barbas 235 Bear Hill Rd Waltham 899-4151
Mich D E Shaw 23255 Woodward Ave Ferndale .. 545-6166
Minn M W Tollefson 711 W Lake St Minneapolis . TA 7-2575
Neb H B Hamel 2750 N 63rd St Omaha 551-1477
NY T J McGough 647 S Warren St Syracuse .. HA 2-0473
NC H B Sandberg 4037 E Independence Blvd Charlotte 537-0033
Ohio D D Penrod 5558 Pearl Rd Cleveland 888-2900
Okla F Murphy 3545 E 51st St Tulsa .... RI 2-2158
Ore L C Meyers 2538 NW 22nd Pl Portland 226-6251
Pa W C Wetlaufer 1 Bala Ave at City Line Bala Cynwyd .... MO 4-6262
Tenn J B Heil 1254 Lamar Ave Memphis 274-5366
Tex B G Biggs 7600 Carpenter Frwy Dallas .... RI 8-4477
Utah J W Lowder 1476 Major St Salt Lake City . IN 7-5489
Wash B J Gill N 104 Madelia Spokane .... KE 5-2931
Wis J E Baranski 6833 W Fond du Lac Ave Milwaukee 461-6220

CENTURY ELECTRONICS & INSTRUMENTS INC
6540 E APACHE TULSA OKLA 74115
TWX 910-845-2129 918-835-9951
D WEICHERT EMP 273 ENG 35 $2,500-$5,000M

Ala Mekco Assoc 3322 Memorial Pkwy S Huntsville 881-3721
Alas Arva Inc Box 759 Anchorage 272-5231
Ariz T Louis Snitzer Co 15 North 40th Pl Phoenix 273-1673
Cal T Louis Snitzer Co 9005 Exposition Blvd Los Angeles 836-6170
Cal T Louis Snitzer Co 10320 Saratoga-Sunnyvale Rd Cupertino 257-8333
Cal T Louis Snitzer Co 1150 Camino Del Mar Del Mar 454-2191
Colo Space Sys Sales & Engr Inc 5810 W 38th Ave Denver 424-5574
Conn Datech Assoc, Inc 965 Dixwell Ave New Haven 865-1365
DC Bill G Combs 1625 Eye St NW Washington .. 393-6246
Fla Mekco Assoc 3165 McCrory Rd Orlando 841-2215
Ill Loren F Green & Assoc 5218 W Diversey Ave Chicago .... AV 6-6824
Md Gawler-Knoop Co 1751 Rockville Pike Rockville 427-3950
Mass Datech Assoc, Inc 815 Washington St Newtonville 527-5394
Mich S Sterling Co 21250 10 1/2 Mile Rd Southfield 442-5656
Minn Loren F Green & Assoc 6225 University Ave NE Minneapolis 781-1611
Mo S Sterling Co 11734 Lackland Ind Dr St Louis 542-3636
NJ Gawler-Knoop Co 14 Beaufort Ave Roseland .... CA 6-4545
NM Space Sys Sales & Engrg Inc 1401 Valencia SE Albuquerque 255-8716
NC Mekco Assoc 100-B Lindsey St Burlington .. 226-7177
Ohio S Sterling Co 5827 Mayfield Rd Cleveland .. HI 2-8080
Ohio S Sterling Co 2673 Culver Ave Dayton 298-7573
Okla Applied Science Assoc 7966 E 41st St Tulsa . 627-6199
Ore Arva Inc 2035 SW 58th Ave Portland 292-8762
Pa Gawler-Knoop Co Box 414 Richboro 925-7550
Pa S Sterling Co 2 Parkway Center Pittsburgh .. 922-5720
Tex Applied Science Assoc 3707 Rawlins St Dallas 526-8316
Tex Applied Science Assoc 6218 Westheimer Houston 781-1441
Utah Space Sys Sales & Engr Inc 1380 W North Temple Salt Lake City 322-5045
Wash Arva Inc 1320 Prospect St Seattle 622-0177
Can Computing Devices of Can Ltd Box 508 Ottawa 829-1800

CERAC INC BOX 597, BUTLER WIS 53007 .. 414 781-5525
J WITNEY EMP 15 ENG 1 $100-$250M

Cal E F Whitmore Co Box 8262 San Marino 283-0711
Mass Fred Lesser Box 241 Bedford
NC R Lee Ltd Bethania
Pa Dugger Co 412 E Spring Ave Ardmore
Neth Micropure Valkenkamp 31 Oriebergen
Jap New Metals & Chemicals Corp Ltd Box Central 565 Tokyo

CERAM CORP 5345 TIMKEN SQUARE LA MESA
CAL 92041 .... 714 463-9211
EMP 9 UP TO $100M

Cal Lo Dan, Inc 1710 Industrial Rd San Carlos 415 592-4600
Conn FLY Assoc Box 304 Fairfield 259-0772
Ill Electro-Comp Sales, Inc 5129 W Devon Ave Chicago .... RO 3-3636
Wash R E Chase & Co 168 Denny Way Seattle 206-682-8893

CERAMASEAL INC, SUB LAPP INSULATOR CO INC
BOX 25 NEW LEBANON CENTER N Y 12126
TWX 14-5442 518-794-6101
G SAWIN EMP 50 ENG 4

Ala Belcher & Assoc Inc 512 N 18th St Birmingham 322-1733
Cal Wadsworth-Pacific Mfg Assoc 71 Parker Ave Atherton 321-3619
DC Rumsey Electric Co 1425 H St NW Washington .... RE 7-8117
Fla Belcher & Assoc Inc 8751 Atlantic Blvd Jacksonville 724-7811
Ga Belcher & Assoc Inc 34 Peachtree St NW Atlanta 525-4221

Ill JSG Electric Co 9420 W River St
Schiller Park 678-5990
La Curtis H Stout Inc Box 13291 New Orleans..482-3183
Mass P J Engrg Sales Co Inc 360 N Beacon
Boston 783-0510
Mich Geo R Horne & Co 1140 N Telegraph Rd
Dearborn ....LO 1-1360
Miss Curtis H Stout Inc Box 967 Jackson ......FL 4-4326
Mo C B Fall Co 317 N 11th St St Louis ......CH 1-2433
NY Canavan-Scanlon Assoc Box 142, Eastwood Sta
Syracuse ....HO 3-9161
NC Jake Rudisill Assoc Box 4245 Charlotte 377-6901
Ohio Bray Assoc Box 182 Chagrin Falls 247-4474
Pa Muller, Harper & Assoc Inc Box 11147
Pittsburgh 931-6460
Tenn Claude E Fox Box 95 Knoxville 522-4404
Tex Elgin B Robertson Inc 1339 Plowman Dallas .942-8486
Can D T Shaw Co Ltd 1966 Graham Blvd
Montreal, Que 735-1541
Ger K Schaefer Gesellschaft Darmstadter Str 62
Frankfurt 0610367361
SAfr Robert E O Olsson Box 165 S-591-0
Motala 0141/12229
Aust Charles M Terry Pty Ltd Box 2391 GPO
Sydney 28-8128

CERAMIC MAGNETICS INC 87 FAIRFIELD RD
FAIRFIELD N J 07006 ....201 227-4222
J MECCA EMP 18 ENG 6
Cal Wads Mfg Assoc 71 Parker Ave
Atherton 415 321-3619
Conn Wads Mfg Assoc 23 Gregory Blvd
E Norwalk 203-866-6622
Fla Tech Rep Assoc Box 2095 Melbourne ..305 723-9140
Ill Wads Mfg Assoc 1229 Jarvis St
Chicago 312 274-0601
Md J-H Electronic Sales Co Box 6844
Towson 301 825-4440
Minn R G Ragon 1136 W Larpenteur Ave
St Paul 612 488-6634
NH O D Buttolph Warner Hill Rd East Derry .603 432-2882
NJ J A Mecca 87 Fairfield Rd Fairfield....201-227-4222
NY Wads Mfg Assoc 12 Jamstead Rd
Williamsville 716-634-8650
Tex Wads Mfg Assoc 210 S Dorothy
Richardson 214 231-1805
Wash Jon Jolly 413 Maritime Bldg Seattle ...206 624-2152
For Rocke World Trade Co Box 237
Hamaroneck 914-698-2783

CERAMICS INTERNATIONAL CORP 39 SIDING PL
MAHWAH NJ 07430 ....201 529-2800
H SMITH EMP 75 ENG 5 $1,000-$2,500M
Conn R S Pettigrew & Co, Inc 10 N Main St
West Hartford 233-8533
Ill Escor Assoc 6582 Northwest Hwy Chicago ..763-1570
Ind Walter W Bieberich 2817 Plaza Dr
Ft Wayne 745-2928
Mass R S Pettigrew & Co Inc 950 Watertown St
West Newton 696-5770
NY Jones-Sudders Box 366 Middletown 342-0109
For Phillip Baksh Regent St W 1 London.......CUN 4225
Fr Precimeca 18 Rue D'Arras Nanterre, Seine .782 56.80
GB Philip Baksh Regent St W1 London ....Cun 4225

CERRO COPPER & BRASS CO DIV CERRO CORP
ALLOYS DEPT ROLLING PLACE SPRINGDALE
CONN 06879 ....203 327-0550
R DARNELL
ADV PGS 13,580

CERRO COPPER & BRASS CO, STAMFORD WKS
ROLLING PL STAMFORD, CONN 06907 ..203 327-0550
R DARNELL EMP 500 $500-$1,000M

CERRO CORP 300 PARK AVE NEW YORK NY 10022
TWX 212 867-5894 ....212 688-8822
J GALLO EMP 20,380 ENG 400 OVER $10,000M
Cal H G Jones 5123 Stansbury Ave Sherman Oaks
Conn G C Davies 220 Goodale Dr Newington
Fla E J Parker 13 Westchester Dr Kissimmee
Ill R L Slatterly 3930 Gilbert Ave Western Springs
Mich G E Merritt 3650 Bradford Dr Birmingham
Mo L T Harper 1575 Golden Gate Florissant
NJ A E Collier 1199 Woodside Rd Scotch Plains
Ohio R G Boudon 1443 W Clifton Blvd Lakewood
Pa C G Falkenstein 306 Tassel La Pittsburgh
RI R H Dubuc 21 Edgewood Dr Barrington
Tex W S Jones 5526 Hummingbird Dr Houston

CERRO SALES CORP 300 PARK AVE NEW YORK
NY 10022 TWX 212 867-5894 ....212 688-8822
J GALLO

CERRO WIRE & CABLE DIV CERRO CORP
NICOLL & CANNER STS NEW HAVEN,
CONN 06504 TWX 710-465-2149 ......203 772-2250
E REED EMP 480 ENG 15 OVER $10,000M
Cal H G Jones 17941 Ventura Blvd Encino..213 345-6606
Fla E J Parker 7040 Lake Ellenor Dr
Orlando 305 855-7270
Ill J McKee 2615 Grant Ave Bellwood 312 379-2265
Md B T Doane 4215 Oakridge La
Chevy Chase 301 656-6459
Mich G E Merritt 28660 Southfield Rd
Lathrup Village 313 442-5833
Mo L T Harper 200 S Bemiston Ave
Clayton 314 721-2498
NJ A E Collier 4 Cragwood Rd Avenel 201 381-2170
Ohio R Boudon 16601 St Clair Ave Cleveland .216 481-3770
Pa T A Henderson 1445 City Line Ave
Overbrook Hills 215 477-2443
Tex W S Jones 3407 Montrose Blvd
Houston 713 523-6843

CETRON ELECTRONIC CORP 715 HAMILTON ST
GENEVA ILL 60134 ....312 232-4140
R HENDRICKSEN EMP 130 ENG 5
$1,000-$2,500M

C-F ELECTRONICS INC 14707 KESWICK ST
VAN NUYS CAL 91405 ....213 781-3849
B BARTON EMP 30 ENG 2 UP TO $100M
Ohio Electro Com 8761 Snow Rd Cleveland......886-2404
Ohio Electro Com 1700 Needmore Ave Dayton ..CR 8-4797

C-F NETWORKS INC 3102 N 29TH AVE PHOENIX
ARIZ 85017 ....602 253-5145
H FULK EMP 135 ENG 4
Cal Collins & Hyde Co 1020 Corporation Way
Palo Alto 968-7234
Ind J E Goode 325 W Huron St Chicago, Ill ....MI 2-2022
Minn Stan Clothier Co 10 W 58th St Minneapolis . TA 5-1234
NY Kahgan Sales Co 1261 Broadway
New York ....212 MU 4-7772

CGS UNITS INC 73 SAGINAW DR ROCHESTER
N Y 14623 ....716 244-2080
R TAYLOR EMP 12 ENG 6 $250-$500M
ADV PG 633
Cal RDP Instruments Inc 1338 South Atlantic Blvd
Los Angeles 213-263-4441
Cal RDP Instruments Inc 999 Commercial St
Palo Alto 415-328-6666
Mo Damon Products Inc 733 Hanley Industrial Ct
St Louis 314-644-1212
NJ E C Smith & Assoc 797 Springfield Ave
Summit 201-273-8881
NY E C Smith & Assoc 60 E 42nd St
New York 212-682-6890
NY E C Smith & Assoc 941 Granite Bldg
Rochester 716-546-5090

CHADWICK HELMUTH CO INC 111 E RAILROAD AVE
MONROVIA CAL 91016
TWX 213-571-3024 ....213 358-4567
B MINTEER EMP 20 ENG 4 $2,500-$5,000M
Ala Currie Aerospace Assoc 2603 Artie St SW
Huntsville 536-5650
Cal Morse Assoc 1721 Chestnut St
S San Francisco 567-6871
Conn Equipment Sls Co 3013 Dixwell Ave Hamden . 248-5581
Fla Currie Aerospace Assoc 2907 McCoy Rd
Orlando 855-0843
Kan Aero-Hill Sales Inc 901 N Broadway
Wichita 267-7167
Md K-G Electronics 11151 Veirs Mill Rd
Wheaton 946-4055
Mich Satullo Co 4514 N Woodward Ave
Royal Oak 549-3910
NJ Tek-Sel-Inc 440 N Midland Ave
Saddle Brook 791-5545
NC Currie Aerospace Assoc 614 Nissen Bldg
Winston-Salem 725-1927
Ohio Lowry-Dietrich Co 1276 W 3rd St Cleveland . 781-1855
Pa Acromatix Assoc Inc 3118 Germantown Pike
Fairview Vlg Mtgry Cnty 279-0377
Wash Cane-Topp Co 13547 SE 26th St Bellevue ..746-5750

CHA INDUSTRIES, DIV CARL HERRMANN ASSOC
1215 CHRYSLER DR MENLO PARK
CAL 94025 ....415 322-4561
J STEIMLE EMP 40 ENG 6 $500-$1,000M
Cal Carl Herrmann Assoc 1245 E Walnut St
Pasadena 681-5111
Ill Mesco Inc 10436 S Western Ave Chicago ...445-7121
Mass R A Brosman Box 73 Needham Heights .617 449-1539
Pa Tyler Griffin Co 46 Darby Rd Paoli 644-7710
Wash Walsh-Ehlers, Inc 1138 Poplar Pl Seattle ..322-1155

CHALCO ENGINEERING CORP 15126 S BROADWAY
GARDENA CAL 90247 TWX 213-327-0167 ..FA 1-0121
J COX EMP 120 ENG 19 $1,000-$2,500M
Ala Roy Steckmesser Assoc Box 4006
Huntsville 205-881-1750
Fla Reynolds & Assoc Box 1043 Eau Gallie .305-727-3205
Ill Pat Lind Electronics Co 5483 N Northwest Hwy
Chicago 312-774-1246
Iowa Halgin Sales 4403 First Ave SE
Cedar Rapids 319-363-5119
Kan Halgin Sales Box 1245 Mission 913-722-3323
Mass W E Weeton Co Box 77 Needham 617-444-1012
Minn Pat Lind Electronics Co 10104 Sunset Rd
Circle Pines 612 786-5770
Mo Halgin Sales 201 S Central Ave
Clayton 314-721-4415
NJ K & J Sales Box 1152 Wayne.........201-694-3334
Ohio Ridgway East Inc 27733 Lorain Rd
North Olmsted 216 777-6600
Tex R Braden 2646 Andjon Dr Dallas 214-358-3278
Va Gans-Fryling, Inc 2030 16th St N
Arlington 703-527-3262
Can Applicon Comp Sys 1771 Woodward Dr
Ottawa 5 Ont 613-728-3733

CHAMPION CO 400 HARRISON ST SPRINGFIELD
OHIO 45501 ....513 324-5681
N DICKEY EMP 300 ENG 10

CHANNEL INDUSTRIES INC BOX 3680
SANTA BARBARA CAL 93105 ....805 967-0171
R CALLAHAN EMP 65 ENG 4

CHANNELLOCK INC S MAIN ST MEADVILLE
PA 16335 ....814 336-1175
W DEARMENT EMP 400 ENG 3 $2,500-$5,000M
Cal J J Brown Co 1485 Bayshore Blvd
San Francisco 415 467-2255
Colo Western Ind Sales & Serv Co 2496 W 2nd Ave
Denver 934-0463
Fla George Palmer 1137 NE 7th Ave, Box 4631
Ft Lauderdale 525-3892
Ga Jack C Lyle & Assoc 408 Glenn Bldg Atlanta . 688-5544
Ill Muzzy & Peters 5868 W Lake St Chicago...287-1360
Mass Tom Sawyer Sales Co 19 Rutgers Rd
Wellesley ....CE 5-2667
Mich Wixson-Nehls 1015 Fisher Bldg Detroit 871-8815
Minn R L Perrin & Assoc, Inc 6518 Walker St
Minneapolis 929-0426
Mo Dan Schmelzinger 11412 Summit St
Kansas City ....WI 2-5562
NY A P Henricks Co Inc 78 Reade St
New York 212 732-9630
Ohio Howard W Murray & Co 19407 Frazier Dr
Cleveland 331-3712
Pa Edward D McGinley Box 10336 Pittsburgh ..561-7979
Tex Lynn & Hemphill Inc 2116 N Pearl St Dallas . RI 7-4745
Va Don Miller 2252 Staples Mill Rd Richmond ..353-5324
Wash Robert Sullivan Co Box 200 Rt 6
Port Orchard ....TR 1-0872
Can Seco Tool Co Ltd 340 Dufferin St
Toronto, Ont 531-3516
For United Export Corp Box 147
South Bend, Ind 232-8286

CHARTPAK ROTEX DIV AVERY PRODS CORP
2620 S SUSAN SANTA ANA CAL 92704 .714-540-4020
A LEVA EMP 300 ENG 3

CHASE BRASS & COPPER CO 20600 CHAGRIN BLVD
CLEVELAND OHIO 44122 ....216 283-3900
J STEVENSON EMP 3847
Cal Chase Brass & Copper Co 6279 E Slauson Ave
Los Angeles 685-7621
Colo Chase Brass & Copper Co 5101 Colorado Blvd
Denver 388-2441
Conn Chase Brass & Copper Co Thomaston Ave
Waterbury 756-9444
Ga Chase Brass & Copper Co 695 Stewart Ave SW
Atlanta 755-1611
Ill Chase Brass & Copper Co 5401 W Grand Ave
Chicago 889-4000
Ind Chase Brass & Copper Co 1609 Oliver Ave
Indianapolis 637-1543
La Chase Brass & Copper Co
1000 S Jefferson Davis Pkwy
New Orleans 486-5441
Md Chase Brass & Copper Co 1315 Key Hwy
Baltimore 752-2565
Mass Chase Brass & Copper Co 852 Providence Hwy
Dedham 329-2835
Mich Chase Brass & Copper Co 29333 Stephenson Hwy
Madison Heights 548-1610
Minn Chase Brass & Copper Co 537 7th Ave N
Minneapolis 336-9318
Mo Chase Brass & Copper Co 4641 McRee Ave
St Louis 776-1180
NY Chase Brass & Copper Co 55-60 58th St
Maspeth, LI 894-2770
NC Chase Brass & Copper Co 2300 Distribution St
Charlotte 332-4152
Ohio Chase Brass & Copper Co 1811 E 40th St
Cleveland 881-1700
Pa Chase Brass & Copper Co 1001 Brighton Rd
Pittsburgh 231-2304
RI Chase Brass & Copper Co 14 Powder Hill Dr
Lincoln 724-6750
Tex Chase Brass & Copper Co 16 Drennan St
Houston 222-7266
Wash Chase Brass & Copper Co 971 Thomas St
Seattle 624-1862
Wis Chase Brass & Copper Co 1741 W St Paul Ave
Milwaukee 342-7630

CHASE ELECTRONICS MOTOR DIV INC
82-31 51ST AVE ELMHURST
N Y 11373 ....516 OL 1-0330
V FORRAS EMP 35 ENG 3 $250-$500M

CHASE METALS SERVICE DIV CHASE BRASS &
COPPER CO 20600 CHAGRIN BLVD CLEVELAND
OHIO 44122 ....216 283-3900
J CASE EMP 425
Cal Chase Metals Service 6500 E Washington Blvd
Los Angeles 723-5351
Colo Chase Metals Service 4250 E 52nd Ave
Denver 399-1190
Conn Chase Metals Service 40 E Farm St
Waterbury 756-8001
Ga Chase Metals Service 695 Stewart Ave SW
Atlanta 755-5731
Ill Chase Metals Service 5401 W Grand Ave
Chicago 889-4000
Ind Chase Metals Service 1609 Oliver Ave
Indianapolis 637-1543
La Chase Metals Service
1000 S Jefferson Davis Pkwy
New Orleans 486-5441
Mich Chase Metals Service 29333 Stephenson Hwy
Madison Heights 548-1610
Minn Chase Metals Service 537 7th Ave N
Minneapolis 336-4661
Mo Chase Metals Service 1444 Vernon St
N Kansas City ....VI 2-7475
NY Chase Metals Service 55-60 58th St
Maspeth, LI 894-0500
Ohio Chase Metals Service 11180 Southland Rd
Cincinnati 825-3030
Pa Chase Metals Service 4250 Wissahickon Ave
Phila 223-5800
RI Chase Metals Service 14 Powder Hill Dr
Lincoln 724-7300
Tex Chase Metals Service 5052 Sharp St Dallas .631-4380
Wis Chase Metals Service 6030 N 60th St
Milwaukee 466-7900

CHASE & SONS INC 19 HIGHLAND AVE RANDOLPH
MASS 02368 ....617 963-2600
F CHASE EMP 100 ENG 3 $2,500-$5,000M
Conn Hildreth Assoc Box 442 Old Saybrook 388-3296
Ill Miller Sls Co 5932 W Gunnison St Chicago ..736-1332
La Reilly-Benton Co Inc 1645 Tchoupitoulas
New Orleans
Minn M J Pelletier Co 403 Napco Ave N
Minneapolis 332-4369
NJ Anthony J Tosti 2461 E Memphis St
Philadelphia ....NE 4-6191
NY John S Baker 609 3rd Ave Troy

Ohio E B Beach Co of Ohio 5618 Hamlet Ave
Cleveland 341-4300
Tex Jos Spermetti Triola La Houston 713 774-9420
Wash D R Shannon Co 1510 Rainier Ave Seattle

CHASSIS-TRAK INC 525 S WEBSTER ST
INDIANAPOLIS IND 46219 . . . . 317 359-5407
L VAUGHN EMP 88 ENG 2
ADV PG 572
Cal Rep Assoc 1645 S La Cienaga Los Angeles . . 274-8485
Conn Coakley, Boyd & Abbet, Inc 6 Gaywood Dr
Waterbury 756-8766
Fla Young & Lawrence Assoc 601 N New York Ave
Winter Park 647-6929
Ill Ringland M Krueger Co 5755 W Irving Park Rd
Chicago 282-8444
Ind Thomas & Sukup Co 2060 E 54 St
Indianapolis 251-4574
Kan Lowell, Kangas & Assoc Box 4116
Overland Park 888-3200
Md Gene Rosen & Assoc 9501 Wadsworth Dr
Bethesda 365-5113
Mass Coakley, Boyd & Abbett 1424 Highland Ave
Needham 444-5470
Mich Martin Vogt 2817 Bamlet Rd Royal Oak 549-3355
Minn Hasse & Assoc 3825 York Ave N Mnpls 588-0551
NJ Robert L Ringer Co Box 114 Glen Rock 444-1434
NM R A Mayes Co 8016 Zuni Rd SE
Albuquerque 265-8457
NC Missiletronics 1321 E Morehead St
Charlotte 377-1922
Ohio Components Inc 7461 N Linden La
Cleveland 842-2737
Okla T J Ray Co 8514 E 31st Pl Tulsa 627-1515
Tex Rodger Martin Assoc Box 1002 Bellaire 668-3877
Wash Electronic Sales Corp 5600 Calif Ave SW
Seattle 932-0330
Can Electronic Mktg Co Ltd 3600 Barclay Ave
Montreal, Que 739-8052

CHATHAM CONTROLS CORP 33 RIVER RD CHATHAM
N J 07928 . . . . 201 635-8892
D PERST EMP 10 ENG 1 $100-$250M
Ariz E J Foley & Assoc 3840 N Jokake Dr
Scottsdale 945-2666
Cal Components Corp 232 N Lake Ave
Pasadena 681-7448

CHATILLON & SONS, JOHN
83-30 KEW GARDENS RD KEW GARDENS
N Y 11415 . . . . 212 847-5000
N LAVENDA EMP 150 ENG 5 $1,000-$2,500M
Ala Alabama Scale Works 3813 1st Ave N
Birmingham 595-3461
Ariz Southwestern Scale Co 1447 S 26th St
Phoenix . . . . BR 5-5413
Cal Empire Scale Co 301-3 S Los Angeles St
L A . . . . MA 9-3311
Colo Murphy Scale & Equip Co 1800 W Colfax Ave
Denver 222-5651
Conn Industrial Scale & Equip Co 335 Charles St
Bridgeport 334-5185
DC Byron Miller & Assoc 7712 Georgia Ave NW
Washington 829-3903
Fla Brown's Scale Co Inc 8850 N W 22nd Ave
Miami 691-2561
Ga Wiggins Scale Co 1005 Hemphill Ave NW
Atlanta . . . . TR 2-4994
Haw B F Schoen Box 3464 Honolulu
Idah Delbert Dove 3011 State St Boise 342-0382
Ill Master Gauge Co 1150 W Grand Ave
Chicago . . . . MO 6-2705
Ind J B Dee Co Inc 1722 W 16th St
Indianapolis . . . . ME 5-5548
La G T Michelli Co 526 Metairie Rd Metairie . . . 835-8405
Md S W Betz Co 2229 Kirk Ave Baltimore 366-1030
Mass Worcester Scale Co 135 Summer St
Worcester . . . . PL 2-7478
Mich Nels Jorgenson & Co 420 New Center Bldg
Detroit . . . . TR 1-5600
Minn Scale Service Co 2117 Minnehaha Ave
Minneapolis . . . . FE 5-1701
Mo Dolph Boettler Co 569 Melville Ave
St Louis . . . . PA 1-4607
Nev Dependable Scale Co 1925 Western Ave
Las Vegas . . . . DU 4-4872
NJ Johnson Scale Co 235 Fairfield Ave
W Caldwell . . . . CA 6-2100
NM Allied Scale & Equip Co
2007 1/2 Ridgecrest Dr SE Albuquerque . 265-0105
NY Precision Scale Co 25-28 Jackson Ave
L I C . . . . ST 6-6881
NC J A King Co 2620 High Point Rd Greensboro . 292-0511
Ohio Ohio Counting Scale Co 3500 St Clair Ave
Cleveland . . . . CH 1-8277
Ore Morris Scale Co 1537 SE Morrison St
Portland . . . . BE 2-5339
Pa J J McIntyre & Sons 514 Knorr St Phila . . . PI 5-3304
RI Central Scale Co 700 N Main St
Providence . . . . JA 1-9190
Tex Nicol Scales Inc 1315 S Akard St Dallas . . . RI 7-8181
Utah T E Sweet Co 852 E 9th S Salt Lake City . . CY 8-7661
Wash Phillips Scale Co 3130 Elliott Ave Seattle . . EM 4-7870
Wis S A Meier Co 6912 W North Ave
Milwaukee . . . . BL 8-2385
Can Eastern Scale Works 30 Carnforth Rd
Toronto, Ont 757-6263
Can Exact Weight Scale Co Ltd
1504 Notre Dame St W Montreal . . . . . . WE 2-7070
Fr Ets Radiophon 148 Ave Malakoff Paris
Ital S A Belotti Piazza Trento No 8 Milano

CHEMALLOY ELECTRONICS CORP BOX 10 SANTEE
CAL 92071 . . . . 714 448-5715
S FREEDMAN EMP 9 ENG 2 UP TO $100M
Tex E G Miller Co Box 929 Henderson
Can Beechey Enterprises 3218 Weston Dr
Weston . . . . Cherry 48051
Fr Technique & Produits Boulogne-et-Seine Paris
Jap Industrial Imports Box 1271 Tokyo

Swed Jaca Box 16026 Gothenburg

CHEMCLEAN CORP 128-07 18TH AVE
COLLEGE POINT N Y 11356 . . . . 212 445-2330
H LIVINGSTON EMP 12 ENG 5 $250-$500M
Mass Chemclean Corp 32 Claudette Cir
Framingham 877-4020

CHEMCUT CORP 500 SCIENCE PARK RD
STATE COLLEGE PA 16801
TWX 510-691-2360 . . . . 814 238-0514
W SPROUT EMP 145 ENG 17 $2,500-$5,000M
Cal Chemlea Corp 1515 Kraemer Blvd Anaheim . 630-1700
Colo Chemical Sales Co 1125 7th St Denver 534-8148
Conn Robert E Morris Co Box 41 W Hartford 233-3663
DC Reading Printed Circuit Equip
4680 Nickels Ave SW Washington 562-6400
Fla D G Machinery & Gage Co Box 456
Maitland 647-8975
Ga D & G Machinery & Gage Co Box 13135
Atlanta 636-5511
Ill J Plosnich & Assoc 7161 N Cicero Ave
Chicago 679-0231
Ind E L Humston Co, Inc 1606 N Illinois St
Indianapolis 925-9691
Mass Robert E Morris Co Box 68 Newton 332-7907
Mich Photo Reproduction Matls Inc 19166 Glendale Ave
Detroit 272-4550
Minn T K Gray Inc 1812 S 6th St Minneapolis 332-0536
NY Spar-Kleen Products Inc Box 2 Skaneateles . 685-5942
NC Crotts & Saunders Eng Inc 235 N Main St
Winston-Salem 723-3643
Ohio L W Hodson 9400 Midwest Ave Cleveland . . . 587-4500
Okla Lew Wenzel & Co 520 S Peoria Ave Tulsa . . . 587-3371
Pa Buerger Co, Inc 33 Limekiln Pike Glenside . . . 887-5030
Tex Lew Wenzel & Co 1511 Turtle Creek Blvd
Dallas 747-1894
Wash Paramount Technical Agency 9210 28th Ave NW
Seattle 784-6447

CHEMELEC PRODUCTS, INC 8 FELLOWSHIP RD
CHERRY HILL N J 08034
TWX 710-896-1420 . . . . 609 424-1470
J STEWART EMP 15 ENG 2
Ariz Carl Hower Co 431 Winfield Scott Plaza
Scottsdale 947-4204
Cal F Huddleston Assoc 408 S Rosemead Blvd
Pasadena 681-3751
Cal Nickerson-Gray Assoc 4600 El Camino Real
Los Altos 941-5777
Fla Massey Assoc Inc Box 13577 St Petersburg . 347-6183
Ill Hill & Gray Inc 821 Garfield Oak Park 383-0373
Ind Scott Electronics, Inc Indianapolis 635-8951
Mass D H Stewart Inc 817 Washington St
Braintree 848-1477
Mich Grant Shaffer Co 14241 Fenkell Ave Detroit . 273-5390
Minn Marks Sales Co 3100 Humbolt Ave S Mpls
Mo H A Roes & Co 2601 Cherry St Kansas City . 221-0866
NJ R N Junwait & Co Box 295 Ridgewood 652-9191
NY Frank Tylinski Co Inc 338 Northern Blvd
Great Neck 466-9070
Ohio Scott Electronics, Inc 1836 Euclid Ave
Cleveland 861-2626
Pa Naudain Assoc 1032 Suburban Sta Bldg
Phila 564-3194
For Jos F Rizzo Empire State Bldg New York

CHEMICAL & AEROSPACE PRODUCTS INC
231 E LOMITA WILMINGTON CAL 90744
TWX 910-345-6267 . . . . 213 775-2581
EMP 42 ENG 5 $500-$1,000M

CHEMICAL MICRO MILLING CO 1600 HYLTON RD
PENNSAUKEN N J 08110
TWX 710-892-0731 . . . . 609 964-2030
E W HOY EMP 95 ENG 5 $1,000-$2,500M
Cal Magnetic Metals Co 853 Production Pl
Newport Beach 714 545-9413
Colo A-G Electronics 5417 S Oneida St
Englewood 303-771-1473
Fla Wm J Irvine Co 1641 Santa Barbara Dr
Dunedin 813-733-5382
Ill Jay C Angel & Co 2743 W Peterson Ave
Chicago 878-0653
Mass Sheridan Assoc Box 128 Lathrup Vlg . . 313-358-3333
Mo Sheridan Assoc 10137 W Florissant Ave
St Louis 314-524-4800
NH William H Shuman Co 15 Summer St
Milford 673-1318
NY Lawrence L Malis 160 E 84th St New York . RH 4-3771
Ohio Sheridan Assoc 10 Knollcrest Dr
Cincinnati 513-761-5432
Pa Sheridan Assoc 201 Penn Ctr Blvd Pittsburgh
Tex Allied Components Inc 10468 E Northwest Hwy
Dallas 348-6660
Va Theodore C Felger Box 1061 Charlottesville . 293-4812
Can Magnetic Metals Of Canada Ltd Box 1114
Brantford Ont 519-753-8675

CHEMICAL PRODUCTS CORP KING PHILIP RD
E PROVIDENCE R I 02914 . . . . 401 434-1770
J HAWES EMP 130 ENG 4 $5,000-$10,000M

CHEMPLAST INC 969-150 DEY RD WAYNE
N J 07470 TWX 710 988-5834 . . . . 201 696-4700
M POWELL, JR EMP 175 ENG 15
$5,000-$10,000M
Ariz Don Kennedy Sales 2816 N 16th St Phoenix . 275-8824
Cal Sherman B Margoles Box 5875
Sherman Oaks . . . . ST 3-0038
Colo R-C Sales Co 3985 S Kalamath St
Englewood . . . . SU 9-0565
Fla Tech-Rep Assoc Box 8218 Madeira Beach
St Petersburg 391-0008
Ill Harry R Greenwald Assoc 527 S Wells St
Chicago 939-3389
Mass J G Ferraro 65 Thurlow Ave Revere 289-6225
Minn Servco 521 S 7th St Mnpls . . . . FE 9-8611
Mo Regal Plastics Supply Co 1727 Main St
Kansas City . . . . GR 1-6390

Mo Joseph A Crone & Co 12542 Weber Hill Rd
St Louis 842-1353
NJ J Thomas Anderson 130 Front St Mt Holly . AM 7-6433
NJ M A Harris 89 Yantecaw Ave Glen Ridge 783-4972
NY John J Hagmaier 11 Stoothoff Dr
New Hyde Park . . . . PI 2-0524
Ohio C S Christie Box 274 Hudson 653-9402
SC Geo E Younginer 249 Lancewood Rd
Columbia 256-1358
Tenn Pol-Nor Co Box 30162 AMF Memphis 397-2611
Tex Cline & Son Inc Box 413 Arlington 274-3131
Tex P & W Sales Co PO Drw 10815 Houston . . . WA 8-5643
Utah Ward & Assoc Box 6161 937 E 9th S
Salt Lake City 322-5859
Vt Ralph R Bennett Box 15 Bennington 447-7229
For Eugene R Fischer 396 Pine Brook Rd
Lincoln Park 694-4763

CHEMTREE CORP CHEMTREE PARK
CENTRAL VALLEY N Y 10917 . . . . 914 928-2293
W HALL EMP 10 ENG 3 UP TO $100M
For Hon Alvis G Englander 28 Grabon Stra Vienna . 52 89 00
For Long Industrial Equipment Pty Ltd 4 Foster St
Sidney, NSW 211-293
Den Chemtree H C Anderson Blvd 17
Copenhagen . . . . (01) 12 12 80
Fr Seurolec 39-41 Rue de L'Est
Bologne Billancourt (Seine) VAL-62-83
Ger R Stern Kaiserstr 13 Frankfurt A/M 28/87/49
GB High Voltage Serv Co Ltd 60 Carpenters Wood Dr
Chorley Wood Herts . . . . Fieldend 7431
Neth Vemi Sprl Rue Jules Franqui 22
Brussels 6 . . . . (02) 37 99 17
Ital TSR Via Emilia Ponente Castelbocogneie
Jap Giken Kogyo Co 3 Kioicho Chiyopa-ku Tokyo
Nor Herman Lund SA Bogstadvein 20 Oslo 605 394
Swed Guitar Thomee Postfack 60 60
Malmo 6 . . . . Vaxel 040 711 25
Swit H W Tschappeler AG Muhlebachstr 28
Zurich 8008 . . . . (051) 34 07 07
Isrl Aveeram Ltd 20 Esser Tachanot St Tel-Aviv . . 720161

CHEMTRONICS INC 1260 RALPH AVE BROOKLYN
NY 11236 . . . . 212 629-1300
J EBERT EMP 12 ENG 2
Cal Technical Sales Assoc 1485 Bay Shore Blvd
San Francisco 334-3161
Ill Markal Sales 5787 N Lincoln Ave
Chicago . . . . 312 LO 1-7290
Ind B Homsher 4320 Dodge Ave Ft Wayne
Mass Lawrence B Cole & Co 318 Weston Rd
Wellesley Hills
Mo Penzner Assoc Box 4362
Overland Park, Kan . . . . DU 1-0004
Tex Antle-Smith Sales 2721 Brookfield Ave Dallas
For Roburn Agencies 431 Greenwich St New York, NY

CHERRY ELECTRICAL PRODUCTS CORP
1650 OLD DEERFIELD RD HIGHLAND PARK
ILL 60035 TWX 910-688-4161 . . . . 312 831-2100
D GRADY EMP 400 ENG 20 $5,000-$10,000M
ADV PG 608
Ala Powertronics, Inc Box 3384 Huntsville . . 205 852-6347
Cal O Donnell Assoc 18053 Crenshaw Blvd
Torrance 213-323-9243
Cal Abbott Engrg Co 2450 El Camino Real
Palo Alto 415 327-0830
Conn Electro-Products Sales Co 150 S Broad St
Meriden 203-235-4040
Fla Powertronics Inc 16460 Redington Dr
Redington Bch 813-391-7544
Ind Menze Sales 6010 Lower Huntington Rd
Fort Wayne 219-747-5616
Mass Electro Products Sales Box 121
Waltham 617-899-1570
Mich Miltmore Sales 34142 Fountain Dr
Westland 313-261-8117
Mich McPhail Corp 1100 N Woodward
Birmingham 313 646-9976
Minn Cahill Assoc 3000 Hudson Rd St Paul . . 612-739-8445
Mo Thro Industrial Sales Co Box 7241
Kansas City 913-362-2533
Mo Wells-White Co 7607 Page Blvd
St Louis 314-726-2511
NJ Colrud Co 601 Ardmore Ave Pitman 609 589-5866
NM Crown Engineering 2125 San Mateo NE
Albuquerque 505-265-1020
NY Sydney Justin Assoc Box 1068
Fort Lee NJ 201-947-4371
NY Wm J Andres Inc 39 Saginaw Dr
Rochester 716-244-2445
NC Powertronics Inc 2454 Medway Dr
Raleigh 919-834-6947
NC Powertronics Inc Box 403 Thomasville . . 919 476-4257
Pa Colrud Co 601 Ardmore Pitman NJ 609-589-5866
Tex Wm Reese Assoc 3543 Rio Grande Circle
Dallas 214-339-4280
Wash Jas J Backer Co 221 W Galer St
Seattle 206-283-6470
Wis Don Herrick Co 4447 N Oakland Ave
Milwaukee . . . . WO 2-4737
Can Henry Daymond Sales Ltd 1064 S Service Rd
Oakville, Ont 416-844-6721
Ger Cherry Mikroschalter GmbH 8580 Bayreuth
Bavaria W Ger
GB D H Bonnella & Son Ltd West Hill, Hoddesdon
Herts
Aust G W Engineering Pty Ltd
1-15 Blackfriars St, Chippendale Sydney

CHESAPEAKE INSTRUMENT CORP SHADYSIDE
MD 20867 . . . . 301 867-2151
T WINSHIP EMP 225 ENG 35 $2,500-$5,000M

CHESTER CABLE CO DIV TENNESSEE CORP
OAKLAND AVE CHESTER N Y 10918
TWX 914- 469-9801 . . . . 914 469-2141
E SHANLEY EMP 280 ENG 6 $5,000-$10,000M
ADV PGS 72,73

Ariz	Bennewitz Assoc 532 N Brown Ave Scottsdale	602-947-7379
Cal	Tel-Co Wire & Cable 774 E Pico Blvd Los Angeles	213-747-9331
Colo	Bennewitz Assoc 2810 E Colfax Ave Denver	303-399-1132
Conn	Forsberg Sales Co 22 Broadway North Haven	203-239-5111
Fla	E C A Assoc 711 N Magnolia Ave Orlando	305 424-0701
Ga	Grady Duckett Box 29067 Atlanta	404-451-3529
Ill	Knoblock & Assoc 4902 Tollview Dr Rolling Meadows	312-392-8586
Ind	Warner, Kesler & Assoc Box 338 S Whitley	219-723-5353
Iowa	Norman W Kathrinus & Co 417 W 4th St Ottumwa	515-684-6110
Kan	Norman W Kathrinus & Co 7713 Crescent Raytown Mo	813-353-1397
Ky	G W Thelen Co Inc 5257 Taylor Mill Rd Covington	606-431-0753
Mass	Forsberg Sales 646 Summer Street Brockton	617-522-6300
Mich	Warner, Kesler & Assoc Box 126 Sturgis	616-OL 1-6827
Minn	Northport Engineering Inc 2027 Grand Ave St Paul	612-698-3841
Mo	Norman W Kathrinus & Co 2427 S Brentwood Blvd St Louis	314-962-5627
NJ	Cooper Simon Co Inc 56 Melville Rd Hillsdale	201-NO 4-2876
NJ	Keefe Electronic Sales Co 15 S Haddon Ave Haddonfield	609-429-4650
NM	Bennewitz Assoc 9720 Candelaria NE Alberquerque	505-298-6775
NY	Cooper Simon Co Inc 7 W Broad St Mt Vernon	914-699-5400
NY	B H Tollefson Assoc 110 Allen Creek Rd Rochester	716-271-4141
NC	Bob Jackson 100 N Canterbury Rd Charlotte	704-366-6678
Ohio	R G Sidnell & Co 14701 Detroit Ave Cleveland	216-221-4558
Pa	Keefe Electronic Sls Inc Philadelphia	215-MA 7-3454
Tex	R E Nesbitt Co 2930 Merrell Rd Dallas	214-357-4601
Wis	E A Dickinson & Assoc 3612 N Green Bay Ave Milwaukee	414-264-1080
For	C H Stone 205 W Wacker Dr Chicago	312-Ra 6-7725

CHET ENGINEERING CO 16772 SCHOENBORN ST
SEPULVEDA CAL 91343 ....213 786-7226
C WANTINK EMP 20 ENG 2 $250-$500M

CHICAGO AERIAL INDUSTRIES INC
550 W NORTHWEST HWY BARRINGTON
ILL 60010 TWX 910 651-1904 ....312 381-2400
G LOHUIS EMP 1000 ENG 225 OVER $10,000M

Cal	Chicago Aerial Ind 708 E Manchester Blvd Inglewood	213 678-3271
DC	Chicago Aerial Ind 1625 Eye St NW Washington	202 347-1456
Ohio	Chicago Aerial Ind 349 W First St Dayton	513 228-4446
GB	Bourns (Trimpot) Ltd Hodford House London	
Jap	Nissho Co Ltd 2, 1-Chome, Otemachi, Chiyoda-Ku Tokyo	
Swit	Bourns, AG Alpenstra 1, 6301 Zug	
NZ	John Gamble Ltd 161-3 Thorndon Qua Wellington	
Aust	Sixteen Millimetre Aust Pty Ltd GPO Box 4778 Sydney	

CHICAGO CONDENSER CORP 3255 W ARMITAGE
CHICAGO ILL 60647 ....312 CA 7-7070
P PHILLIPS EMP 25 ENG 4 $500-$1,000M

Cal	Lebell-Warren Assoc 601 County Rd San Carlos	415-LY 3-7688
Ill	K Peter 3255 W Armitage Ave Chicago	312-227-7070
Mass	Lincoln Assoc 13 Eaton Ct Wellesley Hills	617-235-8770
Minn	White Sales Co Box 4530 Minneapolis	612-929-4661
NY	LRC Assoc Box 114 Valley Cottage	212-298-8964
Ohio	H H Seay Co 3850 Fairlington Dr Columbus	614-488-9994

CHICAGO DIAL INDICATOR CO 1372 REDEKER RD
DES PLAINES ILL 60016 ....312 827-7186
P FLAUTER EMP 16 ENG 1 $250-$500M

CHICAGO DYNAMIC INDUSTRIES INC, PRECISION PRODS DIV 1725 DIVERSEY BLVD CHICAGO
ILL 60614 ....312 935-4600
J EARLY EMP 350 ENG 6 $500-$1,000M
ADV PG 612

Cal	Weightman & Assoc 1226 W Olive Ave Burbank	849-771
Cal	Weightman & Assoc 120 Santa Margarita Menlo Park	325-2885
Colo	Arrowhead Sales Corp 6469 Brentwood Arveda	
Conn	Coakley, Boyd & Abbett 6 Gaywood Dr Waterbury	756-8766
Fla	W R Lehmann & Co Box 20275 Orlando	841-4901
Ill	Burt Anderson Assoc Inc 5969 N Elston Ave Chicago	774-8989
Ind	Burt Anderson & assoc 5324 Kyle Rd Fort Wayne	747-0402
La	Glidden Engr & Equip Co Box 10442 New Orleans	721-4763
Md	Billis Sales Co 110 Gorsuch Rd Timonium	CL 2-0779
Mass	Coakley, Boyd & Abbett 1424 Highland Ave Needham	444-5470
Mich	S Sterling Co 21250 10 1/2 Mile Rd Southfield	357-3500
Minn	Mel Foster Co Inc 228 S Cedar Lake Rd Minneapolis	374-2612
Mo	Burt Anderson & Assoc Box 241 Edwardsville Ill	656-2586
NJ	Billis Sales Co 14 Galway La Cherry Hill	HA 8-3651
NM	Arrowhead Sales Corp Box 243 Albuquerque	268-9706
NY	S A M Assoc 150-08 87th Ave Jamaica	OL 8-8881
NY	Compar-Albany Inc 6 Highland Ave Albany	489-4777
NC	L & D Inc Box 7243 Greensboro	292-3201
Ohio	S Sterling Co 5827 Mayfield Rd Cleveland	HI 2-8080
Pa	S Sterling Co 2 Parkway Ctr Pittsburgh	922-5720
Tex	Glidden Engr & Equip Co 7728 Long Point Rd Houston	681-1415
Tex	Glidden Engr & Equip Co 8609 NW Plaza Dr Dallas	214-EM3-6539
Utah	Arrowhead Sales Corp 1966 W 6255 S Salt Lake City	487-3444
Wash	Ray Johnston Co Inc 1011 NE 69th St Seattle	524-5170
Can	ElectroDesign 9124 St Lawrence Blvd Montreal 11, Que	514 389-5914
Can	Electrodesign Ltd 880 Glasgow Crescent Ottawa, Int	745-0541
Can	Electrodesign Ltd 3433 Bathurst St Toronto 19, Ont	416 787-0991
For	Minthorne Intl Co Inc 2200 Shames Dr Westbury NY	895-3120

CHICAGO LOCK CO 4311 W BELMONT AVE CHICAGO
ILL 60641 TWX JKQ 312-282-7177
E LOVELACE EMP 450 ENG 4

CHICAGO MINIATURE LAMP WORKS
4433 N RAVENSWOOD AVE CHICAGO ILL 60640
TWX 910-221-5445....................312-784-1020
J ROLF EMP 413 ENG 25

Ariz	Howe & Howe Sales Inc 4109 N 18th St Phoenix	602 264-7971
Cal	CMLC 115 New Montgomery St San Francisco	415 391-1098
Colo	Nelson Co Inc 1294 S Bannock St Denver	303 733-5528
Conn	Gerber Sales Co Inc Box 2917 New Haven	203 777-6279
Fla	Cartwright & Bean 20100 NE 25th Ct N Miami Beach	305 945-2962
Ga	Cartwright & Bean 3223 Cain's Hill Pl NW Atlanta	404 237-2273
Ill	R Pross/G Bommersbach 4433 N Ravenswood Chicago	312 784-1020
Ind	Burton F Homsher Co 418 E Berry Fort Wayne	219 432-1164
Kan	Koenig-Myers Assoc 5500 Buena Vista Dr Shawnee Mission	913 432-8300
La	Cartwright & Bean 7010 Magnolia Ct Metarie	504 887-0482
Md	Kaufholz Assoc Box 6232 Baltimore	301 488-6561
Mass	Gerber Sales Co Inc 176 2nd Ave Waltham	617 891-8040
Mich	Villani-Pitcher, Inc 20233 Ann Arbor Tr Dearborn	313 271-4600
Minn	Wenco Sales Inc 7728 Morgan Ave S Minneapolis	612 866-3639
Mo	Koenig-Myers Assoc 2721 Beloit Dr Bridgeton	314 739-1655
NJ	F F Sylvester Assoc 649 Morris Ave Springfield	201 376-3324
NM	Nelson Co Inc Box 1884 Albuquerque	505 299-0433
NY	F W Taylor Co Inc 4455 E Genessee St DeWitt	315 446-0422
NC	Cartwright & Bean 625 Harwyn Dr Charlotte	704 537-7965
Ohio	Thomas Shelby & Co 17 S Walnut St New Bremen	419 629-6511
Pa	Kaufholz Assoc Box 227 Newtown Square	215 356-5000
Tenn	Cartwright & Bean 560 S Cooper St Memphis	901 276-4442
Tex	Techno Assoc 2324 Shore Crest Dr Dallas	214 357-9213
Utah	Nelson Co Box 1871 Salt Lake City	801 484-4504
Wash	James J Backer Co 221 W Galer St Seattle	206 283-6470
Can	Lake Engineering Co Ltd 123 Manville Rd Scarborough, Ont	416 751-5980
For	E D Magnus & Assoc Inc 5715 N Lincoln Ave Chicago, Ill	312 334-1503

CHICAGO MOLDED PRODUCTS CORP
1020 N KOLMAR AVE CHICAGO ILL 60651
TWX 312-222-0227 ....312 342-9000
J JOHNSTON EMP 500 ENG 15 $5,000-$10,000M

Ind	D-M Assoc Box 324 Noblesville	773-1766
Mich	W W Weber Box 2013 Dearborn	565-7788
Wis	Robert F Kornacki 2325 W Wells St Milwaukee	DI 4-3620

CHICAGO RIVET & MACHINE CO 950 S 25TH AVE
BELLWOOD ILL 60104....................312 LI 4-5100
W SHINEFLUG EMP 700 ENG 6 OVER $10,000M

Cal	C W Blair 1406 S Grand Ave Los Angeles	RI 8-6191
Colo	E C Swan 1634 S Elm St Denver	EA 2-4718
Conn	Joseph M Murphy Box 627 Manchester	649-2129
Ind	Dan Cashman Box 2091 St A Ft Wayne	484-2163
Mich	M F McManus 18450 Livernois Detroit	UN 4-7267
Mo	J A Clancey 3527 Broadway Kansas City	WE 1-3090
NY	S D Christie & Assoc 175 Fifth Ave New York	OR 4-9010
Ohio	Carl H Reineck 17138 Lorain Ave Cleveland	CL 1-8535
Pa	R T Brosius 1617 J F Kennedy Blvd Phila	LO 3-6784
Tenn	T Kavanagh 4900 Poplar Ave Memphis	685-7641
Tex	Consolidated Sales Inc Box 19523 Houston	SU 1-3253
Wash	Robert A Hunter 217 34th Ave Seattle	EA 4-0874
Wis	A J Dunsmore 924 E Juneau Ave Milwaukee	BR 2-0500
For	R Dormitzer 201 N Wells St Chicago, Ill	CE 6-7126

CHICAGO SWITCH INC 2045 WABANSIA AVE
CHICAGO ILL 60647 TWX 25-3842 ......312 489-5500
M PODGORSKI EMP 250 ENG 9 $2,500-$5,000M
ADV PGS 596,611

Cal	Ruby Sales Corp Box 487 Santa Clara	243-1694
Cal	Coplan Assoc 4206A Glencoe Ave Venice	213 397-2166
Ind	Technical Reps Co 4000 Meadows Dr Indianapolis	317-546-4967
Kan	Impala, Inc 3141 Merriam La Kansas City	913-831-3933
Mass	Brookdale/Richter Engrg Inc 348 Lake Ave Newton Highlands	617-244-6969
Mich	J L Montgomery, Inc 24001 Southfield Rd Southfield	313-358-2616
Minn	Wenco Sales, Inc 7728 Morgan Ave S Minneapolis	612 866-3639
Mo	Impala, Inc 47 Vlg Sq Shop Ctr Hazelwood	314-837-3100
NJ	Given Assoc Box 183 Riverton	609 829-7249
NY	Bressler Assoc Inc 4808 Bergenline Ave Union City N J	212-695-3727
NY	W A Franklin Sls Corp 2 Standish Terr Syracuse	315-446-1120
NC	Murphy & Cota 1106 Burke St Winston-Salem	919-723-1001
Tex	M Loss Co 7919 Royal La Dallas	214 368-2758
Can	Douglas Randall Ltd 1710 Midland Ave Scarborough, Ont	751-7911

CHISSO CORP SILICON DIV
3-2 MARUNOUCHI, 2 CHOME, CHIYODA-KU
TOKYO JAPAN TWX TK 2554 ....231 4571
T SASAKI EMP 500

CHOMERICS, INC 85 MYSTIC ST ARLINGTON
MASS 02174 TWX 710-348-0446 ......617 648-8650
C SPERLING EMP 70 ENG 14 $2,500-$5,000M

Ala	Young & Lawrence 2907 Governors Dr SW Huntsville	205 539-6575
Ariz	Bennewitz Assoc 532 N Brown Ave Scottsdale	602-947-7379
Cal	Kowal Assoc Box 1048 Sun Valley	213 768-0378
Cal	Lodan Inc 1710 Industrial Rd San Carlos	415 592-4600
Colo	Bennewitz Assoc 2801 E Colfax Ave Denver	303-399-1132
Conn	Wm McCoy Co Box 387 Branford	203-488-2012
Fla	Young & Lawrence 300 31st St N St Petersburg	813 894-0026
Ga	Young & Lawrence 601 N New York Ave Winter Park Fla	305-647-6929
Iowa	Ensco 1026 3rd Ave SE Cedar Rapids	319-366-1591
Kan	Ensco 7924A State Line Prarie Village	913-649-4000
Md	Andco Electronic Sales 4700 Davidson Dr Chevy Chase	301 654-6065
Mass	W M McCoy Co 55 Prospect St Hollistan	617-429-2369
Minn	D G Perry Co 5010 France Ave S Mnpls	612-920-3212
Mo	Ensco 6717 Vernon Ave St Louis	314-726-2233
NM	Bennewitz Assoc 9720 Candelarea NE Albuquerque	505-298-6775
NY	Smith Rubber Co, Inc Box 1002 Rochester	716 342-6610
NY	Willgold Elec Sales 100 N Village Ave Rockville Center	516 764-4022
Ohio	Luebbe Sales 2659 Erie Ave Cincinnati	513 871-4211
Ore	Houston Co 411 NE 12th Ave Portland	503-235-4174
Pa	Andco Sls Engrg, Inc 10 E School House La Philadelphia	VI 4-9100
Tex	V J Sykes Assoc 13333 N Central Dallas	AD 5-5289
Wash	The Houston Co 1738 4th Ave S Seattle	206-622-0750
Can	Fusion Inc 2278 Mt Forest Dr Burlington Ont	
Fr	Ets G Dusailly 179, Av Marguerite-Renaudin 92 Clamart	642-55-24
Ger	Wacker GmbH Stettenstr 9 6 Frankfurt Am Main	
GB	Steatite Insulations Ltd Hagley Rd Birmingham 16	
Jap	Japan Telescomm Corp 17-1, 1 Chome, Shinbashi, Minato-ku Tokyo	591-4313
Swed	American Electronics AB Norrlandsgatan 15B Stockholm	
Swit	Fritz Weber In der Rehwaid 8 8122 Pfaffhausen Zurich	

CHRISTIANA INDUSTRIES CORP 6508 N CLARK ST
CHICAGO, ILL 60626 ....312-HO-5-6330
R FERRIS EMP 100 ENG 1 $500-$1,000M

CHRISTIE ELECTRIC CORP 3410 W 67TH ST
LOS ANGELES CAL 90043
TWX 910-321-3867 ....213 750-1151
F BENJAMIN EMP 115 ENG 13 $1,000-$2,500M

Ala	Ridge Instrument Co 7220 Governors Dr, W Huntsville	837-1761
Ariz	R A Mayes Co 4747 N 16th St Phoenix	279-5243
Cal	Halbar Assoc 1805 W 3rd St Los Angeles	387-8283
Colo	R A Mayes Co Box 9 Broomfield	466-6311
Fla	Ridge Instrument Co 2227 Seely Dr Orlando	293-4711
Ga	Ridge Instrument Co 3094 McCully Dr, NE Atlanta	939-1554
Haw	Victor Kim Electronics 623-25 South St Honolulu	507-132
Ill	Kenneth W Meyers Co 7256 W Touhy Ave Chicago	SP 4-6440
Kan	Engineering Services Co 7924-A State Line Prairie Village	649-4000
Md	L G White Co, Inc 1110 Fidler La Silver Spring	585-3141
Mass	W M Hague Co 10 Muzzey St Lexington	862-5700
Mich	Carter McCormic & Peirce 23995 Fwy Park Dr Farmington	477-7700
Mo	Engineering Services Co 6717 Vernon Ave St Louis	726-2233
NJ	Instrumentation Sales Co Box 403 Ridgewood	455-5210
NM	R A Mayes Co 8016 Zuni Rd SE Albuquerque	265-7989
NY	Rep Tech Inc Box 98, Pickard Bldg Syracuse	454-0761
NC	L G White & Co, Inc Box 2356 Winston-Salem	725-3612
Ohio	Carter, McCormic - Peirce, Inc 3691 Lee Rd Cleveland	921-1360
Pa	L G White Co, Inc 100 Essex St Narbeth	664-6505
Tenn	Ridge Instrument Co 140 E Division Rd Oak Ridge	483-1311

Tex	Carl Tinch Sales Co First Bank & Trust Bldg Richardson	231-1322
Wash	Al Smith Co 405 166 SE Bellevue	746-6770

CHRONETICS INC 500 NUBER AVE MOUNT VERNON
N Y 10550 TWX 710 560-0014 914 699-4400
T BERG EMP 100 $2,500-$5,000M

Ariz	T Louis Snitzer Co 15 N 40th Pl Phoenix	602 273-1673
Cal	T Louis Snitzer Co 9005 Exposition Blvd Los Angeles	213 836-6170
Ill	Contemporary Science Inc Box 205 Mt Prospect	CL 5-3793
Md	QED Electronics Inc 880 Bonifant St Silver Spring	JU 8-8134
Mass	J & J Assoc 225 Cresent St Waltham	617 899-0160
Mo	Harris-Hanson Co 2814 S Brentwood Blvd St Louis	MI 7-4350
NJ	QED Electronics Inc 2916 Federal St Camden	WA 5-8711
NY	QED Electronics Inc 500 Nuber Ave Mount Vernon	664-0080
Ohio	Contemporary Science Inc 105 Fairdale Ave Westerville	614-882-6908
Can	Applied Technology Box 272 Don Mills, Ont	444-1264
Den	Hans Christiansen Kobenhavn Vanlose HvidTjornevei, 36	
Ger	Wenzel Elektronik 8 Mumchen 27, Lamonstr 32	
GB	B & K Instruments Ltd 59 Union St London	
Ital	Radiax S R L Corso Beccaria 2 Torino	
Jap	Nichimen Co Ltd Box 1136 Tokyo	
Nor	H Meltzer & Co Radhusgaten 17 Oslo 1	
Swed	Teleinstrument AB Box 14 Vallingby Stockholm	
Swit	Chronetics, Inc 39, rue Rothschild Geneva	

CHRONO-LOG CORP 2583 W CHESTER PIKE
BROOMALL PA 19008 215 EL 6-6771
A FREILICH EMP 25 ENG 2 $500-$1,000M

Ala	Reynolds & Assoc 904 Bob Wallace Ave Huntsville	536-1941
Ariz	R A Mayes Co 4747 N 16th St Phoenix	279-5243
Cal	Thorson Co 6824 Melrose Ave Los Angeles	WE 7-0790
Colo	R A Mayes Co Box 9 Broomfield	421-0706
Fla	Reynolds & Assoc Box 1043 Eau Gallie	727-3205
Ga	Reynolds & Assoc 175 W Wieuca Rd NE Atlanta	252-5360
Mass	J J Wild Inc 570 Hillside Ave Needham	HI 4-2366
Mich	Ohio Instru Co 8928 Nottingham Dr Ypsilanti	769-1177
Minn	DeBeck Assoc 2119 Grand Ave St Paul	690-1557
NJ	J J Wild Inc Box 300 Ramsey	327-4244
NM	R A Mayes Co 8016 Zuni Rd SE Albuquerque	265-7989
NY	J J Wild Inc 400 Jericho Tpke Jericho	WA 1-7100
Ohio	Ohio Instrument Co 505 Whitney Ave Worthington	885-0743
Pa	J J Wild Inc 80 Second St Pike Southampton	EL 7-6645
Tex	R A Mayes Co Box 1021 Richardson	AD 5-3043
Va	H J Heffernan Co 1123 N Irving St Arlington	JA 2-6666
Wash	Thorson Co 1767 15th Ave S Seattle	EA 5-5000
Can	York Instruments 1262 Don Mills Rd Don Mills, Ont	445-1255
For	Pantronics 1275 Bloomfield Fairfield NJ	228-3500
For	Scientific Furnishings Ltd Terminus Rd Chichester, Sussex, Eng	CH 8-6641
Aust	H Rowe & Co Pty Ltd 7 Flinders Ct Melbourne	

CHRONOLOGICS INC 24 MARTIN ST WEBSTER
N Y 14580 716-872-1470
S COUSINS EMP 10 ENG 3 $100-$250M

Ill	Ryan & Assoc Box 48086 Chicago	312-775-5717
Ind	Kentron Corp 311 S Ritter Ave Indpls	317-356-2493
Mass	Contact Sales Inc 594 Marrett Rd Lexington	617-861-8544
Minn	Jos-Go Sales Engrg 6621 Southcrest Dr Mnpls	612-927-5858
NJ	MacPherson Control Prod 526 North Ave Westfield	201-233-4010
NY	KLM Assoc 1 Novvelle Pk New Hartford	315-735-8525
Ohio	Vereb & Assoc Box 4424 Cleveland	216-271-2066
Pa	Holdsworth & Co Box 298 Newtown Sq	215-EL6-8550
Tex	Noakes Engineering Sales 1006 N Britian Irving	214-255-0441

CHRYSLER CORP, MISSILE DIV BOX 2628 DETROIT
MICH 48231 313 539-2000
J KEEGAN EMP 1000 ENG 400 OVER $10,000M

	Chrsler Corp 1700 K St NW Washington	296-3500
Ala	Chrysler Corp 1312 Meridan St Huntsville	536-5581
Fla	Chrysler Corp 8880 Astronaut Blvd Cape Canaveral	784-6400
La	Chrysler Corp Box 26018 New Orleans	525-4167
Tex	Chrysler Corp Box 57845 Webster	HU 8-2344

CHRYSLER CORP, SPACE DIV, HUNTSVILLE OPER
1312 N MERIDAN ST HUNTSVILLE
ALA 35807 205-842-4836
J HALEY EMP 1200 ENG 500 OVER $10,000M

CHU ASSOCIATES INC BOX 387 LITTLETON
MASS 01460 617 456-3282
I FAIGEN EMP 125 ENG 20 $2,500-$5,000M

DC	ITP Washington Inc 1250 Connecticut Ave Washington	202 223-5520

CHURCHILL CORP 344 FRANKLIN ST MELROSE
MASS 02176 617 665-4700
W SCHERMERHORN EMP 30 ENG 2 $250-$500M

Ariz	E V Roberts & Assoc 77 Third Ave W Scottsdale	947-7695
Cal	E V Roberts & Assoc 9601 W Jefferson Blvd Culver City	870-9561
Colo	Vinson Assoc 3600 S Lincoln St Englewood	789-2203
DC	E R Hitchcock 1629 K St NW Washington	296-6899
Ga	Black Eng Sales Co 500 River Valley Rd Atlanta	252-2523
Ill	Bauman & Bluzat Co 2925 W Touhy Ave Chicago	761-3630
Md	Ken Randall Co 821 Scarlett Dr Towson	828-5310
Minn	Fred B Hill Co 6110 Excelsior Blvd Mnpls	929-6727
NJ	Ken Randall Co 250 Haddon Ave Collingswood	854-3323
NY	E R A Inc 330 Great Neck Rd Great Neck	HU 2-9320
Ohio	Jay Engineering Co 1721 E 3rd St Dayton	253-2151
Tex	Blair Eng Sales Co 10034 Monroe St Dallas	FL 2-2556

CIBA PRODUCTS CO 556 MORRIS AVE SUMMIT
N J 07901 201 273-3500
M SPIEGEL EMP 100 ENG 15 OVER $10,000M

Cal	Dorsett & Jackson, Inc 3800 Noakes St Los Angeles	268-1815
Fla	Palmer Supplies Co of Fla 5640 NW 45th Ct Miami	633-8007
Ga	CIBA Products Co 1644 Tullie Cir N E Atlanta	633-2163
Ill	Ciba Prods Co 7535 Lincoln Ave Skokie	677-0120
Ind	Indiana Naval Stores Co, Inc Box 22025 Indianapolis	632-9343
Ky	C L McGuire & Co 137 St Matthews Ave Louisville	896-8743
Mass	D H Litter Co, Inc Box 247 Ballardvale	475-5315
Mo	Ciba Products Co 135 Progress Pkwy Hazelwood	542-3525
NY	Ciba Products Co Buffalo Enterprise	0353
Ohio	Ciba Products Co 6114 Broadway Ave Cleveland	271-5353
Pa	Ciba Products Co 4241 N 2nd St Philadelphia	GL 5-5507
Tex	Ciba Products Co 2260 Tennessee Bldg Houston	224-1861
Can	Ciba Co Ltd 205 Bouchard Blvd Dorval Que	ME 1-4211
Can	Ciba Co Ltd 858 York Mills Rd Don Mills, Ont	444-4494
Swit	Ciba, Ltd Basle	061-325011

CICOIL CORP 9324 TOPANGA CANYON BLVD
CHATSWORTH CAL 91311
TWX 910-494-1921 213 882-2021
W KISH EMP 300 ENG 10

Ala	Beacon Electronics Holiday Off Ctr Memorial Pkwy Huntsville	
Ariz	Fred Schoeffler Assoc 6912 E Horseshoe Rd Scottsdale	948-3470
Cal	Straube Assoc 483 Willow Rd Menlo Park	415 323-2476
Cal	Westrep 9519 Telegraph Rd Pico Rivera	213-949-2551
Colo	Straube Assoc 1123 Spruce St Boulder	303 443-8600
Conn	R H Whitehead Assoc Box 345 Guilford	453-3762
Fla	Beacon Electronics Box 1278 Maitland	305-647-3498
Ga	Beacon Electronics 2285 Peachtree Rd NE Atlanta	404-351-3654
Ind	Del Steffen & Assoc 2028 Manchester La Indianapolis	219 356-5124
Mass	R H Whitehead Assoc Statler Office Bldg Boston	542-7676
Minn	R G Ragon Inc 1136 W Larpenteur Ave St Paul	612-488-6634
NJ	Bonn Assoc 266 Lake Ave Metuchen	201-549-9573
NY	Par Distributors Box 668 Huntington	516-271-0330
NC	Beacon Electronics Box 503 Jamestown	919-454-1010
Ohio	Del Steffen & Assoc 904 E 222nd St Cleveland	216 261-5055
Utah	Straube Assoc RFD1 Morgan	
Va	Tom Davis Mktrs 4210 Daniels Ave Annandale	702-941-2313

CIE DE SIGNAUX ET D'ENTREPRISES
ELECTRIQUES 2 A 8, RUE CAROLINE
PARIS 17EME FRANCE 387-39-29
M MALISSARD EMP 3070 ENG 650
OVER $10,000M

CIE INTERNATIONALE POUR L'INFORMATIQUE
68 RTE DE VERSAILLES 78 LOUVECIENNES
FRANCE TWX INFITEC 60030 F 951 86 00
E KALLMANN EMP 3500 ENG 1000
OVER $10,000M

Ger	CII GmbH Ginnheimer Landstr 140 Frankfurt-Main	52 04 44
Neth	CGE NV Koninginnegracht 64 Den Haag	60 88 18
Ital	CII Italiana 9, Via Dei Cignoli Milano	308 38 19
Swit	CII 77 rue d'Italie Geneve	25 13 87
Belg	Sait 66, Chaussee de Ruisbroek Bruxelles 19	76 20 30
Spn	Proco S A Serrano 92 Madrid	225 24 77

CIMCO WIRE & CABLE CO 250 W CRESCENT AVE
ALLENDALE N J 07401 201 327-2522
J MONAGHAN EMP 50 ENG 3 $1,000-$2,500M

Cal	Falmat, Inc 13125 Yukon Ave Hawthorne	
Ill	Kennedy Engrg Inc 6713 N Oliphant Ave Chicago	
Mass	F C Talbot Box 366 Weston	617 893-6877
Minn	Edward Hoffman Co 180 N Snelling Ave St Paul	
Mo	N W Kathrinus Co 2427 Brentwood Blvd Kansas City	
NJ	E B Hinck 139 Union St Montclair	
NY	Telesco Assoc 395 Cleveland Dr Buffalo	716 275-9200
NC	R Jackson 100 N Canterbury Rd Charlotte	
Ohio	Component/Insulation Corp 14235 Detroit Ave Cleveland	
Pa	J W Kight Co 4 Longfellow Rd Pittsburgh	
Tex	R E Nesbitt Co 2930 Merrell Rd Dallas	

CIMRON DIV LEAR SIEGLER, INC
1152 MORENA BLVD SAN DIEGO CAL 92110
TWX 910-335-1196 714-276-3200
G THOMAS EMP 200 ENG 7 $1,000-$2,500M

Ala	E G Holmes & Assoc 4862 Governors Dr W Huntsville	205-837-6900
Ariz	BFA Corp 4710 N 16th St Phoenix	602-264-6536
Cal	T Louis Snitzer Co 9005 Exposition Los Angeles	213-836-6170
Colo	BFA Corp 1309 S Inca St Denver	303-744-3301
Colo	BFA Corp 1309 S Inca St Denver	303-744-3301
Conn	J & J Assoc 953 Dixwell Ave Hamden	203-624-7800
Fla	E G Holmes & Assoc 3161/2 S Bumby St Orlando	305-241-2128
Ga	E G Holmes & Assoc 4185 Clairmont Rd Chamblee	404-451-6161
Ill	Systems Eng Assoc 5505 N Menard St Chicago	312-774-1452
Ind	Systems Eng Assoc 1010 E 86th St Indianapolis	317-846-2593
Kan	Palatine Engrg Sales Inc 7520 W 63rd St Overland Park	913-262-5643
Mass	J & J Assoc 225 Crescent St Waltham	617-899-0160
Mass	J & J Assoc 225 Crescent St Waltham	617-899-0160
Mich	Technitron Instr Inc 13657 Grand River Ave Detroit	313-838-7324
Minn	Systems Eng Assoc 8633 Harrison S Minneapolis	612-881-6386
Mo	Palatine Engineering Sales Co 8622 Saint Charles Rock Rd Saint Louis	314-426-7055
NJ	Megargel Himmelstein Assoc 8070c Rte 130 Pennsauken	609-662-3081
NM	BFA Corp 1328 Ortiz St SE Albuquerque	505-268-4387
NY	Measurement Technology Inc 295 Northern Blvd Great Neck	516-482-3500
NC	E G Holmes & Assoc 430 W Friendly Ave Greensboro	919-275-0897
Ohio	Technitron Instr Inc 23203 Lorain Rd N Olmsted	216-734-0960
Okla	BFA Inc 3216 E 21st Tulsa	918-936-5295
Ore	Showalter-Judd Inc 1445 NE Arrington Hillsboro	503-648-6372
Pa	Technitron Instr Inc 114 Spring Grove Rd Pittsburgh	412-371-1231
Tex	BFA INC Box 429 Euless	817-267-1505
Va	W A Brown & Assoc 325 First St Alexandria	703-836-1800
Wash	Showalter-Judd Inc 1806 S Bush Pl Seattle	206-324-7911
Wis	Systems Eng Assoc Box 526 Waukesha	414-782-3388

CINCH-GRAPHIK DIV UNITED-CARR INC
200 S TURNBULL CANYON RD
CITY OF INDUSTRY CAL 91744
TWX 910-584-1861 213 333-1201
A PUHLMAN EMP 750 ENG 15 OVER $10,000M

Cal	United-Carr Inc 2680 Bayshore Frontage Rd Mountain View	969-2252
Colo	United-Carr Inc 1271 W Littleton Blvd Littleton	303 798-2042
Fla	United-Carr Inc 1260 Winston Rd Maitland	838-3421
Ga	United-Carr Inc 1776 Peachtree St NW Atlanta	876-0820
Ill	United-Carr Inc 1982 Lunt Ave Elk Grove	437-5110
Ind	United-Carr Inc 2511 E 46th St Indianapolis	547-2300
Md	United-Carr Inc 10201 Grosvenor Place Rockville	493-6259
Mass	United-Carr Inc 100 Main St Reading	944-3020
Mich	United-Carr Inc 2832 E Grand Blvd Detroit	873-9500
Minn	United-Carr Inc 7615 Metro Blvd Minneapolis	941-4353
Mo	United-Carr Inc 8000 Bonhomme St Louis	PA 7-7370
NJ	United-Carr Inc 530 Main St Fort Lee	947-7600
NY	United-Carr Inc Box 425 Millbrook	677-3488
Ohio	United-Carr Inc 3300 S Dixie Ave Dayton	299-1972
Pa	United-Carr iNC 1601 Church Rd Glenside	887-7520
Tex	United-Carr Inc 1066 W Mockingbird La Dallas	ME 1-0410
Can	United-Carr Inc 4198 Dundas St W Toronto	233-5564
Can	United-Carr Canada Ltd 714 Shell Tower Bldg Montreal	UN 6-7465

CINCH MFG CO 1501 MORSE AVE
ELK GROVE VILLAGE ILL 60007
TWX 910-222-1796 312 439-8800
J HERMACINSKI OVER $10,000M
ADV PGS 162,163

Ariz	Cinch Elctns Group 77 Third Ave W Scottsdale	602 646-3421
Cal	Cinch Elctns Group 2680 Bayshore Frontage Rd Mountain View	415 969-2252
Cal	Cinch Elctns Group 887 S Atlantic Blvd Monterey Park	213 282-8416
Fla	Cinch Electns Group 1499 S W 5th Ave Boca Raton	305-399-4884
Ga	Cinch Elctns Group 349a Peachtree Hills Ave N E Atlanta	404-233-1017
Ill	Cinch Elctns Group 1982 Lunt Ave Elk Grove Village	312 569-2130
Ind	Cinch Elctns Group 2511 E 46th St Indpls	317-547-2300
Md	Cinch Elctns Group 10201 Grosvenor Pl Rockville	301 493-6259
Mass	Cinch Elctns Group 100 Main St Reading	617 944-3020
Mich	Cinch Elctns Group 2832 E Grand Blvd Detroit	313-873-9500
Minn	Cinch Elctns Group 7615 Metro Blvd Minneapolis	612 941-4353
Mo	Cinch Elctns Group 8000 Bonhomme St Louis	314-727-7370
NJ	Cinch Elctns Group 530 Main St Ft Lee	201-947-7600
NY	Cinch Elctns Group E Molloy Rd Syracuse	454-9268
NY	Cinch Elctns Group Box 425 Millbrook	914-677-3488
Ohio	Cinch Elctns Group 3300 S Dixie Ave Dayton	513-299-1972
Pa	Cinch Elctns Group 1601 Church Rd Glenside	215-687-7520
Tex	Cinch Elctns Group 1066 W Mockingbird La Dallas	214-637-6650
Tex	Cinch Elctns Group 1405 S Post Oak Rd Houston	713-622-3723
Wash	Don Smith Sls Co 2320 N 45th St Seattle	206-633-3160

Can United-Carr Canada Ltd 93 Yorkville Ave Toronto .... WA 4-2157
Can United-Carr Canada Ltd 714 Shell Tower Bldg Montreal 514-866-7465

CINCH-MONADNOCK 18300 E VALLEY BLVD
CITY OF INDUSTRY CAL 91747
TWX 910-584-1303 .... 213 964-6581
R BERGER EMP 260 ENG 8

CINCH-NULINE DIV UNITED-CARR
1015 S SIXTH ST MINNEAPOLIS MINN 55415
TWX 910-576-2748 .... 612 339-8301
E SCHMIDT EMP 300 ENG 16 $5,000-$10,000M
Cal United Carr Inc 887 S Atlantic Blvd Los Angeles 282-8416
Ga United Carr Inc 349A Peachtree Hills Ave NE Atlanta 261-6512
Ill United Carr Inc 1982 Lunt Ave Elk Grove Vlg 437-5110
Ind United Carr Inc 2511 E 46th St Indianapolis 549-2300
Ky United Carr Inc 190 Colony Way Louisville .. 895-1064
Md United Carr Inc 10201 Grosvenor Pl Rockville 933-0827
Mass United Carr Inc 100 Main St Reading 944-3020
Mich United Carr Inc 2832 E Grand Blvd Detroit .. 873-9500
Mo United Carr Inc 8000 Bonhomme St Louis ... PA 7370
NJ United Carr Inc 530 Main St Fort Lee 947-7600
NY United Carr Inc Pickard Bldg Syracuse 454-9268
Ohio United Carr Inc 2829 Euclid Ave Cleveland .. 861-7557
Pa United Carr Inc 1601 Church Rd Glenside ... 887-7520
Tex United Carr Inc 1066 W Mockingbird La Dallas .... ME 1-0410

CINCINNATI DEVELOPMENT & MFG CO
6514 WOOSTER PIKE CINCINNATI
OHIO 45227 .... 513 271-7280
W MOONEY EMP 50 ENG 3
Cal L M Alchimisti Box 516 San Carlos 415 591-9651
Ill C Shannon 328 Olmstead Rd Riverside .. 312 447-4139
Mass H P Chase Box 47 Holyoke 413 533-0168
Mich N T Sullivan Box 202 Birmingham 313 647-3444
Minn C R Berquist 3529 Webster Ave S Minneapolis 612 929-6082
NJ J T Elliott Box 829 North Bergen 201 864-2376
NY E P Newland 801 First Ave Troy 518 235-0539
Ohio C J Voneman 18522 Detroit Ave Cleveland 216 221-2800
Wis W R Belles 8828 N Port Washington Rd Milwaukee 414 352-1590

CINCINNATI MILLING MACHINE CO CIMASTRA DIV
4753 MARBURG AVE CINCINNATI OHIO 45209
TWX 810-461-2616 .... 513 475-8444
J FULMER
Cal R L Assoc Box 2615 Sepulveda 782-7826
Fla Component Sales, Inc Box 9545 St Petersburg 360-7460
Ill Electro-Comp Sales 5129 W Devon Ave Chicago 763-3636
Ind John Kilfoil Co 1721 S Calhoun St Ft Wayne 456-2008
Mich Hilltronics 13720 Puritan Ave Detroit 272-4320
NJ Robt W Voyles Essex St Maywood 489-8840
Ohio John Kilfoil Co 9415 Montgomery Rd Cincinnati 791-6150
Pa R H Hilderbrand Box 166 Fairview Village ... 247-6225
Tex J B Guenther Co 4533 N Central Expwy Dallas 528-6286

CINCINNATI SUB-ZERO PRODUCTS INC
2612 GILBERT AVE, DEPT EBG CINCINNATI
OHIO 45206 .... 513 751-8810
L DOHERTY EMP 47 ENG 5 $250-$500M
Cal ABCO Co 555 W 9th St San Pedro 213 833-8333
Conn Fulton, Dewyk Inc 22 Water St Ansonia 734-5681
DC J R Enright 4618 Leland St Washington 654-0600
Fla D A Thomas Jr Box 4368 Clearwater .. 813 531-4255
Ga Dilcher Engrg Co 3376 Peachtree Rd NE Atlanta 231-1678
Ill Ben Grant Co 2412 S 9th Ave No Riverside .. 242-4747
Md Precision Sales Co 104 Joppa Rd Baltimore . 828-4897
Mich Carter McCormic & Peirce Inc 23995 Fwy Park Dr Farmington 477-7700
NJ Richards Assoc 287 Haledon Ave Haledon 201-684-8700
NY Keller Machinery Co 210 Highland at Colvin Buffalo 876-5678
Ohio Stanley E Wallar 3521 Harvard Blvd Dayton 275-4151
Pa Munhall Indl Sales 550 Butler St Pittsburgh . 781-8855
Tex Kobs Engrg Co Box 3366 Houston 225-1139
Can Electrodesign Ltd 9124 St Lawrence Blvd Montreal 389-5914

CINTRA/PHYSICS INTERNATIONAL
440 LOGUE AVE MOUNTAIN VIEW
CAL 94040 .... 408 969-9230
H REIDER EMP 50 ENG 20 $500-$1,000M
Ariz Chas W Fowler Co 9911 Inglewood Ave Inglewood Cal 213-678-5211
Cal Chas W Fowler Co 845 Oak Grove Ave Menlo Park 415-322-5374
Colo Chas W Fowler Co 1345 Spruce St Boulder 303-449-2141
Conn Instrument Assoc Inc 234 Murphy Rd Hartford 203-525-9367
DC Scientific Sys Sales Corp 7705 Georgia Ave NW Washington 202-726-4161
Ill Contemporary Science Inc Box 205 Mt Prospect 312-255-3793
Mass Instrument Assoc Inc 30 Park Ave Arlington 617-648-2922
NM Chas W Fowler Co 9000 Menaul Blvd NE Albuquerque 505-299-7676
NY Scientific Sys Sales Corp 376 Great Neck Rd Great Neck 516-466-0053
Ohio Contemporary Science Inc 105 Fairdale Ave Westerville 614-882-6908
Tenn Pulcir Inc 4511 Kingston Pike Knoxville . 615-584-7871
Tex Kemp Engineering Co 2618 Manana Dr Dallas 214-357-6663
Wash Chas W Fowler Co 845 106th Ave NE Bellevue 206-454-8600
Can Spectra Research Inc 376 Churchill Ave Ottawa Ont 613-728-3415

CIRCON COMPONENT CORP
SANTA BARBARA AIRPORT GOLETA
CAL 93017 .... 805 967-1113
C SPAFFORD EMP 20 ENG 4 $250-$500M
ADV PG 292
Ariz R V Weatherford Co 1917 N 25th Dr Phoenix 272-7144
Cal R V Weatherford Co 6921 San Fernando Rd Glendale 849-3451
NY Terminal-Hudson Electronics Inc 236 W 17th St New York 243-5200

CIRCUITS, INC 59 DEMING RD BERLIN
CONN 06037 .... 203 828-3526
J ADAMS EMP 60 ENG 4 $1,000-$2,500M
Md Durkin Assoc 2708 Bartlett La Bowie
NY Andrews & Andrews 140 E Main St Huntington 516 692-8686
Tex P Kreager Co 9230 Cliffmere Dr Dallas 348-3521

CIRCUIT STRUCTURES LAB
3200 N SAN FERNANDO BLVD BURBANK
CAL 91504 .... 213 849-6341
F CRISWELL EMP 12 ENG 2
Ariz AR/TEC Box 727 Scottsdale 947-6304
Cal J E Striker Co 1319 Howard Ave Burlingame 342-1425
Colo Electronic Component Sales 2340 W Main St Littleton 798-8481
Fla Engstrom Assoc 1816 Maywood Rd Winter Park 671-8944
Md Be-Mar Assoc 120 Derwood Cir Rockville ... 762-8880
Mass Entis Assoc 11 Babcock St Brookline ..... CO 7-2322
NM Electronic Component Sales Box 3087 Sta D Albuq 344-3987
NY Andrews & Andrews 140 E Main St Huntington 692-8686
Ohio Midwest Sales Co 3219 W 117th St Cleveland .... WI 1-2700
Okla T J Ray Co Box 45191 Tulsa .... NA 7-1515
Ore Van Voorhees Assoc Box 4383 Portland 287-6633
Pa Be-Mar Assoc 7217 Rising Sun Ave Philadelphia 728-6333
Tex Stevens Sales Box 34493 Dallas .... CH 1-3645
Utah Elcom Box 2066 Salt Lake City 278-6044
Can Nortech Electronics Ltd 1335 Lawrence Ave, E Don Mills, Ont 447-6471

CIRCUIT TECHNOLOGY INC 1001 WASHINGTON ST
SAN CARLOS CAL 94070 415-593-1495
EMP 30 ENG 1 $500-$1,000M

CIRCUIT TECHNOLOGY INC 160 SMITH ST
FARMINGDALE NY 11735 516-293-8686
J FISHEL EMP 60 ENG 7 $1,000-$2,500M
Cal Syl Cole 8376 Westlawn Ave Los Angeles
Colo Mile High Electronics 1828 Pine Boulder 609-448-1700
Fla Technical Mktg Inc 1511 E Robinson Orlando 305-843-2500
Ill Lightner Assoc 6322 N Milwaukee Chicago 312-SP4-1500
Md Bernard White & Co 7 Church Lane Baltimore 301-484-5400
Mass Impact Sales Co 223 Crescent St Waltham 617-893-2850
Mo Harris-Hanson Co 2814 S Brentwood Blvd St Louis 314-962-9895
NY Technical Electronics Inc 335 Crossways Park Dr Woodbury 516-921-9393
ND Bob Johnson 7100 S France Ave Mnpls Minn 612-922-1425
Pa KVA Sales Co 7208 Rising Sun Ave Philadelphia 215-728-5802
Tex Allied Components 4234 Richmond Houston 713-782-5406

CIRCUIT-WISE INC 370 STATE ST NORTH HAVEN
CONN 06473 .... 203 248-4404
R METTLER JR EMP 80 ENG 2 $1,000-$2,500M
Cal Pacific Scientific Co 760 Harrison St San Francisco 362-0934
Conn J H Cosmar Co Box 7 Cheshire 272-7325
Mich N Clark Box 8569 Kensington Sta Detroit .. 885-1723
Minn Hamilton Grayden & Flemmer Hamilton Rd Hopkins 941-1120
Mo Pacific Scientific Co 2826 Main St Kansas City 931-5863
NY Sweeney Engineering 149 Morris Dr East Meadow 735-1918
Ohio J Clark 3570 Warrensville Ctr Rd Cleveland . 991-2000
Pa Hilliard Assoc Old York Rd Jenkintown .. 215 884-6100
Tex Pacific Scientific Co 702-A E Abram St Arlington 275-3236

C I T E VIA DOGALI 54 SANTA MARGHERITA LIGURE
ITALY 86143
G MANNINO EMP 130 ENG 4

CITY CHEMICAL CORP 132 W 22ND ST NEW YORK
N Y 10011 .... 212 WA 9-2723
E COLLE EMP 65 ENG 5

C & K COMPONENTS INC 103 MORSE ST
WATERTOWN MASS 02172 .... 617 926-0800
M KINCAID
ADV PG 613
Ariz Engineering Sales Assoc Box 544 Scottsdale 945-5781
Cal Universal Components 2330 Westwood Blvd Los Angeles 474-1537
Conn A & M Electronic Reps Aileen Dr Madison ... 245-1031
Fla J J Smith & Assoc Box 460 Winter Park ... 644-4316
Ill Ellinger Sales Corp 6580 N Northwest Hwy Chicago 763-1570
Iowa Ellinger Sales Corp 309 4th Ave SE Clarion . 532-3218
Md Quality Components, Inc Box 711 Rockville .. 933-1623
Mass A & M Electronic Reps Box 73 Needham ... 444-8170
Mich Robt H Jackson Co 200 S Washington Ave Royal Oak 542-5059
Minn Beta Engineering Co 128 Jackson Ave W Hopkins 938-2551
Mo Ellinger Sales Corp 4969 Bancroft St St Louis 481-5568
NJ Quality Components Co of N J Box 586 Cherry Hill 428-6266
NY L-Tron Corp 47 Devonshire Ct Rochester ... 436-4410
Ohio Gibson Electronics Mktg Co 26100 Brush Ave Cleveland 781-8330
Tex R F Kimball Co 5531 Dyer St Dallas 363-5432
Utah Arrowhead Sales Corp 1966 W 6255 S Salt Lake City 487-3444
Wash Jon B Jolly Pier 59 Seattle 624-2152

CLAIREX ELECTRONICS INC 1239 BROADWAY
NEW YORK N Y 10001 TWX 12-5622 ... 212 MU 4-5512
R FARRALL EMP 72 ENG 10 $1,000-$2,500M
ADV PG 108
Cal E V Roberts & Assoc Inc 9601 W Jefferson Blvd Culver City 213 870-9561
Ill J R Sales Engrg 7132 N Harlem Ave Chicago 312-774-8550
Mass Bordewieck Eng Sales Co 221 Grove St Braintree .... 617 VI 3-0845
Mich Hilltronics Inc 13720 Puritan Ave Detroit 313-342-3243
Minn Heiman Co 5603 Lyndale Ave S Minneapolis 612 827-5457
Ohio Scott Electronics Inc 1836 Euclid Ave Cleveland 216 861-2626
Pa W Reeves Assoc 2973 N Providence Rd Media 215-LO6-6709
Wash Western Technical Sales Box 902 Bellevue .... 206 GL 4-3906
For Sylvan Ginsbury Ltd 72 W 45th St New York N Y .... 212 MU 7-3213

CLARE-ELECTROSEAL CORP 946 NORTH AVE
DES PLAINES ILL 60016 312-763-0047
W KRIBBLE EMP 150 ENG 15 $1,000-$2,500M
Ariz C P Clare & Co 4710 N 16th St Phoenix 602 264-0645
Cal C P Clare & Co Box 11240 Santa Ana . 714-835-4114
Cal C P Clare & Co 2680 Bayshore Frontage Rd Mountain View 415-968-2831
Fla C P Clare & Co 601 N Fern Creek Ave Orlando 305 424-9508
Ill C P Clare & Co 2590 Devon Ave Des Plaines 312 827-0151
Iowa C P Clare & Co 501 Merle Hay Tower Des Moines 515-276-4147
Md C P Clare & Co 6229 N Charles St Baltimore 301 377-8010
Mass DeVeer Sales Engrg Co 1492 Highland Ave Needham 617 444-4200
Minn C P Clare & Co 4725 Excelsior Blvd Minneapolis 612 920-3125
Mo C P Clare & Co 10 Willowbrook Ct St Charles 314 429-7372
NY C P Clare & Co 499 S Warren St Syracuse 315 422-0347
NY C P Clare & Co 525 Northern Blvd Great Neck 516 466-2100
Ohio Baehr Greenleaf & Assoc 14700 Detroit Ave Cleveland 216 221-9030
Ohio Baehr Greenleaf & Assoc 9505 Montgomery Rd Cincinnati 513 891-3827
Ohio Baehr Greenleaf & Assoc Box 5722 Upper Arlington Columbus . 614 486-4046
Ohio Baehr Greenleaf & Assoc 3350 Maplewood Dr Xenia 513 426-5485
Pa C P Clare & Co 101 N 33rd St Philadelphia 215 386-3385
Tex George Weinreich & Assoc 11554 E Northwest Hwy Dallas 214 321-2800
Wash C P Clare & Co 400 108th St NE Bellevue 206-455-2410

CLARE-PENDAR CO BOX 785 POST FALLS
IDAHO 83854 TWX 208-999-9613 ...... 208 773-4541
J MCELWAIN EMP 300 ENG 36 $2,500-$5,000M
Ariz C P Clare & Co 4710 N 16th St Phoenix 602 264-0645
Cal C P Clare & Co 1823 E 17th Santa Ana 714-835-4114
Fla C P Clare & Co 601 N Fern Creek Ave Orlando 305-424-9508
Ill C P Clare & Co 2590 Devon Ave Des Plaines 312 827-0151
Md C P Clare & Co 6229 N Charles St Baltimore 301-377-8010
Mass DeVeer Sales Engrg Co 1492 Highland Ave Needham 617-444-4200
Minn C P Clare & Co 4725 Excelsior Blvd Minneapolis 612-920-3125
Mo C P Clare & Co 10 Willowbrook Ct St Charles 314-429-7372
NY C P Clare & Co 525 Northern Blvd Great Neck 516-466-2100
Ohio Baehr Greenleaf & Assoc 14700 Detroit Ave Cleveland 216-221-9030
Pa C P Clare & Co 101 N 33rd St Philadelphia 215-386-3385
Tex Robt E Nesbitt Co 2930 Merrell Rd Dallas .. 357-4601
Wash C P Clare & Co 400-108th St NE Bellevue .... 206 GL 5-2410
Can C P Clare Canada 61 Industry St Toronto 416-762-8154
Can C P Clare Canada 3300 Cavandish Blvd Montreal 28 Que 631-8541
Ger C P Clare Elektronik Oberanger 6/IIII 8000 Munchen 26-24-11

GB G P Clare Elctns Ltd Stonefield Way Ruislip Mdsx 01-845-1288
Ital C P Clare Elettronics SRL Piazzia Amendola 9 Milano 46-92-724
Belg C P Clare Intl 6 Momberstr Tongeren, Limbourg 012-3-3311

CLARE & CO, C P 3101 PRATT BLVD CHICAGO
ILL 60645 .... 312 AM 2-7700
R SMITH EMP 1500 OVER $10,000M
Ala C P Clare & Co Box 5307 Huntsville 534-5438
Ariz C P Clare & Co 4710 N 16th St Phoenix 264-0645
Cal C P Clare & Co 2680 Bayshore Frntge Rd Mountain View 968-2831
Cal C P Clare & Co Box 11240 Santa Ana 835-4114
Fla C P Clare & Co 601 N Fern Creek Ave Orlando 424-9508
Ill C P Clare & Co 2590 Devon Ave Des Plaines 827-0151
Iowa C P Clare & Co 501 Merle Hay Tower Des Moines 276-4147
Md C P Clare & Co 6229 N Charles St Baltimore 377-8010
Md Byrne Assoc 4853 Cordell Ave Bethesda 654-8814
Mass DeVeer Sales Engineering Co 1492 Highland Ave Needham 444-4200
Minn C P Clare & Co 4725 Excelsior Blvd Minneapolis 920-3125
Mo C P Clare & Co 10 Willowbrook Ct St Charles 429-7372
NY C P Clare & Co 525 Northern Blvd Great Neck 466-2100
NY C P Clare & Co 499 S Warren St Syracuse 422-0347
Ohio Baehr, Greenleaf & Assoc Inc 14700 Detroit Ave Cleveland 221-9030
Ohio Baehr, Greenleaf & Assoc Inc 3350 Maplewood Dr Xenia 426-5485
Ohio Baehr, Greenleaf & Assoc Inc 9505 Montgomery Rd Cincinnati 891-3827
Ohio Baehr, Greenleaf & Assoc, Inc Box 5722 Columbus 486-4046
Pa C P Clare & Co 101 N 33rd St Philadelphia 386-3385
Pa C P Clare & Co Murrycrest Sardis Rd Murrysville 327-6261
Tex Robert E Nesbitt Co 2930 Merrell Rd Dallas 357-4601
Tex Robert E Nesbitt Co 4208 Mt Vernon Houston 528-3811
Wash C P Clare & Co 400 108th St N E Bellevue 455-2410
Can C P Clare Can Ltd 61 Industry St Toronto 762-8154
GB C P Clare Ltd Stonefield Way Ruislip Mdsx 845-1288
Jap Westrex Co Orient CPO Box 760 Tokyo 5726-9
Belg C P Clare Intl NV 102 rue Gen Gratry Brussels 36-01-97

CLARICON PRODUCTS 663 DOWD AVE ELIZABETH
N J 07201 201-289-4600
R KOTOVSKY EMP 88 ENG 4 OVER $10,000M

CLARK CRYSTAL CORP 344 BOSTON POST RD
MARLBORO MASS 01752 .... 617 481-0821
F NOBLES EMP 25 ENG 3 $100-$250M
Cal John E Striker Co 1319 Howard Ave Burlingame 342-1425
Colo O Brien Sales Agency 2785 N Speer Blvd Denver 477-4713
Conn Keyco Assoc Box 357 Farmington 677-1771
Fla Beacon Electronic Assoc Box 1278 Maitland 647-3498
Ga Beacon Elctn Assoc Box 29201 2285 Peachtree Rd NE Atlanta 351-3654
Ill Branum Sales Co Box 516 Lake Zurich 438-2356
Mass Keyco Assoc 1329 Highland Ave Needham 449-2600
NY Andrews & Andrews, Inc 140 E Main St Huntington 692-8686
NC Beacon Elctn Assoc Box 503 Jamestown 454-1010
Ohio McShane Box 523 Medina 725-4283
Okla John A Green Co Box 3209 Tulsa 742-4657
Pa Tyler Griffin Co 46 Darby Rd Paoli 647-1550
Tex John A Green Co 3400 Montrose Houston 526-2959

CLARK ELECTRONICS 1365 E EDINGER AVE
SANTA ANA CAL 92705 714-835-1753
B PESKIN EMP 4 ENG 1 UP TO $100M

CLARKSON LABS INC 1450 FERRY AVE CAMDEN
NJ 08104 .... 609 WO 6-5200
N GOVER EMP 65 ENG 3 $2,500-$5,000M
Ala T Ed Kinard 2160 Ivy La Birmingham .... BI 7-7912
Cal Clarkson Labs Inc 2655 Ingalls St San Francisco .... VA 4-4978
Del R Snowberger Stone Barn La Wilmington 302-998-2896
Fla H E Begle 2040 N Federal Hwy Stuart 309-7871
Ky L Berger 8318 Grade La Louisville 502-366-4563
Mass G B Mentzer 10 Royce Rd Newton Centre .... LA 7-4617
Mich L Dupraw 14120 Shadywood La Plymouth 453-2685
NY T Worning 7225 Sixth Ave Brooklyn 212-TE-3-7982
Ohio C Williams 5417 Walshire Dr Columbus 614-866-4815
Okla W E Bohl 4817 E 34th St Tulsa 742-8279
Pa M C Kremin Box 141 Rt 3 Coraopolis 412-GL-7-7330
Tenn J P Johnson Box 8162 Chatanooga 615-624-4128
Wash C H Topp 1433 130th Ave NE Bellevue .... GL 4-0691
Can Clarkson Labs Ltd 51 Clarkson Ave Toronto 10 .... RU 3-3338

CLAROSTAT MFG CO INC WASHINGTON ST DOVER
N H 03820 .... 603 742-1120
J SMITH EMP 1000 ENG 75 $5,000-$10,000M
Ariz Jack Berman Co Inc 2101 W Shangrila Rd Phoenix 264-6578
Cal Straube Assoc 483 Willow Rd Menlo Park .... DA 3-2476
Colo Straube Assoc Box 1649 Boulder 443-8600
Fla Millar-Hutto Assoc Inc 501 Park Ave N Winter Park 647-7407
Ga Millar-Hutto Assoc Inc 3110 Maple Dr NE Atlanta 261-6160
Ill Clarostat Chicago 5811 W Montrose Chicago 725-3441
Ind Needler Sales Co Sta C Box 2407 Fort Wayne 744-5226
Kan T L Dowell Co, Inc 6007 W 94th Ter Overland Park 649-6069
Mass Adrian Whitten Colonade Bldg, 49 Main St Concord 369-7933
Minn A J Warner Co 4927 34th Ave S Minneapolis 729-7371
Mo T L Dowell Co, Inc 9176 Villerage St Louis
NY Leonard D Allen Inc Box 205 North Syracuse 458-7470
NC Millar-Hutto Assoc Inc Box 17566 Charlotte .... EM 6-2061
Ore Almac/Stroum Box 25444 Portland 292-3534
Pa Clarence W Henderson 400 Gilpine Rd Narberth 664-9588
Tex J Y Schoonmaker Co Inc 2995 Ladybird La Dallas 631-8962
Wash Almac/Stroum Co 5811 6th Ave S Seattle 723-7310
Can Tri-Tel Assoc Ltd 55 Brisbane Rd Downsview, Ont 633-4325
For M Simons & Son Co Inc 150 Broadway New York, NY 227-5513

CLARY CORP 320 W CLARY AVE SAN GABRIEL
CAL 91776 TWX 67-4604 .... 213 287-6111
E BECK EMP 460 ENG 20 OVER $10,000M
Ala Lee Assoc Huntsville 205-539-0761
Ariz Barnhill Assoc Phoenix 602-959-2115
Cal Kirk-Anderson Long Beach 213-436-9756
Colo Barnhill Assoc Denver 303-934-5505
Conn Lindgren-Broger Wilton 203-762-8114
Fla Lee Assoc Orlando 305-241-4445
Ill Pivan Engineering Co Chicago 312-539-4838
Ind Pivan Engineering Co Indianapolis 317-253-1681
Iowa Pivan Engineering Co Cedar Rapids 319-365-6035
Kan Pivan Engineering Co Kansas City 913-722-1030
Md Lee Assoc Rockville 301-949-4800
Mass Lindgren-Brogen Waltham 617-891-8045
Mich Satullo Co Detroit 313-LI9-3910
Minn Pivan Engineering Co Minnneapolis 612-537-4501
Mo Pivan Engineering Co St Louis 314-731-3000
NJ Moxon Electronics Corp Camden 609-667-5005
NM Barnhill Assoc Albuquerque 505-265-7766
NY J A Reagan & Co Albany 518-489-4777
NC Lee Assoc Winston-Salem 919-724-2406
Ohio E M A Dayton 513-433-2800
Tex Barnhill Assoc Houston 713-621-0040
Wash Rush S Drake Assoc Seattle 206-763-2755
Wis Pivan Engineering Co Milwaukee 414-547-5131
Can Datagraphics Ottawa 613-825-3791

CLAUSS CUTLERY CO DIV ALCO STANDARD CORP
223 N PROSPECT ST FREMONT
OHIO 43420 .... 419 332-7344
JACK HART JR EMP 300 ENG 3
Cal Dillon Stevens & Co 1610 S Bonnie Brae Los Angeles 747-9221
Colo Brandline Sales Co 2186 S Holly St Denver 756-1804
Conn H D Q & H V Neff Rural Route 2 Woodstock 928-4249
Ga C M Allen Co 2989 N Fulton Dr NE Atlanta 231-1616
Ill W H Paradise & Assoc 5845 W North Ave Chicago .... BE 7-8034
Mich Marvin L Partridge 54443 W 8 Mile Rd Northville .... FI 9-0059
Mo Maury E Bettis Co 3706 Broadway Kansas City .... 816 LO 1-0772
NY Dunn & Bryan 28 Warren St New York .... WO 4-8091
Tex A A Emerson Co 4334 Normandy Ave Dallas .... LA 1-3482
Wash Warner & Gehring 84 S Holgate Seattle 682-2450
Can Adlam Tool & Supply Co Ltd 10 Ronald Dr Montreal, Que 482-2548
For L D Seymour & Co 1229 Broadway Hewlett 374-9640

CLEAN ROOM PRODUCTS INC 55 E CENTRAL AVE
FARMINGDALE N Y 11735 .... 516 293-8555
W DUNCAN EMP 40 ENG 5 $500-$1,000M
Cal Tanner Supay Co Box 21262 Los Angeles 213 624-3505
Colo Crump Co 2785 N Speer Blvd Denver 303 433-6485
DC Eastman Kodak Stores 411 4th St Washington 202 737-3200
Fla Military Packaging Co of Fla 401 Eastoak Ridge Rd Orlando 305 855-7860
Ga John L Morris Assoc 3224 Peachtree Rd NE Atlanta 404-233-5118
Ill Eastman Kodak Stores 4540 W Washington Blvd Chicago 312 626-6200
Iowa Eastman Kodak Stores 2205 Ingersoll Ave Des Moines 515 283-2717
Md Eastman Kodak Stores 2116-24 Aisquith St Baltimore 301 243-9880
Mass Eastman Kodak Stores 21 Needham St Newton Heights 617 969-8722
Mich Eastman Kodak Stores 3140 Grand River Ave Detroit 313 833-7800
Minn Eastman Kodak Stores 1124 Station Blvd Minneapolis 612 331-4850
Neb Eastman Kodak Stores 2030 S 27th St Lincoln 402 423-8535
NJ Richards Assoc Box 733 Wayne 201 696-4100
Ohio Eastman Kodak Stores 3035 Reading Rd Cincinnati 513 961-7223
Okla Eastman Kodak Stores 912 Classen Blvd Oklahoma City 405 232-1155
Ore Eastman Kodak Stores 1919 SE Belmont St Portland 503 234-9272
Pa Gordon Seiter Assoc Carol and Glenbrook Rds Philadelphia 215-877-5022
Tex Eastman Kodak Stores 1607 W Mockingbird La Dallas .... 214 ME 1-0261
Utah Eastman Kodak Stores 2220 S Main St Salt Lake City 801 484-6131
Wash Eastman Kodak Stores 2619 2nd Ave at Cedar St Seattle .... 206 MA 2-9072
Wis Eastman Kodak Stores 1661 N Farewell Ave Milwaukee 414 271-1478
Can Eastman Photographic Matls, Ltd 1102 5th St SW Calgary, Alb 403 266-4442
Can Eastman Photographic Matls, Ltd 5150 Arnoldi St Montreal, Que 514 733-6258
Can Eastman Photographic Matls, Ltd 20 Ampex Rd Toronto, Ont 416 789-4586
Can Eastman Photographic Matls, Ltd 1810 Ellice Ave Winnipeg, Man 204 772-9488
BC Eastman Photographic Matls, Ltd 105 W 2nd Ave Vancouver, BC 604 872-7146

CLEMENS MFG CO 630 S BERRY RD ST LOUIS
MO 63122 .... 314-WO1-7228
J CLEMENS EMP 4 ENG 1 UP TO $100M

CLEVELAND ELECTRONICS INC DEFLECTION
COMPONENTS DIV 2000 HIGHLAND RD
TWINSBURG OHIO 44087
TWX 098-5477 .... 216 425-7841
C KNOWLES EMP 30 ENG 13
Ala V Avis McCorvey Co 2248 3rd St NW Birmingham 853-3181
Cal Corcoran Assoc Box 45897 Los Angeles 398-2675
Colo Walter-Powers Assoc 880 Bonnie Brae Blvd Denver 777-5585
DC Massey Assoc 1 Thomas Circle NW Washington 628-1023
Ga V Avis McCorvey 2187 Briarcliff Rd NE Atlanta 636-2502
Ill W G Brouillette & Assoc 9855 Roosevelt Rd Westchester 345-6500
Ind R O Whitesell & Assoc 6620 E Washington St Indnpls 355-5374
Ky R O Whitesell & Assoc 1172 W Galbraith Louisville 521-2290
Mass Eugene Delfino Inc 75 Reed St Lexington 862-1118
Mo Kay Sales Co 4010 Washington St Kansas City 531-2014
NY Irv Brown Co 1500 Carroll St Brooklyn 493-1379
Ohio R O Whitesell & Assoc 4129 S Dixie Dayton 298-9546
Tex J Earl Smith Co 1353 Chemical St Dallas 631-1727
Wash Ace Assoc 143 SW 153rd St Seattle .... CH 4-9391
Fr Tranchant Electronique S A 19-21 Rue Madame Sanzillion Clichy Seine
Ger A N Enatechnik 14 Shillerstr 2085 Quickborn-Hamburg
Neth Inelco N V Arent Janszoon Ernststr 801 Amsterdam-Z.11
Ital Silverstar Ltd 20 Via Dei Gracchi Milano

CLEVELAND ELECTRONICS INC SPEAKER DIV
1974 E 61ST ST CLEVELAND OHIO 44103
TWX 098-442 .... 216 EX 13834
D MARTIN EMP 600 ENG 20 $5,000-$10,000M
Cal Corcoran & Assoc 301 Epinard Playa Del Rey 823-2425
Cal Logan Sales Co 463 Brewster Redwood City 369-6726
Colo Walter-Engineering 880 Bonnie Brae Blvd Denver 777-5585
DC Massey & Assoc 1 Thomas Circle Washington 628-1023
Ga V Avis McCorvey Co 2187 Briar Cliff Rd NE Atlanta 636-2502
Ill W G Brouillette & Assoc 9855 Roosevelt Blvd Westchester 345-6500
Ind R O Whitesell & Assoc 6691 E Washington St Indnpls .... FL 9-5374
Iowa Ralph R Sharpe Co 2702 41st Pl Des Moines 255-4584
Ky R O Whitesell & Assoc 3620 Lexington Rd Louisville 893-7303
Mass Near Inc 99 Highland Ave Somerville 776-2262
Mich R O Whitesell & Assoc 25100 Evergreen Rd Southfield 358-2020
NY George J Gay, Inc Box 214 Brockport 637-3162
NY Irv Brown Co 401 Kingston Brooklyn 493-1379
Ohio R O Whitesell & Assoc 4133 S Dixie Dayton 298-9546
Ohio R O Whitesell & Assoc 1172 W Galbraith Cincinnati 521-2290
Ohio R O Whitesell & Assoc 21139 Lorain Ave Cleveland 333-2585
Ore James W Eckersley Co 3150 SW Hamilton St Portland 246-3183
Pa D S Hevner Co 1528 Spring Mill Rd Gladwyne .... LA 5-9727
Tex J Earl Smith Co 1353 Chemical St Dallas .... ME 1-1727
Can C A Pipe Assoc 65 Waterford Dr Weston Ont 249-1766

CLEVELAND METAL SPECIALTIES CO
15516 INDUSTRIAL PKWY CLEVELAND
OHIO 44135 .... 216 267-9020
R MIDDLEKAUFF EMP 25 ENG 3 $250-$500M

CLEVELAND MICA CO 1360 HIRD AVE LAKEWOOD
OHIO 44107 .... 216 226-1360
W BURTON EMP 75 ENG 2 $1,000-$2,500M
Ill Special Electric Co 1009 Kings La Glenview 729-3229
Mo Meiners Sales Co Inc 7500 Natural Bridge Ave St Louis 383-4833
NY United Mineral & Chem Co 16 Hudson St New York 233-8870
Ohio C J Voneman Co 18522 Detroit Ave Lakewood 221-2800
Wis Special Electric Co 3628 W Pierce St Milwaukee 383-6370

CLEVELAND PROCESS CORP 1773 E 21ST ST
CLEVELAND OHIO 44114 .... 216 621-2190
H WALTER EMP 40 ENG 3 $500-$1,000M

CLEVELAND REFRACTORY METALS, DIV CHASE
BRASS COPPER CO 28850 AURORA RD SOLON
OHIO 44139 TWX 098-5460 .... 216 248-0300
M MCCANN EMP 106 ENG 10
Cal Interconsal Assoc Inc 825 San Antonio Rd Palo Alto 321-8113
Ill Arthur Capp Co Box 234 Zion 312 746-1940
NJ Harold M Lusk 684 Lotus St Oradell 261-5339
Ohio George P Bray 23 N Franklin St Chagrin Falls 247-4474

CLEVELAND VIBRATOR CO 2828 CLINTON AVE
CLEVELAND OHIO 44113 ... 216 241-7157
E DILLENBECK EMP 50 ENG 3 $1,000-$2,500M
Ala Harry Reich Box 228 Trussville ... 655-2121
Cal L P Metesser 801 Mahler Rd Burlingame ... 697-3000
Colo K W Lawson Box 15451 Denver ... 238-0473
Ill G Stocum 6145 W Belmont Ave Chicago ... 237-6148
Ind J M Glass 648 S East St Indianapolis ... 635-5131
Ky C Gipperich Jr Box 386 Louisville ... 425-0010
Md E L Miles Jr Box 188 Riderwood ... 823-1434
Mass G T Collatz 473 Washington St Wellesley ... 237-0831
Minn Air Engineering & Supply 2917 E Franklin Ave
Minneapolis ... 335-4181
NJ L Shepard 2061 Broadway New York NY ... 362-5765
NY W J Bernhart 2451 Wehrle Dr Buffalo ... 634-1060
Ohio Feeder Automation Sales 2821 Church Ave
Cleveland ... 781-7799
Pa John P Clark 124 S Easton Glenside ... 887-1775
Tex L Crick Box 18184 Dallas ... 321-9215
Va J E Nissley, Jr 3110 North Blvd Richmond ... 355-7817
Can Masdom Corp Ltd 83 Sunrise Ave
Toronto, Ont ... 751-2380
For R K Price Assoc 509 Madison Ave New York, N Y

CLEVEPAK CORP 375 PARK AVE NEW YORK
NY 10022 ... 212 688-2000
J WHITNEY EMP 1000 ENG 4 OVER $10,000M
Cal Clevepak Corp 14022 Nelson Ave
Los Angeles ... 213-330-6803
Conn R S Pettigrew & Co 10 N Main St
West Hartford ... 203-233-8533
Ill Clevepak Corp 1701 W 87 St Chicago ... 312-233-7285
NJ Murray Sales Co 25 W Northfield Rd
Livingston ... 992-0520
NJ Clevepak Corp Applegarth Rd Cranbury ... 609-655-2800
NC Winco Sales Assoc 5322 Fayetteville Rd
Raleigh ... 772-4269
Ohio Clevepak Corp 6201 Barberton Ave
Cleveland ... 216-651-4500
Tenn Clevepak Corp 3980 Premier Ave
Memphis ... 901-363-0692
Tex Techno Assoc Box 20544 Dallas ... FL 7-9213
Wis Clevepak Corp 4129 N Port Washington Rd
Milwaukee ... 414-332-8353
Can Paisley Products Co Ltd 36 Upton Rd
Scarborough Ont

CLEVERLY ELECTRICAL WORKS INC
5312 WESTMINSTER AVE PHILADELPHIA
PA 19131 ... 215 SH 8-1620
J GRAUCH III EMP 12 ENG 1 $100-$250M

CLEVITE CORP, BRUSH INSTRUMENTS DIV
37TH & PERKINS CLEVELAND OHIO 44114
TWX 810-421-8580 ... 216 361-3315
R VON KAMECKE EMP 700 ENG 200
ADV PGS 300,301,510,511
Ala W A Brown & Assoc Inc 1314 Buford St NW
Huntsville ... 205 539-6884
Cal Brush Instruments 1801 Ave of the Stars
Los Angeles ... 213 879-1300
Colo Brush Instruments 300 E Speer Blvd
Denver ... 303 744-2371
Fla W A Brown & Assoc Inc 222 Weber Ave
Orlando ... 305 425-5505
Ga W A Brown & Assoc 1590 Cooledge Rd
Tucker ... 404 939-1674
Haw Harkom Hawaii Inc 630 Piikoi St Honolulu ... 587-178
Ill Brush Instruments 2000 Spring Rd
Oak Brook ... 312 654-1430
Md Brush Instruments 6715 Kenilworth Ave
Riverdale ... 301 864-0057
Mass Brush Instruments Northwest Ind Pk
Burlington ... 617 272-0750
Mich Brush Instruments 600 Northlands Tower E
Southfield ... 313 356-6600
Minn Bard Assoc 4640 W 77 St Minneapolis ... 612-922-8233
Mo Brush Instruments 11722 Studt Lane
St Louis ... 314 432-8055
NJ Brush Instruments 25 E Salem St
Hackensack ... 201-342-6161
NC W A Brown & Assoc Inc 1108 Burke St
Winston-Salem ... 919 725-5384
Ohio Brush Instruments 37th & Perkins
Cleveland ... 216 361-3315
Pa Brush Instruments 3450 Babcock Blvd
Pittsburgh ... 412 931-3660
Tex Brush Instruments 7007 Gulf Frwy
Houston ... 713 644-3671
Wash Brush Instruments 5950 6th Ave S
Seattle ... 206 762-2140
Can Allan Crawford Assoc Ltd 65 Martin Ross Ave
Toronto ... 416-636-4910
Can Allan Crawford Assoc Ltd 1285 Hodge St
Montreal ... 514-747-9849
For Equip De Lab LDA Apartado 1 100 Lisbon ... 733436
For Ad Auriema Inc 85 Broad St New York ... 212 269-7750
Den Semler & Matthiassen 1 Aebelogade
Copenhagen ... (01)290311
Fr Bureau De Liaison SA 113 Rue De L'Universite
Paris VIIE ... 468-99-20
Ger Electronic Assoc GmbH Bergdriesch 37
Aachen 51 ... 0241 26041
GB B & K Instruments Ltd 59 Union St
London SE 1 ... Hop 4567
Neth Peekel, Lab Voor Electronica Alblasstr 1
Rotterdam ... 010-15-27-22
Ital Elettronucleonica 20146 Miland
Piazza De Angeli ... 46 96 551
Jap Hakuto Co Ltd 1 Kotohira-Cho Shiba Minato-Ku
Tokyo ... 503 3711-9
Nor MetronicA/S Tollbodgaten 4 Oslo ... 42 74 85
SAfr Peter Rothenberg (Pty) Ltd Box 2471
Johannesburg
Swed M Stenhardt AB Grimstagatan 89
Stockholm-Vallingby ... 87 02 40
Swit Megex Zurich Co Ltd Badenerstr 582
8048 Zurich ... 051-52-78-00
Belg Ets Van Der Heyden SA 49-51 Rue Du Marais
Brussels ... 171715
Gr M Dalleggio Reps 2 Alopekis St Athens ... 710 669&71
Isrl Landseas (Israel) Ltd 29 Bezalel St Tel Aviv ... 244311-2
Mex Electro Industrias Cicesa Aptdo 8-952
Mexico City DF-8
Spn Montreal SA Ferraz 12 Madrid ... 247 65 73
Fin Into O/Y 11 Meritullinkatu Helsinki ... 61 133
Aust Electronic Assoc Pty Ltd 48 Atchison St
St Leonards, N S W ... 43-1557

CLEVITE CORP PIEZOELECTRIC DIV 232 FORBES RD
BEDFORD OHIO 44146
TWX 810-427-2274 ... 216 232-8600
R ZIMMERMAN EMP 250 ENG 21
$5,000-$10,000M
ADV PGS 258,259
Ala J L Highsmith & Co 3322 S Memorial Pkwy
Huntsville ... 881-3294
Cal Fetty/Schoenduve, Inc 7407 Melrose Ave
Los Angeles ... 651-4050
Colo Waugaman Assoc Inc 2785 N Speer Blvd
Denver ... 255-5000
Fla J L Highsmith & Co 2543 Industrial Blvd
Orlando ... 293-5202
Ga Maitland K Smith Co 31 - 16th St N W
Atlanta ... 875-8031
Ill Semiconductor Specialists Box 66125
Chicago ... 279-1000
Iowa H R Brown Sales Co 3400 Indian Rd SE
Cedar Rapids ... 366-0635
Kan Forristal Young Sales 5500 Buena Vista
Mission ... 432-1420
Md Mount & Co 4835 Cordell Ave Bethesda ... 652-5612
Mass Wm Beaver Assoc, Inc 41 Indian Ridge Rd
S Natick ... 655-1529
Mich Semiconductor Specialists 25127 W 6 Mile Rd
Detroit ... 255-0300
Mo Forristal Young Sales 7110 Oakland Ave
St Louis ... MI 5-2360
NY Ellis-Haber Corp 2315 Broadway New York ... 799-4040
NC J L Highsmith & Co 3733 Monroe Rd
Charlotte ... 333-7743
Ohio Semiconductor Specialists 5858 N Main
Dayton ... 278-9455
Pa Semiconductor Specialists 2011 Waverly St
Pittsburgh ... 351-3611
Tex Hays Co 777 S Central Expwy Richardson ... AD 1-1426
Can D I Snell Ltd 700 Weston Rd Toronto ... 767-9876

CLIFTON DIV LITTON INDUSTRIES LITTON PREC PRODS
INC 5050 STATE RD DREXEL HILL PA 19026
TWX 510-669-8217 ... 215 622-1000
J JAENISCH EMP 2500 ENG 100 OVER $10,000M
ADV PGS 26,190,307,392,393,564,616
Ariz Clifton Div 2619 W Bethany Home Rd
Phoenix ... 279-9319
Cal Clifton Div 7340 E Florence Ave Downey ... 927-3335
Colo Clifton Div 425 E Fillmore St
Colorado Springs ... 632-2691
Fla Clifton Div Box 508 Altamonte Springs ... 831-1441
Mass Darbury Corp 437 Cherry St W Newton ... 244-2053
Mo Clifton Div B Progress Pkwy Maryland Hts ... 432-4400
NY H W Brede Co 689 Glen Cove Rd Glen Head ... 676-4900
Ohio Clifton Div 1700 Needmore Rd Dayton ... 276-4137
Okla Ammon & Champion Box 4682 Tulsa 14 ... 627-7670
Pa Clifton Div 5050 State Rd Drexel Hill ... 622-1000
Tex Ammon & Champion 3300 W Mockingbird La
Dallas ... 357-8441
Fr Litton Prec Prod Intl Inc
120 Ave des Champs-Elysees 75 Paris ... 225-54-72
Ger Litton Prec Prod Intl Inc 8 Munchen 27
Newtonstr 13 ... 489395
GB Litton Prec Prod Intl Inc 95 High Street
Slough Bucks ... SLO 28267
Neth Litton Prec Prod Intl Inc Steenloperstr 26
Capellea/Dijssel ... 010-33-69-19
Ital Litton Prec Prod Intl Inc Via Arco 4
1-20121 Milano ... 893362
Swed Litton Prec Prod Intl Inc
Grev Turegatan 2 Box 7277 Stockholm 7 ... 11 43 90
Swit Litton Prec Prod Intl Inc Gubelstras 28
8050 Zurich ... 483544
Belg Litton Prec Prod Intl Inc 16 Rue du Musee
Brussels 1 ... 12.55.52

CLIMCO INC 400 OAKWOOD MORRISON
ILL 61270 ... 815 772-2107
R COLLINS EMP 70 $500-$1,000M

CLINTON INSTRUMENT CO BOSTON POST RD
CLINTON CONN 06413 ... 203 669-7548
H CLINTON EMP 12 ENG 1 UP TO $100M

CLIPPARD INSTRUMENT INC BOX 68 CINCINNATI
OHIO 45239 ... 513 521-4261
R SMITH EMP 300 ENG 5 $2,500-$5,000M

CLOVER CO INC F G 160 FRANKLIN AVE ROCKAWAY
N J 07866 ... 201 627-1160
C GROEPLER EMP 21 ENG 2 $100-$250M

CLOVER INDUSTRIES DIV GTI CORP 600 YOUNG ST
TONAWANDA N Y 14150 TWX 91393 ... 716-693-1331
D DOBBINS EMP 100 ENG 4
Ariz W Siebold 3120 N 39th St Phoenix ... 955-9516
Cal J Newman 21044 Ventura Blvd
Woodland Hills ... 347-7015
Mass F Kelleher 99 Cambridge Burlington ... 272-4340
NY R Westcott 122 E Main St
Wappingers Falls ... 297-6211
Pa J Walton 310 Chestnut St Meadville ... 336-2191
Tex H Luhr 3300 W Mockingbird La Dallas ... 358-4196

CLY-DEL MFG CO 42 SHARON RD WATERBURY
CONN 06705 ... 203 756-7264
W MOORE EMP 100 ENG 3 $2,500-$5,000M
Ill Ray Armstrong 920 Huckleberry La Northbrook

CMC/RUTHERFORD 12970 BRADLEY AVE
SAN FERNANDO CAL 91342
TWX 910-496-1487 ... 213 367-2161
L ARNOLD EMP 415 ENG 17
Ariz Barnhill Assoc Inc 4900 E Indian School Rd
Phoenix ... 602 959-2115
Cal Roland Olander Corp 1400 Coleman Ave
Santa Clara ... 408-247-1788
Colo Barnhill Assoc Inc 1170 S Sheridan
Denver ... 303 934-5505
Fla Beacon Electronic Assoc 540 S Maitland Ave
Maitland ... 305 647-3498
Ga Beacon Electronics Assoc 2285 Peachtree Rd NE
Atlanta ... 404 351-3654
Ill Midwest Elctn Sales 5707 W Division St
Chicago ... 312-626-0030
Ind Midwest Elctn Sales 5462 E 40th St
Indianapolis ... 317-547-3259
Iowa Midwest Elctn Sales 2042 Franklin Ave SE
Cedar Rapids ... 319-362-4410
Kan Dalatine Engrg Sales Inc 7520 W 63rd St
Overland Park ... 913-262-5643
Md Electronic Mktg Assoc 11501 Huff Ct
Kensington ... 301 946-0300
Mass Instrument Reps Inc 1046 Massachusetts Ave
Arlington ... 617-646-1034
Mich Electro-Mation Assoc 1137 Cole St
Birmingham ... 313-647-2480
Minn E C Electronics 10108 Abbott Ave S
Minneapolis ... 612-888-4626
Mo Palatine Engrg Sales 8622 St Charles Rock Rd
St Louis ... 314-426-7055
NJ Crane & Egert Corp 146 Meacham
Elmont N Y ... 516-488-2100
NM Barnhill Assoc Inc 827 Penna NE
Albuquerque ... 505 265-7766
NY NACO Electronics 119 Luther Ave
Liverpool ... 315 474-7481
NC Beacon Electronic Assoc 305 Greenway St
Jamestown ... 919 454-1919
Ohio Bob Hocker & Assoc 1400 Devereux Dr
Dayton ... 513-298-8638
Pa Electronic Mktg Assoc 210 Goddard Blvd
King of Prussia ... 215 248-5050
Tex Barnhill Assoc Inc 507B Bishop St
Richardson ... 214 231-2573
Wash Showalter-Judd Inc 1806 S Bush Pl
Seattle ... 206 324-7911
Wis Midwest Elctn Sales 1317 Garfield Ave
Waukesha ... 414-542-5129
For Gibbs y Cia S A C
Agustinas 1161 2 Piso Casilla 67-D
Santiago ... 82701-09
For E Pinto Basto & Ca Lda
1 Ave 24 de Julho Aptdo 2200 Lisbon
For W L Kerr (Pvt) Ltd 50 Stanley Ave
Salisbury C 1 ... 23422
For Fenmen Ltd 19 Karanfil Sokak Ankara ... 122915
Den Sophus Berendsen A/S 10 Amaliegade
Copenhagen K ... 01-14-85-00
Ger Ernst Fey Horemansstr 28 8 Munchen 2 ... 60459
Neth Koning en Hartman NV Koperwerf 30
The Hague ... 070-678380
Jap Cornes & Co Ltd Box 158 Tokyo ... 272-5771
Nor Norsk Marconikompani A S Box 50 Manglerud
Oslo ... 67-04-86
Swed Svenska Radioaktiebolaget Alstromergatan 14
Stockholm ... 22-31-40
Swit Kontron Ltd Hardstra 235 8031 Zurich ... 051-44-5690
Arg English Elec Marconi Arg S R L
Casilla de Correo 4476 Correo Central
Buenos Aires ... 42-1772
Belg Sait Elctns 66 Chaussee de Ruisbroek
Brussels 19 ... 45-18-50
Isrl Racom Electronics Co Ltd 74 Nordou Blvd
Tel-Aviv ... 44-32-44
Mex Agencias Canadenses y Occidentales S A
Vallarta L Aptdo 8600 Mexico I D F
NZ Amalgamated Wireless (Australasia) NZ
126 Wakefield St Wellington C 1 ... 43-191
Fin O Y Mercantile A B Box 10029 Helsinki 10 ... 64 42 11
Aust Kenelec Imports Pty Ltd
49 Essex Rd Mt Waverley Victoria 3149 ... 277-2818

CM LABORATORIES 327 CONNECTICUT AVE
NORWALK CONN 06854 ... 203 853-2345
N MORRIS EMP 20 ENG 2 $250-$500M
Cal Marshank Sales 7422 Melrose Ave
Los Angeles ... 213-938-2591
Cal Barton & Barton 907 Fox Plaza
San Francisco ... 415-387-3990
Conn John B Anthony Co 2810 High Ridge Rd
Stamford ... 203-322-9202
Ill E N Seversen 11435 Circle Dr
La Grange ... 312-246-4883
Mass J Piper Assoc 10 Haven St Dover ... 617 449-1144
Mo Robert Shaw Co St Louis ... 314-647-8866
NC C & G Assoc, Inc Box 12342 Charlotte ... 704 537-9563
Ohio Fred Ohman Co Box 363 Twinsburg ... 216 425-7445
Tex Humphries Sales 4611 Rockaway Dr
Dallas ... 214-824-8709
Wash Wm K Wood Co 5908 Calif Ave
Seattle ... 206 WE 5-9400
For Royal Sound Co 409 N Main St
Freeport, N Y ... 516 868-2880

C M L INC 350 LELAND AVE PLAINFIELD N J 07062
TWX 710 997-9529 ... 201 754-5502
T GORDON EMP 70 ENG 8 $1,000-$2,500M
ADV PGS 438,439
Ala Roy Attaway Co 900 Bob Wallace Ave
Huntsville ... 205-534-2811
Cal IFM - South 3455 Cahuenga Blvd
Hollywood ... 213-469-1641
DC Gans Frying Inc 2030 16th St N
Arlington Va ... 703-527-3262
Fla Roy Attaway 51-53 E Robinson St
Orlando ... 305-424-9983
Ill Loren F Green & Assoc 5218 W Diversey Ave
Chicago ... 312-286-6824

Mass Electronic Sales of NE Box 276
Attleboro 617 222-4078
Mich Twin Region Elctn Sales 29563 Northwestern Hwy
Southfield 313-358-4480
Minn Loren F Green & Assoc 6225 University Ave N E
Mnpls 612-781-1611
NM Dyma Engineering, Inc Rte 1, Box 51
Taos 505-758-2686
NY Sweeney & Co Inc 5 Fox Meadow Ct
Woodbury 516 692-4222
NC Radco Co 614 Nissen Bldg
Winston Salem 919-722-9671
Ohio Twin Region Elctn Sales 21010 Center Ridge Rd
Cleveland 216-331-7650
Ore N R Schultz Box 156 Beaverton
Pa Acromatix Assoc Inc
Box 271 3118 Germantown Pike
Fairview Village 215-279-0377
Tex True Technology Co 12016 Fieldwood La
Dallas ....214 AD 9-7741
Va Gans-Fryling Inc 2030 16th St N
Arlington 703 527-3262
Wash N R Schultz Co 305 112th Ave, N E
Bellevue 206-454-5224
Wis Loren F Green & Assoc 830 Plateau
Waukesha 414-786-2180
Can Mel Sales Ltd Box 34 Sta D
Scarborough 416-755-9235
Can Mel Sales, Ltd Box 1352 Montreal 9 ..514-748-9355
Den A S Danbridge 47 Brigadevej Copenhagen .ASTA 1575
Fr Seremat 24 Rue Maurice Barthelemy
Fontenay Sous Bois Seine 873-31-72
Ger Elektronische Test Gerate 3387 Vienenburg
W Germany 872
GB Robert Elctns 17 Hermitage Rd
Hitchin Hert ....Hitchin 50005 1/2
Ital Stelit Via Orlando 24 Geneva 39145
Jap Seki & Co
92 Chome Nihonbashi Koamicho Chuo-ku Tokyo
Swed Lagercrantz Box 314 Solna 3 830790
Swit Nucletron AG Spitaligasse 30 Bern 031-37451
Ind Escorts Ltd Box 187 New Delhi 40145
Isrl STG Intl Ltd 52 Nachlat Benyamin St Tel-Aviv..53459
Aust Ronald J T Payne Pty Ltd 385-387 Bridge Rd
Richmond 42-1416

C M MFG CO 103 DEWEY ST BLOOMFIELD
N J 07003 201-338-6500
D DONOVAN EMP 50 ENG 8 $500-$1,000M

C & N ELECTRICAL LTD MUMBY RD GOSPORT
HAMPSHIRE ENG TWX 86121 ....GOS 82391
G SPENCER EMP 1000 ENG 30 $2,500-$5,000M
Pa Scientific Intl Mktg Inc Box 181
Spring House 215-MI6-1713

COASTAL DYNAMICS CORP 219 ROSE VENICE
CAL 90291 ....213 392-3001
L CARSON EMP 111 ENG 4 $1,000-$2,500M
Fr Vibrachoc 39 Rue des Mathurins Paris VIII

COAST COIL CO 5333 W WASHINGTON BLVD
LOS ANGELES CAL 90016 ....213 936-6188
W QUEEN EMP 38 ENG 3 $500-$1,000M
Cal Mauldin Co 441 Calif Ave Palo Alto 326-5291

COAST ELECTRONICS INC 1305 FIFTH ST
MANHATTAN BEACH CAL 90266.......213 376-6328
G HAMMEL EMP 25 ENG 17 UP TO $100M

COAXCO INC 6611 SW MULTNOMAH BLVD
PORTLAND ORE 97223..............503 244-3215
P TERRY EMP 4 ENG 2 UP TO $100M
Ariz Gramer & Co 110 W Camelback Rd Phoenix .279-1231
Cal Pritchard & Haney Co Box 102
Los Altos 415 961-8218
DC J R Eberly Co 1207 Potomac St NW
Washington 338-2277
Tex Test Equip Co Box 4427 El Paso 755-9192
Wash Paratech 9210 28th Ave NW Seattle .....SU 4-6447

COAX DEVICES BOX 234EB CHELSEA
MASS 02150 ....617 884-6983
S ROSEN EMP 15 ENG 2 $250-$500M

CO-AX INC BOX 247 ROSLYN N Y 11576 ...516 484-0454
A SCHACHT
GB Transradio Ltd 183 Park Ave London nw 10 .965-6281

COBEHN INC 226 PASSIAC AVE FAIRFIELD
N J 07007 ....201 226-6675
D COOK EMP 6 ENG 2 $250-$500M
Cal Grif R Jones 840 E 60th St Los Angeles 231-0029
Ill Marsland Assoc 1000 Executive Way
Des Plaines 298-2620
Ind Marsland Dist Co 3734 Carrollton Ave
Indianapolis 317 924-3568
Mass R E Bailey Jr 10 High St Boston 426-0846
Minn Marsland Assoc 231 N Edgewood Ave Mnpls .545-4481
Mo Marsland Assoc Box 567 Florissant 831-0015
NY Rochester Industrial Supply 109 University Ave
Rochester 716 325-2386
Pa Chem-Tronics Inc RFD 3 Reading 779-3910
Tex Test Equip Co 5319 Harlan Dr El Paso .915 755-9192
Utah Bert Randall & Assoc 760 S 700 E
Centerville 801 295-8928
Can Philip French Sales 8 Taber Rd Rexdale, Ont .244-4281
For Ameresco Inc 101 Park St Montclair NJ 746-5300

COBER ELECTRONICS INC 7 GLEASON AVE
STAMFORD CONN 06902 ....203 327-0003
B ZARKOWER EMP 55 ENG 10 $1,000-$2,500M
Ala Gentry Assoc Inc 2109 W Clinton St
Huntsville 205-534-9771
Ariz Hyer Assoc 301 W Indian School Rd
Phoenix 602-275-7524
Cal Jay Stone & Assoc 330 Second St
Los Altos 415-948-4563
Cal 3DBM Inc 5388 Sterling Ctr Dr
Westlake Village 213-889-2300

Colo Hyer Assoc 7895 E Prentice Ave
Englewood 303-771-5424
DC Eastern Instrumentation, Inc
2600 Virginia Ave N W Washington ..202-333-8880
Fla Gentry Assoc Inc 550 N Bumby Ave
Orlando 305 841-7740
Ga Gentry Assoc Inc Box 13513, Sta K
Atlanta 404-874-4661
Ill Midwest Electronic Sales 5707 W Division St
Chicago 312-626-0030
Ind Midwest Electronic Sales 5462 E 40th St
Indianapolis 317-LI 7-3259
Iowa Midwest Electronic Sales 2042 Franklin Ave N E
Cedar Rapids 319-363-4410
Md Eastern Instrumentation, Inc 1002 Ingleside Ave
Baltimore 301-744-3675
Mass Microwave Consultants Corp 195 West St
Waltham 617 899-4400
Mich Micro Sales Corp 650 Greenlawn
Ypsilanti 313 483-1229
NM Hyer Assoc 130 Alvarado Dr NE
Albuquerque 505-265-5961
NY DB Assoc Inc 3307 Erie Blvd E DeWitt .315-446-0220
NY Eastern Instrumentation, Inc 350 Northern Blvd
Great Neck 516-466-9505
NC Gentry Assoc 116 E O'Neal Ave
Burlington 919-227-2581
Ohio Micro Sales Corp 2000 Lee Rd
Cleveland 216 371-0522
Ohio Micro Sales Corp 1250 W Dorothy La
Dayton 513 298-3033
Pa Eastern Instrumentation, Inc
613 Cheltenham Ave Phila 215-927-6269
Utah Hyer Assoc 1425 S 2nd W
Salt Lake City 801-487-7747
Va Eastern Instrumentation Inc Ross Bldg
Richmond 703 644-6622
Wis Midwest Electronic Sales 1317 Garfield Ave
Waukesha 414-542-5129
Jap Industrial Imports Ltd Box 1271-CPO Tokyo

CODAMITE CORP 11822 WESTERN AVE STANTON
CAL 90680 894-3535
R JOHNSON EMP 30 ENG 10 $250-$500M
Fla Reynolds & Assoc, Inc Box 1043
Eau Gallie 305 727-3205
Ohio Mobile Elctns Inc 269 N State St
Westerville 614 882-3095
Tex P E I Corp Box 2625 Amarillo 806 373-1783
Wash B J Hudson Co 7615 NE 123rd St Kirkland

COGGINS CO, GEORGE F 117 SW FRONT AVE
PORTLAND ORE 97204 ....503 CA7-2921
G COGGINS ENG 1

C O G I E 3-5 BLVD ANATOLE FRANCE
AUBERVILLIERS 93 FRANCE 833-2991
M COHEN EMP 52 ENG 4 $1,000-$2,500M

COGNITRONICS CORP 333 BEDFORD RD
MOUNT KISCO NY 10549..............914 666-2941
J PROCTOR JR EMP 200 ENG 17 $1,000-$2,500M

COHERENT RADIATION LABS 932 E MEADOW DR
PALO ALTO CAL 94303 ....415 328-1840
G STEPHAN EMP 56 ENG 11 $2,500-$5,000M
Cal A-F Sales Engrg Inc 94 S Los Robles Ave
Pasadena ....213 MU 1-5631
Md Ron Davies Assoc Bethesda 652-6330
Tex Crockett Engrg Dallas 214 637-6120

COHU ELECTRONICS INC BOX 623 SAN DIEGO
CAL 92112 TWX 910-335-1244 ....714 277-6700
R SCHLICHT EMP 245 ENG 50 $5,000-$10,000M
Ala BCS Assoc Inc 2317 Bob Wallace Ave SW
Huntsville 534-1648
Cal Cohu Electronics Inc 4627 Van Nuys Blvd
Sherman Oaks 872-1422
Colo Williams Assoc 4971 Jackson St Denver 388-4391
Fla BCS Assoc Inc 940 N Fern Creek Ave
Orlando 843-1510
Ill Bard Assoc La Grange Ind Pk La Grange....354-0660
Ind Bard Assoc 4000 Meadows Dr Indianapolis ..547-3113
Md Bartlett Assoc Inc 7979 Old Georgetown Rd
Bethesda 656-3061
Mass Addelco Corp 56 Pickering St Needham 444-4754
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 357-3700
Minn Bard Assoc 4640 W 77th St Minneapolis ...922-8233
Mo S Sterling Co 11734 Lachland Indus Dr
St Louis 542-3636
NJ Friedman Assoc, Inc 110 Halsted St Orange .673-2500
NM Williams Assoc 420 Washington St SE
Albuquerque 255-1638
NY J A Reagan Co, Inc 6 Highland Ave Albany ..489-4777
NC BCS Assoc Inc 1039 E Wendover Ave
Greensboro 273-1918
Ohio S Sterling Co 5827 Mayfield Rd Cleveland ..442-8080
Ore Arva, Inc 2035 S W 58th Ave Portland 292-8762
Pa Bartlett Assoc Inc 130 W Lancaster Ave
Wayne 688-7325
Tex Arnold Barnes Co 740 S Sherman St
Richardson 235-4541
Wash Arva, Inc 1320 Prospect St Seattle 622-0177
Can Whittaker Electronics Ltd 42 Howden Ave
Ottawa 5, Ont 224-1221
Fr Tranchant Électronique
19-21 Rue Madame de Sanzillon Clichy, Seine .22-55
GB Litton Precision Prod 95 High St Slough Bucks ..28267
Jap Kanematsu-Gosho (USA) Inc 606 S Hill St
Los Angeles, Cal 620-1640

COIL CO OF AMERICA INC 220 WASHINGTON ST
NORTHVALE N J 07647 ....201 768-3434
H GAY EMP 25 ENG 3 $250-$500M

COILCRAFT INC SILVER LAKE RD CARY ILL 60013
TWX 910-651-2251 ....312 639-2361
R ADAMS EMP 1000 ENG 8 $5,000-$10,000M
Pa Robt Hilderbrand Box 166 Fairview Village .CH 7-6225

COILTRONICS INC 6550 CABALLERO BLVD
BUENA PARK CAL 90620..............213 521-9800
E WILLIAMS EMP 23 ENG 3 $250-$500M

COIL WINDING EQUIPMENT CO RAILROAD PLAZA
OYSTER BAY N Y 11771 ....516 WA 2-5660
B GEORGE EMP 35 ENG 3 $500-$1,000M
Cal Phillip H DuBois 15605 Calverton Dr
La Mirada 521-1481
NY Barco Sales Co 1205 Godfrey La
Schenectady 518 393-2729
GB Kolectric Ltd Hayes Rd Southall, Mdsx
Jap Iwai Takachiho Trading Co
6-7, 1-Chome, Yushima Bunkyo-Ku, Tokyo

COLBER CORP 26 BUFFINGTON ST IRVINGTON
N J 07111 ....201 375-3004
R PRINGLE EMP 50 ENG 1 $1,000-$2,500M
Mich E F Walter Detroit ....TU 2-3746
NJ Norton Murphy Parker Bldg Bloomfield & John St
Pine Brook 227-2525

COLBERT DIE CAST CO INC 10107 ADELLA AVE
SOUTH GATE CAL 90280 TWX COLBIND .213 569-8108
R PERRETT EMP 21 ENG 2 $250-$500M

COLDSPRING INSTRUMENT CORP
800 W JERICHO TPKE HUNTINGTON N Y 11743
TWX 510-226-2770 ....516 692-5090
S RASANEN EMP 10 ENG 2
NY Bertram D Aaron 55 Northern Blvd
Greenvale 516 621-0630

COLE ELECTRIC CO 8439 STELLAR DR
CULVER CITY CAL 90230..............213 870-4701
B WINESTOCK EMP 70 ENG 4

COLE-HERSEE CO 20 OLD COLONY AVE S BOSTON
MASS 02127 ....617 268-2190
R MAYER EMP 475 ENG 10

COLEMAN ENGINEERING CO INC
3121 W CENTRAL AVE SANTA ANA
CAL 92702 ....714 546-1600
D CRAIG EMP 245 ENG 8 $2,500-$5,000M

COLE-PARMER INSTRUMENT CO
7425 N OAK PARK AVE CHICAGO
ILL 60648 312-647-0272
J COLE EMP 75 ENG 8

COLIGHT INC 123 N THIRD ST MINNEAPOLIS
MINN 55401 ....612 333-8201
C HOY EMP 52 ENG 5
NJ Colight Inc 20 Demond Somerville 212 737-6012
Ohio Colight Inc 2 N Ridge Troy..........513 332-2165

COLLECTRON CORP 304 E 45TH ST NEW YORK
N Y 10017 TWX 710-581-6581 ....212 689-7120
R COOMBS EMP 170 ENG 10 $1,000-$2,500M
Ariz Southwest Engineering 8341 N 7 St
Phoenix 602-944-1521
Cal Cardinal Assoc 16024 Ventura Blvd
Encino 213-788-4540
Colo Cropley Inc 1523 E Easter Cir
Littleton 303-794-4231
Fla Varrelman & Gorman Co Box 50
Pompano Beach 305-941-5544
Md Rep-Tron Inc Box 1347 Silver Spring ..301-588-1595
Mass KCA Components Inc 1656 Mass Ave
Lexington 617-861-9024
Mich Thies & Assoc 1450 Rossman Ave SE
Grand Rapids 616-245-0319
NJ Varrelman-Gorman Co box 206
Livingston 201-992-2505
Ohio J Tisdall 359 Fawnwood Rd Dayton ...513 AX 9-4392
Tex Costello Little & Co 2653 Tarna Dr
Dallas 214-247-3291

COLLINS & ASSOC DON L 418 N GLENDALE AVE
GLENDALE CAL 91206 ....213 245-2711
EMP 4 ENG 2 UP TO $100M

COLLINS CORP, G L 5875 OBISPO AVE LONG BEACH
CAL 90805 TWX 910-346-6707 ....213 636-8141
G KANEN EMP 100 ENG 15 $1,000-$2,500M

COLLINS ELECTRONICS INC OLD LOVE POINT RD
STEVENSVILLE MD 21666 ....301 643-5055
A JOHNSON EMP 38 ENG 3 $500-$1,000M

COLLINS RADIO CO MAIL STATION 429-033
DALLAS TEX 75207
TWX 214-231-1495 ....214 AD 5-9511
J MC CADDON EMP 22000 ENG 5000
OVER $10,000M
Cal Collins Radio Co 9841 Airport Blvd
Los Angeles 213 670-2970
Fla Collins Radio Co 5575 NW 36th St
Miami 305 888-0611
Ga Collins Radio Co 1001 Intl Blvd Atlanta .404 761-0607
Iowa Collins Radio Co 5225 C Ave NE
Cedar Rapids 319 365-8411
Mass Collins Radio Co 594 Marrett Rd
Lexington 617 861-1240
Minn Collins Radio Co 7710 Computer Ave
Minneapolis 612 926-5208
NY Collins Radio Co 304 E Chestnut St
Rome 315 336-1300
Va Collins Radio Co 1611 N Kent St
Arlington 703 524-9503
Wash Collins Radio Co 3723 Alaska St
Seattle 206 725-1000
Can Collins Radio Co of Can Ltd 150 Bartley Dr
Toronto, Ont 416 757-1101
Fr Collins Radio France S A
80 Rte de St-Cloud 92 Rueil Malmaison
Paris 967-7560
GB Collins Radio of Eng Ltd Bath Rd
Cranford Hounslow Mdsx 01-759-9911

Ital Collins Italiana Spa Viale Liegi 41 Int 12
00198 Rome........................8 62415

COLLINS RADIO CO, ELECTRONIC COMPONENTS
19700 JAMBOREE RD NEWPORT BEACH
CAL 92663 TWX 714-546-0430........714 833-0600
T MILLER EMP 2000 ENG 500 OVER $10,000M
Cal Jack Pyle Co 1611 Borel Pl San Mateo . 415-349-1266
Colo Lindberg Co 2654 S Krameria Denver . . 303-757-6489
Fla Wm R Lehamnn Co 1010 Executive Ctr Dr
Orlando 305-841-4901
Ill Edw Schmeichel Co 5968 W Chicago Ave
Chicago 312-378-2070
Kan Midland Engr Sales Assoc 5460 Buena Vista Dr
Mission.........................913-262-6565
Md Daniel & Co Box 124 Lutherville 301-825-3330
Mass R H Sturdy Co 204 Worcester St
Wellesley Hills....................617-235-2330
Minn Merrill Franklin Co 4820 Minnetonka Blvd
Mnpls..........................612-920-8014
NJ Harold Gray Assoc, Inc 20 Foster St
Bergenfield......................201-384-3643
NY Naylor Electric Co, Inc 1718 E Erie Blvd
Syracuse 315-472-9183
Ohio Electronics Marketing Corp 814 W 3rd Ave
Columbus 614-299-4161
Pa Daniel & Co Box 3 Glenside 215-887-0551
Tex Dunbar Assoc Inc Box 30511 Dallas . . . 214-239-7151
For Casa Serras Rua Augusta, 228 Lisbon, Port . 32-01-33
For Masinokomerc Knez Mihailova 13 Beograd 28-643
For Leopold Zettel Zollergasse 35
Wein VII Austria....................93-26-81
Den Tage Olsen A/S 1 Ronnegade
Copenhagen ....(01) 29 48 00
Fr Technique et Products
92 Sevres Rue Carle-Vernet
Cites Des Bruyeres 626-02-35
Ger Indeg Industrie-Electronik 678 Pirmasens
Postfach 104.....................06331/3008
GB G A Stanley Palmer, Ltd Island Farm Ave
Surrey ....Molesey 7254
Neth Schreiner & Co, NV 99 Parkstr
The Hague 070-601-930
Nor Luftmateriell A/S Prinsensgt, 2C Oslo 33-32-03
Swed John C Lagercrantz Box 314 Solna 3 83-07-90
Swit Telion, Ltd AG Albisriederstr 232
Zurich ....(051) 54-99-11
Spn H & O Wilmer Peligros 2-4 Madrid 14......231-8301
Fin K L Nyman 11 Maritullinkatu Helsinki 21425

COLORADO HICKOK CORP 2897 NORTH AVE
GRAND JUNCTION COLO 81501
TWX 910-929-6963..................303-243-2124
J BEHREND EMP 120 ENG 10 $1,000-$2,500M
Cal Hickok Electrical Instr Co 46 Traynor St
Hayward........................415-582-7179
Fla Glosson Co Inc 2826 Broadway
Riviera Beach 305-842-7311
Ill Hickok Electrical Instr Co 7416 W Belmont Ave
Chicago 312-237-1373
Iowa Jerry Vrbik Co 2818 A Avenue NE
Cedar Rapids 319-365-0461
Mass Johnson Assoc 471 Washington St
Wellesly Hills.....................617-235-3977
Mich R C Nordstrom & Co Box 32
Lathrup Village...................313-444-4417
Mo J C Mankus & Assoc 400 Brookes La
Hazelwood 314-731-4334
NJ Hickok Electrical Instr Co 117 Gertrude Ave
Paramus 201-843-2070
NY R W Mitscher Co Upstate 496 Ellicott Sq Bldg
Buffalo.........................716-854-2517
Ohio Hickok Electrical Instr Co 10514 Dupont Ave
Cleveland 216-541-8060
Pa Friday Eng Sales Co 666 Washington Rd
Pittsburgh 412-341-1444
Tex Hays Co Box E Richardson 214-231-1426
Can Stark Elctn Instr Ltd 180 Station St
Ajax Ont 416-942-2120
For Hughes Aircraft Co Intl Sales Box 92927
Los Angeles 213-670-1515

COLORADO INSTRUMENTS INC ONE PARK ST
BROOMFIELD COLO 80020 ....303 466-7333
J HANNAH EMP 115 ENG 6 $2,500-$5,000M
Cal B R Nolan 2402 3rd St Santa Monica . . 213-392-3720
Tex Computer Marketing Corp Box E
Richardson 231-1426

COLORADO VIDEO INC 250 PEARL ST BOULDER
COLO 80302 ....303 444-3972
G SOUTHWORTH EMP 5 ENG 2 $100-$250M
Ariz Hyer Assoc 3300 S Mill Ave Tempe 275-7524
Colo Hyer Assoc 8101 E Prentice Ave Englewood . 771-5424
Ill Joseph Clark Co 501 W Hellen Rd Palatine . . 358-5095
Mass New England Marketing 55 Salem St
Lynnfield 245-9530
NM Hyer Assoc 130 Alvardo Dr NE Albuquerque . 265-5961
Pa Acromatix Assoc 3118 Germantown Pike
Fairview Village 279-0377
Utah Hyer Assoc 1425 S 2nd W Salt Lake City . . . 487-7747

COLT INDUSTRIES INC, CRUCIBLE INC BOX 88
PITTSBURGH PA 15230..............412-391-8580
W SCHARNBERGER EMP 12000 OVER $10,000M
Cal Colt Industries 6033 E Bandini Blvd
Los Angeles 723-4821
Conn Colt Industries 285 State St North Haven . . . 288-2581
Ill Colt Industries 4501-4531 W Cortland St
Chicago 772-0300
Ind Colt Industries Box 11138 Indnpls 638-4501
Mass Colt Industries St Mark St Auburn 832-5353
Mich Colt Industries 4920 E Nevada Ave Detroit . . 366-4400
Minn Colt Industries 2911 Como Ave S E
Minneapolis 331-6320
Mo Colt Industries 4389 Duncan Ave St Louis . . 534-3360
NJ Colt Industries Box 556 West Caldwell 226-9300
NY Colt Industries 2051 Elmwood Ave Buffalo . . 875-9600
NC Colt Industries Box 21128 Charlotte 372-7370
Ohio Colt Industries Box 39099 Solon 248-9400
Ore Colt Industries 1730 Skyline Blvd Portland . . 292-0144
Pa Colt Industries 408 S Oak Ave Primos......748-6600
Tex Colt Industries Box 1148 Arlington 261-7721
Wis Colt Industries Box 6007 Milwaukee.......461-2900
Can Crucible Steel of Canada Ltd Sorel Quebec . . 931-5841
GB Crusteel Ltd Club Mill Rd Sheffield 6 Yorks

COLTRON INDUSTRIES, INC BOX 17787
CHARLOTTE N C 28211 TWX 572436 . . . 704 847-9881
F LEITNER EMP 95 ENG 9 $1,000-$2,500M
Ga James Bennett Box 618 Monroe 267-5845
Mass Edw Medeiros 343 Judson St Raynham . 617-822-7919
Pa Butterworth Assoc 510 Twickenham Rd
Glenside 884-3413
Can W J Westaway Co 8415 Mountain Sights Ave
Montreal 739-3101

COLUMBIA COMPONENTS CORP SUB COMPUTER
INSTR CORP 60 MADISON AVE HEMPSTEAD
N Y 11550
F BENIGNO $500-$1,000M
Ariz Carl Hower & Co 431 N Winfield Scott Plaza
Scottsdale 602-947-4204
Cal Ed Landa Co 2288 Westwood Blvd
Los Angeles 213-272-9525
Colo Frauman Assoc Box 969 Menlo Pk Cal . 415-322-8461
Ill Lightner Assoc 6322 N Milwaukee
Chicago 312-SP4-1500
Md Barnhill Assoc 1931 Greenspring Dr
Timonium 301-252-5610
Mass Selmark Assoc 181 West St Waltham . . 617-899-8110
NY Electro Rep 366 N Broadway Jericho . . 516-938-0540
Utah Cannon Eng & Sales 2250 E 17th S
Salt Lake City 801-485-9253
Wash R R Chase 12422 68th Ave N E
Kirkland 206-454-2514

COLUMBIA ELECTRIC MFG CO 4519 HAMILTON AVE
CLEVELAND OHIO 44114..............216 361-8060
H SUSSMAN EMP 85 ENG 6 $500-$1,000M
Cal Brenner-Fiedler & Assoc Inc 7563 Melrose Ave
Los Angeles.....................OL 1-4300
Colo Mountain States Machy Co, Inc 1526 Blake St
Denver 244-7421
Ill Murphy & Dickey 10001 Derby La
Westchester 344-5660
Ind Electro Engrg & Sales Inc 6909 E 32nd St
Indianapolis 546-4053
Md Durling Electric Co 301 E 25th St
Baltimore ....HO 7-5560
Mo Gordon Fixman Engineering Co
8160 Stanford Ave St Louis ....PA 5-5219
NY Herman H Sticht Co 27 Park Pl New York . . RE 2-8163
Ore J L Kearns Co Inc 6055 NE Glisan St
Portland 236-1165
Wis M F Jacobs Co 4160 N Oakland Ave
Milwaukee 962-7070

COLUMBIAN CARBON CO 380 MADISON AVE
NEW YORK N Y 10017
TWX 710-581-3700 ....212 687-2300
P TUDDER EMP 3400 ENG 175 OVER $10,000M
ADV PG 322

COLUMBIAN HYDROSONICS DIV COLUMBIAN
BRONZE CORP 216 N MAIN ST FREEPORT
N Y 11520 TWX 516-868-9588 ....516-FR-8-0470
W BAILEY EMP 10 ENG 3 $500-$1,000M

COLUMBIA RESEARCH CORP BOX 485
GAITHERSBURG MD 20760 ....301 654-9205
D GIGNOUX EMP 36 ENG 12 $500-$1,000M
Fr R I B E R SA 22 bis Blvd de L'Hopital Stell
Rueil-Malmaison 92 967-74-40

COLUMBIA RESEARCH LABS INC
MACDADE BLVD & BULLENS LN WOODLYN
PA 19094 TWX 510-669-4328 ....215 LE 2-9464
J SARTY EMP 60 ENG 10 $1,000-$2,500M
Ala Space Engrg Sales Inc 4306 Governors Dr S W
Huntsville 837-6060
Ariz R A Mayes Co 4747 N 16th St Phoenix 279-5243
Cal B J Wolfe Enterprises 10760 Burbank Blvd
North Hollywood 877-5518
Colo R A Mayes Co Box 9 Broomfield 466-6311
Fla Space Engrg Sales 999 Woodcock Rd
Orlando 841-2271
Md J E Cuesta & Co Inc 8501 Glendale Rd
Greenbelt 552-1200
Mass Andruss-Peskin Corp Box 268 Natick 653-3919
Mich Electro Sales Assoc 10745 Morang Dr
Detroit..........................886-2280
NM R A Mayes Co 8016 Zuni Rd, S E
Albuquerque......................265-7989
NY Cane Technical Sales Inc 555 E Boston Post Rd
Mamaroneck 698-4411
NC Space Engrg Sales 2596 Lake Shore Dr
Greensboro.......................299-0987
Ohio Electro Sales Assoc 851 E 222nd St
Cleveland 261-5440
Pa J E Cuesta & Co Inc Rt 202 Allendale Rd
King of Prussia 265-5800
Wash Cane-Topp Co Inc Box 250 Bellevue 746-5750
Can D R Beattie Ltd Box 250 Clarkson Ont 822-4414
Fr Jiveco Electronics 21 Ave Victor Hugo Paris
Jap A R Brown, McFarlane & Co
3, Ginza 2-Chome, Chuo-Ku Tokyo
Belg Equipement Electronique
184, Chaussee de Vierrgat Brussels
Ind Electronic Enterprises New Charni Rd Bombay, 4
Aust National Instrument Co
Melbourne Airport Essendon W 6 Victoria

COLUMBIA TECHNICAL CORP
26-60 BKLYN-QNS EXPW WOODSIDE
N Y 11377 ....212 YE 2-0800
V LEIBMANN EMP 80 ENG 3 $1,000-$2,500M
Cal M W Riedel & Co 2215 W Valley Blvd
Alhambra 213 283-7694
Fla NBS Inc Box 2147 Winter Haven 813-293-5003
Ill Malovac Sales Co 1726 N 76th Ct
Elmwood Park 312 654-4110
Ind Electronic Sales Assoc Box 207 Angola . 219-665-6329
Kan Impala, Inc 3141 Merriam La
Kansas City 913-831-3933
Md Barnhill & Assoc 1931 Greenspring Dr
Timonium 301 252-5610
NJ Harry Thaw Sales Co 46 Springbrook Rd
Livingston 201 992-2711
NY Gislason Sales 617 Case Bldg Rochester . 716 454-4741
Ohio Arthur H Baier Co 4399 Industrial Pkwy
Willoughby 216 946-6080
RI Milton Paisner Assoc 532 Elmgrove Ave
Providence 401 521-3522
Tex Koch Engrg & Sales Co 309 Meadows Bldg
Dallas 214 361-1765
Wash R R Chase & Assoc 12422 68th Ave, N E
Kirkland 206 454-2514

COLUMBIA WIRE PRODUCTS CO
4045 N ROCKWELL AVE CHICAGO ILL 60618
TWX 25-4265 312-267-3160
C LESKA EMP 225 ENG 4 $2,500-$5,000M

COLUMBUS ELECTRIC MFG CO 621 N HAMILTON RD
COLUMBUS OHIO 43219 ....614 237-8441
F MCCLOSKEY EMP 150 ENG 10
$1,000-$2,500M
Cal Fred Alleman 1625 Blake Ave Los Angeles . CA 2-8128
Conn Chas K Barton Assoc 343 New London Tpk
Glastonbury 633-9417
Ill D Davies 1110 Wheeling Rd
Mount Prospect 312-971-3111
NJ The Murray Co 25 W Northfield Rd
Livingston ....WY 2-0520
Tex J Earl Smith 1353 Chemical St Dallas . . . . NE 1-1727

COMCO PLASTICS INC 98-42 JAMAICA AVE
RICHMOND HILL N Y 11418 212-849-9000
J STEELE EMP 125 ENG 4
Conn Commercial Plastics Inc 29 Fitch St
New Haven 203 389-2181
Fla Commercial Plastics Inc 3801 NW Second Ave
Miami 305 757-2477
Ga Commercial Plastics Inc 554 North Ave NW
Atlanta 404 577-2600
Md Commercial Plastics Inc 5223 Monroe Pl
Hyattsville.....................301 864-6226
Mass Commercial Plastics Inc 67 Rogers St
Cambridge 617 868-4500
Mich Commercial Plas & Supply Corp
3515 E 10 Mile Rd Warren 313 536-0362
NJ Commercial Plas & Supply Corp
127 Frelinghuysen Ave Newark 201 824-5400
NY Commercial Plastics Inc 55 Marine St
Farmingdale 516 293-9090
NC Commercial Plastics Inc 731 W Hargett St
Raleigh 919 834-2511
Pa Commercial Plastics Inc 2022 Chateau St
Pittsburgh.....................412 231-2212
Tex A & A Supply Co 1405 Wycliff Ave
Dallas 214 631-8170
Can Commercial Plastics Inc 300 Bridgeland Ave
Toronto.......................416 787-4215
Can Commercial Plastics Inc
5655 Maisonneuve Blvd W Montreal . 514 489-9738

COMDEL INC BEVERLY AIRPORT BEVERLY
MASS 01915 ....617 927-3144
T JOHNSON, JR EMP 8 ENG 2 $100-$250M

COMET CO 72 WALDEGGSTR LIEBEFELD, BERNE
SWITZ..............................031-537953
H HELFER EMP 70 ENG 10 $1,000-$2,500M
Ger Comet GmbH Morsestr 17 Dusseldorf 34-44-26
Ital Cometitalia Spa Via Leopardi 3 Milan 80-04-95

COMINCO AMERICAN INC ELECTRONIC MATLS DIV
BLDG 101 SPOKANE IND PK SPOKANE
WASH 99216 TWX 510-773-1867......509-924-2200
C WHITE
Can Cominco Ltd 630 Dorchester Blvd W
Montreal 861-9851

COMMANDER LABS INC 1177 W WASHINGTON AVE
ESCONDIDO CAL 92025..............714 746-7400
E FRANZEN EMP 20 ENG 3 $100-$250M
Tex George Weinreich & Assoc
11554 E Northwest Hwy Dallas ....DA 1-2800

COMMERCIAL PLASTICS CO 800 ALLANSON RD
MUNDELEIN ILL 60060 312-566-1700
G HOCKAMIER EMP 70 ENG 2 $1,000-$2,500M
Cal C B Rush & Assoc 1830 W Olympic Blvd
Los Angeles.....................213 388-7111
NY Electrical Mfg Ser 3170 Veterans Meml Hwy
Bohemia 516 585-3100

COMMUNICATION ASSOCIATES INC 1208 3RD AVE
NEW HYDE PARK N Y 11040
TWX 510-223-0400 ....516 HU 8-2323
G GUTMAN EMP 125 ENG 40 $2,500-$5,000M
ADV PG 146
Ala R C MacMillan Co 703 Watts Dr S E
Huntsville 205-536-1969
Alas Communications Engrg Inc 3350 Mt View Dr
Anchorage 272-3591
Cal T C Assoc Boc 790 Los Altos 415-948-8880
Fla Scott & Assoc 1010 Executive Ctr Dr
Orlando 305-841-4840
Tex Stolle-Hamilton Co 1108 Meyer
Seabrook 713-GR4-3155
Va DYNA/REP 5070 Lee Hwy Arlington . . 703-536-5088
Wash T C Assoc Box 66521
Burien Br Seattle 206-CH3-7070

COMMUNICATION DYNAMICS CORP
887 NEPPERHAN AVE YONKERS
N Y 10701 ....914 965-3006
J ZINAMAN EMP 22 ENG 3

Tex Elcom 2616 W Mockingbird La Dallas 352-5006

COMMUNICATIONS CO 300 GRECO AVE
CORAL GABLES FLA 33134 TWX G N W .305 445-2671
F MACKLIN EMP 250 ENG 20 $1,000-$2,500M

COMMUNICATIONS TECHNOLOGY CORP
2237 COLBY AVE LOS ANGELES
CAL 90064........................213-478-5061

COMMUNITYPE CORP 767 FIFTH AVE NEW YORK
N Y 10022........................212 758-4230
R KING EMP 40 ENG 6 $1,000-$2,500M
Colo Computing Corp of Amer Inc 3385 S Bannock
Englewood......................303-781-6638
DC Communitype Corp 4706 Bethesda Ave
Washington.....................301 652-1339
Haw Paul B Hanson Co Box 2173 Honolulu ...808-510-484
Ill Robt V Thoren Co 11700 S Western Ave
Chicago........................312 779-4272
Md Marketing Assoc 374 Wellerburn Ave
Severna Park...................301-987-0965
Ore Computer Peripherals Unltd 6200 S E Milwaukee
Portland.......................503-233-7890
Tex Kemco Inc Box 998 Irving 214-637-0163
Wash Computer Prods Inc 321 Minr Ave N
Seattle........................206-682-7394

COMPAC ENGINEERING INC 845 COMMERCIAL ST
SAN JOSE CAL 95112...............408-286-4844
J ROLLINS EMP 25 ENG 2 $500-$1,000M
Ariz Toward Engrg Assoc Box 15268 Arcadia Sta
Phoenix........................602-955-3193
Cal Carson Electronic Prods Box 1216
Redwood City...................415-365-4620
Fla Brennan Assoc Box 5006 Clearwater ..813-446-5006
Mass Hatch Assoc 32 Kearney Rd
Needham Heights................617-444-3310
NY Bassin Tech Sales Co 52 Fayette Rd
Scarsdale......................914-723-3334
Ohio Emish Electronics Sales 3300 S Dixie Dr
Dayton.........................513-293-7079
Ore Bern Doran Sales Box 115
Forest Grove...................503-357-3333
Va Dyna Rep Tech Services 5070 Lee Hwy
Arlington......................703-536-5088
Can A Deskin Sales Corp 1565 Louvain St W
Montreal Que...................514-384-1420
Swit Walter Blum Elctns Honggerstr 115
Zurich.........................051-423242

COMPAGNIE GENERALE DE METROLOGIE
POB 30 ANNECY HAUTE SAVOIE FRANCE ...45 46-00
C DEBAECKER EMP 648 ENG 30

COMPLEX INSTRUMENT CO INC 7 CYPRESS DR
BURLINGTON MASS 01803............617 272-3262
P STOCKBRIDGE EMP 6 ENG 2
Ariz Weightman Assoc 1226 W Olive Ave Burbank
Cal Interconsal Assoc 825 San Antonio Rd Palo Alto
Ill Robt W Venn Rt 2 Box 660 Lake Villa
Mass Autarch Assoc 405 Main St Wakefield..617 289-4200
Pa Servisales Co 800 Park Ave Meadville
Tex Teamwork Inc 2646 Anjon Dallas
For B Freudenberg Inc 50 Rockefeller Plaza New York

COMPONENT RESEARCH CO INC 1717 19TH ST
SANTA MONICA CAL 90404
TWX 910-343-6864.................213 393-3755
D KELLERMAN EMP 80 ENG 2 $1,000-$2,500M
ADV PG 88
Cal Richard Capell 18376 1/2 Ventura Blvd
Tarzana........................213 987-2233
Tex Stasco 13310 Spring Grove Ave Dallas .214 239-5054
For Mendel Stewart 204 S Beverly Dr
Beverly Hills, Cal.............213 272-0103

COMPONENTS CORP 2857 N HALSTED ST CHICAGO
ILL 60657
W NEUMAN $500-$1,000M
Cal Straube Assoc 483 Willow Rd
Redwood City...................415-323-2476
Colo Straube Assoc Box 1649 Boulder 303-443-8600
Fla Wm J Irvine 1641 Santa Barbara Dr
Dunedin........................813-733-5382
Ill D Dolin Sales 3525 W Peterson
Chicago........................312-588-3738
Mass New England Elctns 590 Washington St
Canton.........................617-828-4835
Mich Sheridan Assoc 2637 Golrfidge Dr
Grand Rapids...................616-949-8110
Mo Sheridan Assoc 10137 W Florissant Ave
St Louis.......................314-524-4800
NJ Mesa Tech Box 466 Haddonfield......609-429-9531
NY Wincor Sales 75 Plandome Rd
Manhasset......................516-627-9474
Ohio Sheridan Assoc Box 37646 Cincinnati ..513-761-5432
Pa Sheridan Assoc 201 Penn Center Blvd
Pittsburgh.....................4K2-243-6655
Utah Straube Assoc Box 316 Morgan 801-829-3371

COMPONENTS CORP 106 MAIN ST DENVILLE
NJ 07834.........................201 627-0290
J MINTER EMP 10 ENG 5
Cal Ellard E Strassner Co 3121 Los Feliz Blvd
Los Angeles....................666-1511
Colo Action Sales 70 W 6th Ave Denver 303-222-6056
Ill Jorgensen Engineering Co 2304 Henley St
Glenview.......................PA 4-2637
Mass Henik Assoc 54-60 Lexington St
West Newton....................969-6249
NJ R L Ringer Co Box 114 Glen Rock 444-1434
NY Compar 6 Highland Ave Albany 518-489-7408
Ohio Components Engrg Co 7461 N Linden La
Cleveland......................216 842-2737
Pa WF Assoc Broad & Chestnut Sts Phila .....KI 6-4121
Can R S Griffith Regsd 455 Mt Stephen Ave
Montreal Que...................514 WE7-1167

COMPONENTS INC CAPACITOR PRODS SMITH ST
BIDDEFORD ME 04005
TWX 710-229-1559.................207 284-5956
K KELLER EMP 500 ENG 25 $5,000-$10,000M
Ariz Southwest Engineering 8341 N 7th St
Phoenix........................602 944-1521
Cal Logan Sales Co 463 Brewster Ave
Redwood City...................415 369-6726
Colo Simpson Assoc 2552 Ridge Rd Littleton .303 798-8439
Conn A & M Elctn Reps Ailene Dr Madison ...203 245-1031
Fla Orbe, Inc 4110 Central Ave
St Petersburg..................813-894-0687
Fla Orbe, Inc Box 7777 Orlando 305-425-9004
Fla Orbe Inc 4431 NW 13th Court
Lauderhill.....................305-584-4749
Ill Memac Sales Co 4740 N Austin Ave
Chicago........................312 545-1033
Kan H C Heyde Co 9221 Wenonga Leawood .913 649-8628
Md Doss Electronics Inc 6660 Security Blvd
Baltimore......................301-944-1900
Mass A & M Electronic Reps Inc 1492 Highland Ave
Needham........................617 444-8170
Mich W R Hummon & Assoc Box 501
Farmington.....................313 474-0661
Minn Technical Assoc, Inc 6121 Excelsior Blvd
Minneapolis....................612 929-6721
NJ Sunday & O'Brien 15 Potter St
Haddonfield....................609 429-4013
NY Bob Dean Inc 714 W Clinton St Ithaca .607 272-2187
NY Comtronic Assoc 370 Old Country Rd
Garden City....................516 741-8966
Ohio McFadden Sales Co 150 E Broad St
Columbus.......................614 221-3363
Pa Covert & Newman Co 300 Mount Lebanon Blvd
Pittsburgh.....................412 563-0303
Wash James J Backer Co 221 W Galer St
Seattle........................206 283-6470
Can Samuel C Hooker Ltd 144 Ronald Dr
Montreal W Que.................514-488-9114
Can Samuel C Hooker Ltd Box 398
Burlington Ont.................416-767-7725
For Lipschitz & Co Biberstr 22 Vienna Aus 528773
Fr Technique et Produits Rue Carle-Vernet
Sevres.........................408-14-00
Ger Wolfgang Buhler Hirtengasse
678 Pirmasens..................06331-2593
Ger Dr Dohrenberg Gneisenaustr 41 1 Berlin 61 .663363-64
GB Waycom Ltd Wokingham Rd Bracknell, Berks...24571
Neth Audi-Trade Singel 160 Amsterdam-C.......245-612
Ital Milano Bros 250 W 57th St New York ..212 246-0375
Swed A/B Rifa Fack Bromma 11 26-2600
Swit Bommer A G Langgrutstr 112 Zurich 051-549830

COMPONENT SPECIALTIES CORP
9143 E LAROSA DR TEMPLE CITY
CAL 91780........................213-AT 7-3221
D HEINS EMP 30 ENG 3 $500-$1,000M
Cal Daniels-Padgett Assoc
2620 Bayshore Frontage Rd
Mountain View..................415-969-1700
Colo Daniels-Padgett Assoc 2785 N Speer Blvd
Denver.........................303-433-7181

COMPONENTS SPECIALTIES INC
101 BUFFALO AVE FREEPORT
N Y 11520........................516 TN 8-9100
J SILVER $500-$1,000M
Cal Belchamber & French 308 Playa Blvd
LaSelva Beach..................408 688-3281
Colo Electronix Specialties 3629 S Fox St
Englewood......................781-4409
Fla Dixie Electronic Assoc Box 2204 Lakeland ..682-6624
Ga Dixie Electronic Assoc Box 107
Alpharetta.....................404 475-7833
Ill Mort Fields Co 8330 N Springfield Ave
Skokie.........................OR 4-3018
Ind Delta Sales Inc 1407 N Illinois St
Indpls.........................317-631-4136
La Dixie Electronic Assoc 8824 Fulton St
Metarie........................504 729-8528
Mich L F Zaffina Co 18806 Hayes Detroit.......372-3030
Minn Ray Ripley Assoc 6838 Pillsbury Ave
Minneapolis....................UN 6-8682
Miss Dixie Electronics Assoc Box 200 Madison ...895-5666
Mo K & M Sales Co 1627 Main St
Kansas City....................816 471-1355
NM Lee Davis Co 1415 Richmond Dr NE
Albuquerque....................505 256-1749
NY Marsey Sales Inc 206 Park Ave
Rochester......................716-442-9700
NC G F Schiffer Co Box 6365 Greensboro 288-1655
Ohio J W Lehner Co 367 Brynhild Rd Columbus .AM 8-5260
RI W B Pray Sales 8 Larchwood Dr
Cumberland.....................401-333-5440
Tenn Dixie Electronic Assoc 109 Webster St
Madison........................615 895-5666
Tex Hank Lieberman Assoc 217 Fairview
Houston........................713 523-9545

COMPONENT TECHNOLOGY CORP 432 TOYAMA DR
SUNNYVALE CAL 94086..............408-734-3161
S ROBERTSON EMP 15 ENG 1 $250-$500M

COMPTON INDUSTRIES, INC
BOX 351, 413 COMMERCE RD VESTAL
N Y 13850........................607 729-9221
L HARRISON EMP 47 ENG 2 $250-$500M

COMPUDYNE CORP BOX 247 HATBORO
PA 19040.........................215 OS 5-4100
R LODGE EMP 130 ENG 21 $2,500-$5,000M

COMPUSCAN INC 125 FT LEE RD LEONIA
N J 07605........................201-947-9148
M WEISS EMP 24 ENG 12 $100-$250M
Cal Multidata Inc 15142 Goldenwest Cir
Westminister...................714-892-8347
Md Riffe Assoc 4313 Knox Rd College Pk ..301-779-7770
NY N W Alexander & Assoc Box 2529 Upper Union
Schenectady....................518-377-0581

Ohio EMA Inc Box 191 Centerville 513-433-2800

COMPUTER ACCESSORIES CORP
211 NEW YORK AVE HUNTINGTON
N Y 11743........................516-421-0929
E IPPOLIT EMP 7 ENG 1 UP TO $100M
Cal Burleigh Co 1709 W 8th St
Los Angeles....................213-483-0335
Md M L Councell Inc 721 Ellsworth Dr
Silver Spring..................301-587-1755
Mich Computer Products Inc 29355 Northwestern Hwy
Southfield.....................313-356-6550
Can Williams & Wilson Ltd 544 Inspector St
Montreal.......................514-866-2851
GB Jenkins Fidgeon Ltd Linley Rd Talke
Staffordshire..................KIDSGROVE 3128

COMPUTER CENTRAL 20524 RUTHERFORD
DETROIT MICH 48235...............313-837-5515
E TANN EMP 12 ENG 3 $100-$250M

COMPUTER COMPONENTS INC
88-06 VAN WYCK EXPWY JAMAICA
N Y 11418........................212 AX 13500
H WEINBERG EMP 35 ENG 2 $250-$500M
Ariz Mercury Sales Co Box 3130 Scotsdale 945-1927
Cal Engineering Liaison Ass 3360 Barham Blvd
Hollywood......................469-2283
Fla W M Jones Co Box 6004b Orlando 305-424-6298
Ill Brock & Cushman 6261 W Grand Ave
Chicago........................622-4110
Kan Technical Mktg Assoc 5827 Outlook
Mission........................913 831-2888
Md Wm M Jones Co Box 5490 Towson 301-823-5721
Minn Heimann Co 5603 Lyndale Ave S Mnpls 827-5457
Mo Technical Marketing Assoc 2050 Woodson Rd
St Louis.......................913-831-2888
NJ Wm M Jones Co 332 S Forklanding Rd
Maple Shade....................609-662-0480
NY O F Masin Co 140 Boston Post Rd
Larchmont......................834-7500
Ohio R P Calhoun Assoc 40 Southmoor Cir
Dayton.........................299-4144
Pa W F Satterthwaite Box 191 Lansdowne 623-5100
Tex E F Aymond Co 4340 N Central Expwy
Dallas.........................214-827-8043
Va Wm M Jones Co 104 Third St
Woodbridge.....................301-823-5721
Wash W C Plate Co 584 Dexter Horton Bldg
Seattle........................624-1673
For Minthorne Intl Co Inc 64-14 Woodside Ave
Woodside N Y...................212 899-8888

COMPUTER CONVERSIONS CORP 6 DUNTON CT
EAST NORTHPORT N Y 11731.........516-261-3300
P WALDMAN EMP 16 ENG 4 $250-$500M
Ariz F Y Gates Co 3300 S Mill Ave Tempe ..602-966-5441
Cal Universal Components Co 2330 Westwood Blvd
Los Angeles....................213-474-1537
Cal Leddy Assoc 1319 Howard Ave
Burlingame.....................415-347-5247
Colo F Y Gates Co 1930 S Navajo Denver...303-761-0591
Md Zenatronix Assoc 11215 Oak Leaf
Silver Spring..................301-588-5677
NM F Y Gates Co 2631 Texas N E
Albuquerque....................505-298-1875
NY D & B Assoc 3307 Erie Blvd E DeWitt .315-446-0220
Ohio Rep Corp 2077 Embury Park Rd
Dayton.........................513-278-5885
Utah F Y Gates Co 455 E 4th St
Salt Lake City.................801-359-1101

COMPUTER DEVICES CORP 63 AUSTIN BLVD
COMMACK N Y 11725................516 543-4220
E WENDOLKOWSKI EMP 50 ENG 4 $250-$500M
Cal Mar-Land Enterprises Box 101 Arcadia 681-9440
Mass Garrettson Co Inc 10 Kearney Rd Needham .449-2640
NY Garrettson Co 99 Hillside Ave Williston Park .PI 7-6610
NY B D Hummel Co 2224 Maynard Ave Utica ...736-7821
Pa Garrettson Co, Inc 92-14 Masland St
Philadelphia...................HO 4-2275
Can Aero Sales Eng Co 4 Racine Rd Rexdale, Ont .249-9139
For Montclair Elctns Inc 7 Woodland Ave
Larchmont NY...................834-8905

COMPUTER DIODE CORP POLLITT DR S FAIRLAWN
NJ 07410 TWX 201 796-0660........201 797-3900
J LABRUNA EMP 125 ENG 8 $5,000-$10,000M
Colo Action Sales 70 W 6th Ave Denver 303-222-6056
Fla Tech Rep Assoc Inc Box 2095
Melbourne......................305-723-9140
Ill M & S Sales 4750 N Milwaukee Ave
Chicago........................312-545-1771
Iowa J R Sales 3550 Cottage Grove Ave SE
Cedar Rapids...................319-365-5259
Md Eastern Components 6200 Annapolis Rd
Landover Hills.................301-322-1412
Mass First Natl Electns Inc Lakeside Pk N Ave
Wakefield......................617 245-6240
NY Kahgan Sales Corp 556 Peninsula Blvd
Hempstead......................516-538-2300
Pa Eastern Components 1349 Cheltenham Ave
Philadelphia...................215-927-6262

COMPUTER DISPLAYS INC 223 CRESCENT ST
WALTHAM MASS 02154...............617-899-0480
K MC DANIEL EMP 40 ENG 10 $250-$500M
Cal J D Kennedy Corp 3270 Alpine Rd
Menlo Park.....................415-854-6536
Colo J D Kennedy Corp 2987 S Wabash Circle
Denver.........................303-755-2021
Md Ron Davies Assoc 11215 Oak Leaf Dr
Silver Spring..................301-593-4900
NY Machine & Products Co 52 Wall St
New York.......................212-944-4370
Pa Denco 500 A E Godfrey Ave Philadelphia
Tex Data Engrg Corp 777 S Central Expwy
Richardson.....................214-231-4846
Wash J D Kennedy Corp 2124 S W 170th St
Seattle........................206-242-8084

COMPUTER DYNAMICS INC 179 WATER ST
TORRINGTON CONN 06791 ....203 482-7621
A KINSELLA EMP 20 ENG 5 $100-$250M
Colo Norad, Inc 1700 Broadway Denver 222-9558
Conn Kitchen & Kutchin Inc 179 Water St
Torrington 203-482-7621
Mich Chandler Assoc 32401 W Eight Mile Rd
Livonia 476-5800
Minn Marvin H Kirkeby Co 821 2nd Ave N Mnpls ..377-3239
NJ Ryan Assoc Box 222 Port Washington 767-7958
NY Ryan Assoc 60 Roger Dr Port Washington ...767-7958
Tex Noakes Engineering 2338 MacArthur Blvd
Irving 255-0441
Can Sam C Hooker, Ltd 144 Ronald Dr
Montreal W, Que 488-9114
Can Sam C Hooker, Ltd 2602 St Clair Ave W
Toronto 9, Ont 767-7725

COMPUTER INSTRUMENTS CORP 92 MADISON AVE
HEMPSTEAD N Y 11550
TWX 510-2224-189 ....516 483-8200
P KAPLAN EMP 415 ENG 27 $5,000-$10,000M
ADV PG 435
Ala Intl Scientific Instr Box 2091 Huntsville .404 893-4361
Cal Components Sales Corp 11484 Oxnard St
No Hollywood 213-980-3400
Colo Engineering Research Assoc 231 Detroit St
Denver 303-377-8306
Conn Nelson & Schoonmaker 105 Main St
Thomaston 203-283-5959
Fla C B Metcalf Co 3601 Swan La
Pensacola 904-476-7710
Ill Sumer, Inc 401 E Prospect Ave
Mt Prospect 312-392-7370
Ind Sumer, Inc 2211 S Calhoun St
Fort Wayne 219-744-1692
Kan Palatine Engrg Sales 7520 W 63rd St
Overland Park 913-262-5643
La Pan Tech EngrgCo Box 1783 Baton Rouge ..344-2791
Md Rep-Tron Inc Box 1347 Silver Spring ..301-588-1595
Mass Selmark Assoc, Inc 195 West St
Waltham 617-899-8110
Minn R J Sales & Engrg 7100 S France Ave
Minneapolis 612-922-1425
NJ Marshbank Monteiro Assoc 95 Westgate Dr
Cherry Hill 609-428-5551
NM Crown Engineering 2125 San Mateo, NE
Albuquerque 505-256-6124
NY Astro-rep 10 Sunny Lane Bayshore 516-666-7272
NC Allan E Over 3723 County Ridge Rd
Charlotte 704-366-8601
Ohio J C Hofstetter Co 5168 Valley View Dr
Medina 216-241-4880
Tex Parvin Sales Co Box 307 Addison 214-239-9148
Utah Cannon Engrg & Sales Co 2250 E 17th St S
Salt Lake City 485-9253
Wash G M Gillett Co Box 99035 Seattle 284-3344

COMPUTER LABS 1109 S CHAPMAN ST GREENSBORO
N C 27403 ....919 292-6427
D BROCKMAN EMP 21 ENG 6 $1,000-$2,500M
ADV PGS 31,187,189

COMPUTER LOGIC CORP 1528 20TH ST
SANTA MONICA CAL 90404 ....213 451-9754
K REHLER EMP 15 ENG 3 $250-$500M
Ala Lee Assoc 5R Traylor Island Huntsville ..205 539-0761
Ariz Tech-Ser Inc 1805 E Indian School Rd
Phoenix 602 265-3629
Cal Tech-Ser Inc 2435 N Naomi St
Burbank 213 846-9631
Colo J F Hurlbut Co 2240 S Adams St
Denver 303 756-2046
Conn Impact Sales Co Inc Box 448
West Hartford 203 521-1221
Fla Lee Assoc 200 E Marks St Orlando 305 241-4445
Ill Marsland Assoc 6699 Lincoln Ave
Chicago 312 676-1100
Ind Marsland Assoc 3734 Carrollton Ave
Indianapolis 317 924-3568
Md Lee Assoc 12250 Wilkins Ave Rockville .301 949-4800
Mass Impact Sales Co Inc 223 Crescent St
Waltham 617 893-2850
Minn Marsland Assoc 213 N Edgewood Ave
Minneapolis 612 545-4481
Mo Marsland Assoc Box 567 Florissant 314 831-0015
NY Crane & Egert Corp 146 Meachum Ave
Elmont 516 488-2100
NC Lee Assoc 825 Burke St
Winston-Salem 919 724-2406
Ohio Whelan Corp 2975 Far Hills Ave
Dayton 513 298-9997
Pa Crane & Egert Corp 109 W Ridge Pike
Conshohocken 215 277-0559
Wash Comptronics 3220 16th Ave W Seattle .206 284-4842

COMPUTER MECHANISMS CORP
493 WASHINGTON AVE CARLSTADT
NJ 07072 201-438-1770
J DRILLICK

COMPUTER METAL REG'D 7800 COTE DE LIESSE
MONTREAL 376 QUE 514-342-9457
W ODZE EMP 40 ENG 3 $500-$1,000M
NY Geo F Mc Carthy Corp 75 Plandome Rd
Manhasset 516-MA7-8790

COMPUTER PRODUCTS INC BOX 23849
FORT LAUDERDALE FLA 33307 ....305 565-9565
R JENKINS EMP 60 ENG 10 $1,000-$2,500M
ADV PG 487
Cal W K Geist Co 1205 Air Way Glendale ..213-245-9501
Md Tek Rep Inc 1075 Rockville Pike
Rockville 301-762-7777
Mass ITM Assoc PO Box 385 Sudbury 617-443-8414
Minn Mesa Co 1821 University Ave St Paul
NY Bradley Assoc Corp 130 Van Cortlandt Ave W
Bronx 212-549-8500
Pa Diversified Devices Box 241
King of Prussia 215-265-7925

COMPUTER SIGNAL PROCESSORS INC
209 MIDDLESEX TPK BURLINGTON
MASS 01803 617-891-5564
E COHLER EMP 30 ENG 12

COMPUTER TEST CORP 3 COMPUTER DR
CHERRY HILL N J 08034 TWX 845120 ..609 424-2400
R WHIPPLE EMP 350 ENG 50 $5,000-$10,000M
Cal Computer Test Corp 4220 Long Beach Blvd
Long Beach 428-3671
Ill Eng Products Assoc 722 Countryside
Wheaton 653-6826
Minn Engineering Products Assoc 2119 Grand Ave
St Paul 698-5531
Fr Fr Deltec S A 30 Rue Des Amandiers
Paris 20 797-5293
Ger Computer Test Co Gmbh 401 Hilden
Dusseldorf 71-32-52
GB Scientific Furnishings Ltd Terminus Rd
Chichester, Sussex 86641
Ital Mario Vianello Via L Anelli 13 Milano
Jap F Kanematsu & Co Ltd
New Kaigo Bldg Marunouchi Tokyo 216-3111
Swed Erik Ferner, A B Snormakarvagen 35
Bromma 25-28-70

CONAM INSPECTION INC BOX 188 RAHWAY
N J 07065 ....201 381-0050
J BALLARD EMP 50 $250-$500M
Ohio Conam Inspection Inc 4000 Lockbourne Rd
Columbus 614-491-3000

CONANT LABS 6500 O ST LINCOLN
NEB 68510 ....402 488-0432
H CONANT EMP 4 $100-$250M
Cal Wallace & Wallace 1206 Maple Ave
Los Angeles 747-0401
Ill DJM Electronic Sales 5356 N Milwaukee Ave
Chicago 774-1212
La Scott Ormsby Sales 7121 Catina
New Orleans 282-2097
Mass Anderson Sales Co 177 State St Boston 227-2980
NY Kaelber & Mack 75 Plandome Rd
Manhasset 627-6620
Ohio Scott Electronics, Inc 1836 Euclid Ave
Cleveland 861-2626
Pa Lowery Assoc Co 2801 West Chester Pike
Broomall 472-8674
Tex Ernest L Wilks Co 1821 N Broadway
Carrollton 242-5321

CONAP INC 184 E UNION ST ALLEGANY
N Y 14706 ....716 372-9650
D WILLIAMSON EMP 63 ENG 9 $1,000-$2,500M
Cal Conap, Inc 3975 Birch St
Newport Beach 714-546-5294
Colo Larry T Whitten Co 1232 W 88th Ave
Denver 303-428-7794
Ind Carlen & Assoc 3969 Meadows Dr
Indianapolis 317 547-7771
Iowa Engineering Services Co 1026-3rd Ave SE
Cedar Rapids 319-366-1591
Kan Engineering Services Co 7924-A State Line
Prairie Village 913-649-4000
Md Herco Inc 2631 N Charles St
Baltimore 301-467-7677
Mass Leonard Smith Co 206 Burgess Ave
Westwood 617-762-4539
Mo Engineering Services Co 6717 Vernon Ave
St Louis 314 726-2233
NY Davis & Co 3812-213th St Bayside ...212-229-7987
NC P J Nahser Co Inc 2709 Amherst Ave
Burlington 919 584-8077
Ohio Rice Assoc 28829 Chagrin Blvd
Cleveland 216-831-9710
Pa B E Gibson Co 201 Penn Center Blvd
Pittsburgh 412-823-8310
Tex Stasco 13310 Spring Grove Ave Dallas .214-239-5054
Wash Larrabe & Assoc 2127 First St Seattle .206-623-2521

CONAX CORP 2300 WALDEN AVE BUFFALO
N Y 14225 TWX 091-275 ....716 684-4500
R FITZGERALD EMP 176 ENG 12
Ala Control Equipment Co Box 6044
Birmingham 879-8211
Cal Instrument Lab 1323 W 130th St Gardena ..770-0650
Colo McCoy Sales Corp 845 Wyandot St Denver .266-3067
DC Soraghan Assoc, Inc 20 E St NW
Washington 783-3612
Fla Control Equipment Co Box 1857
Daytona Beach 252-7086
Ga Control Equipment Co Box 11795 Atlanta ..237-1688
Ill A E C 6645 N Oliphant Ave Chicago 631-9673
La LuMac Inc 3608 Seneca St Baton Rouge ...357-0655
Mass Charles T Morgan Co Box 164 Hathorne 774-3215
Mich Robert B Turpin Co 16901 Schoolcraft
Detroit 272-0746
Mo Edward W Mooney Co Inc 7505 Delmar Blvd
University City 725-8875
NJ Norman Bragar Co 1060 Broad St Newark ..622-4300
NY Niagara Electric Sales Co 505 Delaware Ave
Buffalo 886-4000
NC Ranson Wallace & Co Inc
116-1/2 East Fourth St Charlotte 334-4244
Ohio Myers & Henley 226 Ludlow Ave Cincinnati ..861-0038
Ohio Carll & Swift Co 3401 Richmond Rd
Cleveland 464-9430
Okla Barnard Equipment Co Box 7002 Tulsa 742-2652
Pa M S Jacobs & Assoc 810 Noblestown Rd
Pittsburgh 923-2090
Pa Flow Engineering Inc 8 E Mill Rd Flourtown ..248-1355
Tenn Control Equipment Co 4797 South Milnor
Memphis 324-4525
Tex Pan-Tech Engineering Co 3815 Richmond Ave
Houston 666-0248
Utah McCoy Sales Corp 1839 S 8th W
Salt Lake City 486-7509
Wash Instrument Lab Inc 934 Elliott Ave W
Seattle 283-5850
WVa M S Jacobs & Assoc Box 523 Charleston ...343-8906

Wis Automation Engrg Co Inc 12740 N River Rd, 43W
Mequon 242-1520
Can Davis Controls Ltd 4251 Dundas St W
Toronto Ont 233-3211
Fr Auxitrol 189, bd, St Denis Courbevoie Seine
Ger Gebr, Ruhstrat 3401 Lenglern Uber Gottingen
GB West Instrument Div
The Hyde Lower Bevendean Brighton 7 Sussex
Neth Auxitrol Nederland N V Bankastraat 110
The Hague
Ital Smeri Via Soperga, 45 20127 Milan
Belg Procontrol 13, rue Gachard Bruxelles
Spn Auxitrol Iberico Mauricio Legendre 31 Madrid
Aust Impactor Pty Ltd 68 Alexander St
Crows Nest, NSW

CONCORD CONTROL INC 1282 SOLDIERS FIELD RD
BOSTON MASS 02135 ....617 254-5106
J FADIMAN EMP 42 ENG 14 $1,000-$2,500M
Cal Costello Little & Co 8737 Venice Blvd
Los Angeles 213 870-5951
NY Wild & Assoc 400 Jericho Tpk Jericho ..516 921-7100
Tex Costello Little & Co 2653 Tarna Dr
Dallas 214-247-3291
Va M E Whitney Assoc 1400 N Uhle St
Arlington 703 524-5642
For Intl Tech Prod Corp 1250 Connecticut Ave NW
Washington DC 202 223-5520
Jap Rikei Trading Co 18-14 Nishi-Shimbashi
1-Chome Minatoku Tokyo

CONCORD ELECTRONICS CORP
1935 ARMACOST AVE LOS ANGELES CAL 90025
TWX 910-342-6995 ....213 478-2541
R YELLIN EMP 125T ENG 10 OVER $10,000M
Cal Concord Commun Sys 1935 Armacost Ave
Los Angeles 213-478-2541
Colo Concord Commun Sys 1075 Gallapago
Denver 303-244-0092
Ga Concord Commun Sys 540 Armour Cir NE
Atlanta 404-872-7357
Haw Concord Commun Sys 1235 Kapiolani
Honolulu 808-537-3945
Idah Concord Commun Sys 910 E Lincoln Rd
Idaho Falls 208-522-2492
Ill Concord Commun Sys 540 N Lake Shore Dr
Chicago 312-828-0662
Iowa Concord Commun Sys 2218 Main St
Cedar Falls 319-266-3501
La Concord Commun Sys 2301 Perdido St
New Orleans 504-821-3604
Mass Concord Commun Sys 38 Ramsdell St
Newton Highlands 617-969-7550
Minn Concord Commun Sys 2641 29th Ave S
Mnpls 612-729-7301
Mo Concord Commun Sys 1616 Grand Ave
Kansas City 816-221-4944
NY Concord Commun Sys 470 Park Ave S
New York 212-689-9877
Ohio Concord Commun Sys 32 N Broad St
Dayton 513-878-9012
Ore Concord Commun Sys 5417 N E 30th Ave
Portland 503-287-5978
Pa Concord Commun Sys 6 Bysher Ave
Flourtown 215-242-3500
Utah Concord Commun Sys 180 W 2950 S
Salt Lake City 801-484-3083
Va Concord Commun Sys 1203 N Highland
Arlington 703-525-5777
Wash Concord Commun Sys 1050 N 38th Ave
Seattle 206-633-5300

CONCORD ELECTRONICS CORP 37 GREAT JONES ST
NEW YORK N Y 10012
TWX 710-581-4930 212-777-6571
J GARDNER EMP 100 ENG 2 $1,000-$2,500M
ADV PGS 421,623
Cal Hal Foraker Box 1325 Fremont 415-657-2213
Fla Burgen Kreh Box 8457 Ft Lauderdale ..305-587-6063
Ill Communication Engineers 7106 Northwestern Ave
Chicago 312-R01-0548
Iowa Snider Sales Co 2042 Franklin Ave NE
Cedar Rapids 319-362-4410
Md Component Sales 7 Church La
Baltimore 301-484-3647
Mass Jalco Assoc Box 97 Woburn 617-935-2753
NJ E Stefkovic 314 Columbia Blvd
Cherry Hill 609-667-5341
NY R Davis 107 James St Utica 315-724-5773
NC L & D Inc Box 7243 Guensboro 919-292-3201
Can Koytronics Engineers 5800 Monkland Ave
Montreal 514-487-3434

CONDENSATEURS F A C O N
40 BLVD DE LA BASTILLE PARIS 12E
FRANCE 343 09 43
F LELEU
For F A C O N Rue Washington Bruxelles, Belg ...49 09 05
Ger F A C O N Postfach 161 Hannover 52 05 94
Neth F A C O N Stadhoudersplein II Wassenar ..01751 4642

CONDENSER PRODUCTS CORP BOX 997 BROOKSVILLE
FLA 33512 ....904 796-3562
G RANDOLPH EMP 40 ENG 3 $250-$500M
ADV PGS 86,89,91
Cal J Greenemeyer 1901 Ave of the Stars
Century City
Fla Electronic Production Facilities
621 N Clearwater Largo Rd Largo ...813-584-4678
NY M D Industries New York
NY Comp-Tech Sales Box 384 Lynbrook
Ohio E M A Inc Box 275 Aurora
Ore Arneson Assoc 200 NE Canyon Rd
Beaverton 503-298-2751
Tex W Pat Fralia Co Box 1265 Ft Worth ..817-PE8-2394
Utah Arrowhead Sales Corp 1966 W 6255 S
Salt Lake City 801-298-2751
Va Tom Davis Mktrs Inc 4210 Daniels Ave Annandale

CONDOR INDUSTRIAL CORP BOX 420 WHEATON ILL 60187 312-668-3400
C FEISS EMP 30 ENG 2 $500-$1,000M
Cal Space Engineering 491 Los Robles Ave Pasadena 681-4421
Ill Repwood Inc 260 Sunset Glen Ellyn 469-2344
Mo Pem Sales Company 9537 Lackland Rd St Louis 427-7200
Wis Repwood Inc 8019 N 50th St Milwaukee ...354-5161

CONDUCTORLAB INC 5210 MAIN ST GROTON MASS 01450 ....617 448-5922
W SULLIVAN EMP 125 ENG 4 $1,000-$2,500M
Fla Geartner Assoc, Inc 350 Lincoln Rd Miami Beach 305-531-0200
Ill DJM Elctns Sales Inc 5356 N Milwaukee Ave Chicago 312-774-1212
Mass R P Mahan Co Inc 572 Washington St Wellesley 617 237-1040
NY John Di Blasi Assoc 14 Vandeventer Ave Port Washington 516-767-0470
Pa Humes & Quinlan Sales Co 242 E Butler Ave Ambler 215-646-7250

CONDUCTRON CORP BOX 426 ST CHARLES MO 63301 TWX 810 223-6051 ....313 665-9741
E ECKLUND EMP 4000 ENG 1310
OVER $10,000M
Cal R Van Stee 1254 Bellflower Blvd Downey 213-869-3551
DC E G Riley 1145 19th St, N W Washington 202 333-0660
Mass J M Grant 46 Lehigh Rd Wellesley 617-237-9625
NJ W Heyniger Box 256 Manasquan 201 223-1311
Ohio J De Luna 4130 Linden Dayton 513 254-6161
Tex E S Turner 500 Jefferson Bldg Houston .713 224-5921

CONDUCTRON-MISSOURI 2600 N THIRD ST
ST CHARLES MO 63301
TWX 910-760-1723 ....314 RA 3-1515
H STEPHEY EMP 3000 OVER $10,000M

CONFORMING MATRIX CORP 830 NEW YORK AVE TOLEDO OHIO 43611 ....419 729-3777
R SEBETTO EMP 60 ENG 3 $500-$1,000M

CONIC CORP 9020 BALBOA AVE SAN DIEGO CAL 92123 TWX 910-335-1183 ....714 279-0411
R JEANS EMP 250 ENG 35 $5,000-$10,000M
Ala Reynolds & Assoc 904 Bob Wallace Ave Huntsville 205-536-1941
Ariz Thorson Co 2505 E Thomas Rd Phoenix 602-956-5300
Cal Thorson Co 444 Olive St San Diego 714 298-8385
Cal Thorson Co 2443 Ash St Palo Alto 415-321-2414
Cal Thorson Co 6824 Melrose Ave Los Angeles 213-937-0790
Colo Thorson Co 300 E Hampton Englewood .303 789-1841
Fla Reynolds & Assoc Box 1043 Eau Gallie .305 727-3205
Fla Reynolds & Assoc 161 SW 75th Ave Ft Lauderdale 305-581-6611
Fla Reynolds & Assoc Box 8877 Orlando ...305-424-3836
Ga Reynolds & Assoc 175 W Wieuca Rd NE Atlanta 404-252-5360
Md Riffe Assoc 4313 Knox Rd College Park .301-779-7770
Mass Reptron, Inc 110 Great Rd Bedford 617 275-8585
Mich WKM Assoc 1474 E Outer Dr Detroit ..313-892-2500
NJ Tek-Sel Inc 440 N Midland Ave Saddle Brook 201 791-5545
NM Premmco Inc 401 San Pedro NE Albuquerque 505 265-0115
NC Reynolds & Assoc 412 W Market St Greensboro 919-275-3725
Ohio WKM Assoc 6741 Ridge Rd Cleveland ..216-885-5616
Pa Riffe Assoc Inc 499 Easton Rd Horsham 215-672-9331
Pa WKM Assoc Inc 90 Clairton Blvd Pittsburg 412-892-2953
Tex Thorson Co 7700 Carpenter Frwy Dallas 214 631-5440
Wash Thorson Co 1767 Fifteenth Ave S Seattle 206 325-5000

CONKLIN INSTRUMENT CORP PLEASANT VALLEY N Y 12569 ....914 635-2136
C CONKLIN EMP 32 ENG 4 $250-$500M

CONN CORP 1101 E BEARDSLEY AVE ELKHART IND 46514 TWX 810-294-2243 ....219 CO 4-7511
C GABLEMAN EMP 960 ENG 32 OVER $10,000M

CONNECTICUT COIL CORP
380 MOUNTAIN GROVE ST BRIDGEPORT
CONN 06605 203-333-4805
F FINCK EMP 35 ENG 1 $250-$500M

CONNECTICUT HARD RUBBER CO 407 EAST ST NEW HAVEN CONN 06509 ....203 777-3631
V SANTACQUA EMP 80 ENG 5 $2,500-$5,000M

CONNECTICUT TECHNICAL CORP 3000 MAIN ST HARTFORD CONN 06120 ....203 522-6167
H KNELLER EMP 25 ENG 8 $250-$500M
Cal Persons Assoc Box 370 Lafayette 283-3760
NJ Kenneth E Hughes Co 2175 Lemoine Ave Fort Lee 944-1600
Can Electronetic Systems Inc 2171 Avenue Rd Toronto, Ont 487-1523
Can Electronetic Systems Inc 6420 Victoria Ave Montreal, Que

CONNECTOR ACCESSORIES CORP
17360 GRAMMERCY PL GARDENA
CAL 90247 ....213 FA 1-1956
D SMITH EMP 60 ENG 5 UP TO $100M
Ala Young & Lawrence Assoc 2907 Governors Dr SW Huntsville 205-539-6575
Ariz Jack Osborn Assoc Box 968 Scottsdale .602-948-0501
Cal Wm A Gibson Co Box 6124 Pt Loma Sta San Diego 714-223-6120
Fla Young & Lawrence Assoc, Inc 601 N New York Ave Winter Park ...305-647-6929
Ill Claude Booth & Assoc 1921 N Harlem Ave Chicago 312-237-7910
Ind Tri-State Electronics Inc 3220 Broadway Ft Wayne 219-446-3567
Kan Palatine Engrg Sales 7520 W 63rd St Overland Park 913 262-5643
Mass Adcour Engineering One Summer St Sharon 617-784-3996
Minn Chas Macnamara 5227 Bartlett Blvd Mound 612 472-4919
Mo Palatine Engrg Sales 8622 St Chas Rock Rd St Louis 314 426-7055
NJ Quality Components Co Box 583 Cherry Hill 609-428-6266
NY N L Pitch & Assoc 48 Commerce Dr Farmingdale 516-293-5141
Ohio Tri-State Electronics Inc 1717 Section Rd Cincinnati 513-631-5060
Pa Geo Needs, c/o MRI 2326 Rhawn St Philadelphia
Tex Southern Engineering Co 6434 Maple Dallas 214-357-0669
Wash Rowe/Northwest 1123 38th Ave Seattle 206-325-2792
Can Technitron Assoc Ltd 769 La Joie Ave Dorval Que 514-631-6859
Isrl Ramron Ltd Elctn Engrg Box 2131 Ramat-Gan

CONNECTOR CORP 6025 N KEYSTONE AVE
CHICAGO ILL 60646
Cal Dorr Wagner Assoc Box 485 Altadena .213-681-4060
Ill Bauman Sales 6025 Keystone Chicago .312-539-3108
Ind Al Strickland 6811 Grosvenor Pl Indpls .317-849-1801
Mass Coakley Boyd & Abbett 1424 Highland Av Needham 617-444-5470
Mich E H Jordon 2024 Glen Dr Jackson.....514-782-0694
NY Bouser & Sapechey 4317 Genesee St De Witt 315-446-5920
Pa Kaygar Assoc Box 91 Bala Cynwyd 609-795-0550
Tex Gordon V Peck Co Box 18627 Dallas ...214-388-3511
Can Tel-Mar 19th Av & RR 2 Markham Ont .416-887-5612

CONNOLLY & CO INC 914 N RENGSTORFF AVE
MOUNTAIN VIEW CAL 94040
TWX 910-379-6930 ....415 967-6988
W CONNOLLY EMP 7 ENG 3 $1,000-$2,500M
Alas Juneau Electronics 241 S Franklin St Juneau 586-2260
Cal A-F Sales Engrg Inc 94 S Los Robles Ave Pasadena ....MU 1-5631
Colo J F Hurlbut Co 2240 S Adams St Denver 303-756-2048
Fla Mark Electronic Sales Co Box 291 N Miami ....WI 7-5080
Md D K Jones & Assoc 2026 Maryland Ave Baltimore 752-0577
Mass Adcour Engrg Reps 1 Summer St Sharon 617-784-3996
Mo Gordon Fixman Eng Co 8160 Stanford Ave St Louis ....PA 5-5219
NJ Electrical Components Inc 355 Crider Ave Moorestown 609-235-3012
NY Frank UnBehaun Assoc 75 College Ave Rochester 244-2450
Pa D K Jones & Assoc 6520 Rising Sun Ave Phila 342-3990
Tex Packard Assoc Box 35625 Dallas ....FL 7-5713

CONNOR SPRING MFG CO DIV SLOSS & BRITAIN 1147 N 10TH ST SAN JOSE CAL 95112 .408-297-4685
R LIND EMP 55 ENG 5 $500-$1,000M
Ariz Connor Spring & Mfg Co 1231 S 26th Pl Phoenix 273-1281
Cal Connor Spring & Mfg Co 1101 Monterey Pass Rd Monterey Pk 264-1281
Ore Connor Spring & Mfg Co 1426 SE 6th St Portland 232-8156

CONRAC CORP 330 MADISON AVE NEW YORK N Y 10017 TWX 710-581-3065 ....212 687-3330
T HARRIMAN EMP 2300 ENG 900
OVER $10,000M
Ala Conrac Corp 2109 W Clinton Ave Huntsville .539-9396
Cal Conrac Corp 9550 Flair Dr El Monte 686-0985
Cal Conrac Corp 361 Lytton Ave Palo Alto 322-4585
Ill Conrac Corp 3150 Des Plaines Rd Des Plaines 827-8141
Ohio Conrac Corp 4130 Linden Ave Dayton 253-1104
Tex Conrac Corp 6170 Sherry La Dallas 363-6417
GB Conrac Ltd 346 Kensington High St London W-14 603-0051

CONRAD-MISSIMER KOCH RD CORTE MADERA CAL 94947 TWX 415-457-9131 415-924-4262
J WESTENBROEK EMP 110 ENG 20
Ala D Wise Huntsville 205-881-2740
Ariz Pacific Scientific Co 15 N 40th Pl Phoenix ..273-7464
Cal Pacific Scientific Co 6280 Chalet Dr City of Commerce 773-2020
Cal Pacific Scientific Co 3235 Hancock St San Diego 297-4533
Fla W Ben Wimberly Co 532 S Fort Harrison Ave Clearwater 813-446-7072
Ill Maher Engrg Co 13 Broadway Des Plaines 312-824-2124
Kan Pacific Scientific Co 8020 Santa Fe Dr Overland Park 913-381-2600
Ky Ashby Assoc 4130 Linden Ave Dayton Ohio 513-252-5627
Mass Howard J Schuft Co 815 Washington St Newtonville 617-527-5304
Mich Satullo Co 4514 N Woodward Ave Royal Oak 313-549-3910
Mo Pacific Scientific Co 11771 Natl Bridge Rd Bridgeton 314-291-2440
NJ Bonn Assoc 266 Lake Ave Metuchen ...201-549-9573
NM Pacific Scientific Co 209 San Pablo SE Albuquerque 505-265-6638
NY Naylor Electric Co Inc 1718 Erie Blvd E Syracuse 315-472-9183
Ohio Fred R Sharp Co 14904 Euclid Ave East Cleveland 216-249-7000
Ore Pacific Scientific Co 1208 SE 7th St Portland 503-233-6177
Pa Test Equip Sales Co 4447 N Bodine St Phila 215-329-1822
Tex Pacific Scientific Co 702-A E Abram St Arlington 817-275-3236
Va Naeco Assoc 1925 W Lynn Arlington ...703-524-4551
Wash Pacific Scientific Co 8915 14th Ave S Seattle 206-762-4260
Can David R Beattie Ltd 2104 Bromsgrove Rd Clarkson Ont 416-822-4414
For B Ereudenberg Inc 50 Rockefeller Plaza New York 212-757-9130
Jap Seki & Co Ltd 9 2-Chome Nihonbashi-Koamicho Chuo-ku Tokyo
Aust N I C Instrument Co North Essendon Victoria 3041 379-1522

CONSOLIDATED AIRBORNE SYSTEMS
115 OLD COUNTRY RD CARLE PLACE
N Y 11514 516-741-1500
A BARBACCIA EMP 230 ENG 30 $2,500-$5,000M
Ala Craft Assoc Co Box 1053 Huntsville 837-0221
Cal B Tribe 18075 Ventura Blvd Encino 343-2661
Fla Craft Assoc 23 S Magnolia Orlando 425-4284
Ga Craft Assoc Box 11716 Atlanta 237-2282
Kan D Shoemake 1006 N Woodlawn Wichita ..MU-6-0511
Wash Don Smith Sales Co 2320 N 45th St Seattle ME-3-3160
Can Century Air-Ground Services Ltd 3160 sartelon St Montreal 747-1185
Den Technitron 24 Klosterstr Copenhagen
Fr Technitron 55 Rue Pierre Charron Paris
Ger Technitron Sonnenstr 14 Munich
GB Technitron Walmgate Rd, Perivale, Greenford Middlesex
Neth Technitron N V Schiphol Airport Amsterdam
Ital Technitron SRI Viale Bruno Buozzi 68 Rome

CONSOLIDATED CERAMICS & METALIZING CORP
BOX 352 FLEMINGTON N J 08822
TWX 510-235-3309 ....201 735-7121
K BELTZ EMP 19 ENG 3 $250-$500M
Cal Consolidated Ceramics 24353 Clawiter Rd Hayward 782-9600
Mich Consolidated Ceramics 3516 Cadieux Rd Detroit 886-0900
Pa Consolidated Ceramics 301 W Lancaster Ave Devon 687-2477

CONSOLIDATED CONTROLS CORP
2338 ALASKA AVE EL SEGUNDO CAL 90245
TWX 910-325-6205 ....213 772-5301
J GHIGLIA EMP 165 ENG 22 $5,000-$10,000M
Conn Consolidated Controls Corp 15 Durant Ave Bethel 743-6721
Kan Thunderbird Sales & Engr 6405 E Kellogg Wichita ....MU 4-3941
Mo Thunderbird Sales & Engr 400 Brookes Dr Hazelwood ....PE 1-4343
Tex Holaday Assoc 2930 Merrell Rd Dallas 358-3807
Wash Martin Poggi Co 845 106th St Bellevue....GL 4-2026

CONSOLIDATED CONTROLS CORP 6 DURANT AVE
BETHEL CONN 06801
TWX 710-456-3049 ....203 743-6721
J ENGELBERGER EMP 400 ENG 50
$5,000-$10,000M
Cal Consolidated Controls Corp 2338 Alaska Ave El Segundo 772-5301
Colo A-G Electronics 5417 S Oneida St Englewood 303 771-1473
DC Consolidated Diesel Elec Corp 1100 17th St Washington 393-1523
Kan Thunderbird Eng Sales & Serv 3802 D 95th St Leawood ....NI 2-7220
La Petro-Chem Equip Co Box 358 Baton Rouge 504 348-7593
Mich Robt McBride Co Inc 20830 Rutland Southfield 313 356-5724
Mo Boweng Reps Inc 10404 Oak Ave St Louis 314 429-7327
Ohio Technical Assoc Box 388 Fairborn 513 878-2484
Tex Servo Electronics Prods, Inc Box 20371 Dallas 637-3440
Wash Martin Poggi Co 845 106th St Bellevue....GL 4-2026
Can Power Service Prods Box 184 Islington (Toronto) Ont 416 239-2977
Den Technitron A/S 24 Klosterstr Copenhagen ...PA 2632
Fr Technitron, S A 55 rue Pierre Charron Paris, France ....EL 30-58
Ger Technitron GmbH Sonnenstr 14 Munich 557832
GB Technitron, Ltd Walmgate Rd, Perivale Greenford Mdsx
Neth Technitron N V Keizersgracht 478 Amsterdam .231073
Ital Technitron, SaL Viale Bruno Buozzi 68 Rome
Jap Moritani & Co, Ltd 3 Hichome Yaesu Chuo Ku Tokyo
Aust Cema (Australia) Pty, Ltd 213 Angus St Adelaide

CONSOLIDATED ELECTRIC CORP 3201 FIRST AVE S SEATTLE WASH 98134 ....206 623-6561
C OSTROM EMP 35 ENG 3 $1,000-$2,500M
NY U S Machinery Co 1 Whitehall St New York
Ohio Coe Mfg Co Painesville

CONSOLIDATED OHMIC DEVICES INC
115 OLD COUNTRY RD CARLE PLACE N Y 11514
TWX 510-222-3789 ....516 741-1500
S YOUNG EMP 200 ENG 25 $2,500-$5,000M
Cal Abco Co 555 W 9th St San Pedro 213 833-8333
Colo A-G Electronics 54-17 S Oneida St Englewood 771-1473
Conn Abbott-Allison Co Box 467 Meriden ...203-237-9232
Ill Branum Sales Co Box 516 Lake Zurich.....438-2356

Md Scientific Mktg Assoc 8817 Hunting Lane
Laurel 776-5130
Mich Tiby Co 380 Hilton Rd Ferndale.......313-547-3550
Ohio Tiby Co 2245 Warrensville Ctr Rd Cleveland .277-3822
Pa Stein Instrumentation 413 Johnson St
Jenkintown 215-885-2370
Tex Max Daggett Jr & Assoc Box 30152
Dallas....................214-357-1256
Wis Branum Sales Co Box 516 Lake Zurich.....438-2356
Can Century Air-Ground Serv Ltd 3160 Sartelon St
Montreal 747-1185
For Technitron, Inc 41 W 57th St
New York, NY 758-2790
Den Technitron 24 Klosterstr Copenhagen ......PAL 2632
Fr Technitron 55 Rue Pierre Charron Paris 8 ...359-3058
Ger Technitron Sonnenstr 14 Munchen 55-78-32
GB Technitron Ltd Walmgate Rd, Perivale
Greenford ....PER 9949
Neth Technitron, N V Box 7542, Schniphol Arpt
Amsterdam 727823
Ital Technitron S R I Viale Bruno Buozzi 68 Rome .800-235
Jap Marubun Co Ltd
1, 2-Chome, Odenmacho, Nihonbashi
Chuo-ku, Tokyo 860-8151

CONSOLIDATED PRODUCTS CORP
17360 S GRAMMERCY PL GARDENA
CAL 90247 ....213 321-1956
D SMITH EMP 100 ENG 3 $1,000-$2,500M
Ala Young & Lawrence 2907 Governors Dr SW
Huntsville 205 539-6575
Ariz Jack Osborne Assoc Box 968
Scottsdale 602 948-0501
Cal Storm Products 4049 Transport
Palo Alto....................415 326-2913
Fla Young & Lawrence 601 N New York Ave
Winter Park 305 647-6929
Ill Calude Booth & Assoc 1921 N Harlem Ave
Chicago 312 237-7910
Ind Tri State Marketing 3220 Broadway
Ft Wayne 219 456-3567
Kan Palatine Engrg 7520 W 63rd St
, Overland Park....................913-262-5643
Mass Adcour Engrg One Summer St Sharon .617-784-3996
Minn C Macnamara 5227 Bartlett Blvd
Mound 612 472-4919
Mo Palatine Engineering 8622 St Chas Rock Rd
St Louis 314 426-7055
NJ Quality Components Co Box 583
Cherry Hill 609-428-6266
NY N L Pitch & Assoc 48 Commerce Dr
Farmingdale....................516-293-5141
Ohio Tri-State Marketing 1717 Section Rd
Cincinnati 513 631-5060
Tex Southern Engineering 6434 Maple
Dallas....................214-357-0669
Wash Rowe Northwest 1123 38th Ave
Seattle 206 325-2792
Can Technitron Assoc Ltd 769 La Joie Ave
Dorval Que 514-631-6859
Isrl Ramron Ltd Elctn Engrg Box 2131
Ramat-Gan Israel

CONSOLIDATED REACTIVE METALS INC
114 HOYT AVE MAMARONECK N Y 10543
TWX 710-566-1112 ....914 698-2300
R HANAU
Tex C D Price Co 105b N Mc Kinney St
Richardson ....AD 1-4321

CONSOLIDATED RESISTANCE SPECIALTIES INC
46 PROSPECT ST YONKERS N Y 10701 .914 YO 3-5900
J WILENTCHIK EMP 20 UP TO $100M

CONSOLIDATED WIRE & ASSOCIATED CORPS
1635 S CLINTON ST CHICAGO ILL 60616 . 312 HA 1-4441
J MANN EMP 30 ENG 1
ADV PG 721
Cal David Muir 2909 N Lake Ave Altadena 681-2516
Cal Jack Logan & Assoc 801 Mahler Rd
Burlingame 697-6100
Colo A-E-S, Inc 1559 Chester St Aurora.......366-0208
Fla Stanley K Wallace Assoc Inc Box 165 Lutz
Ga H J Odom 715 Flamingo Dr SW Atlanta ...PL 3-8463
Ill Markal Sales Corporation 5787 N Lincoln Ave
Chicago ....LO 1-7290
Ind Harrison J Blind & Assoc Box 24191
Indianapolis ....CH 4-0191
Kan Lowell, Kangas & Assoc 9107 Larsen Dr
Overland Park....................TU 8-3200
Mass Near Inc 99 Highland Ave Somerville ......PR 6-2262
Mo Theodore B Lowell Box Creve Coeur Br
St Louis ....MI 7-1111
NY Jerry Kirshbaum Co 1533 Peninsula Blvd
Hewlett....................FR 4-1509
NY William Tauber Co 151 Fayette Blvd
Syracuse 446-7094
NC M F Hager Rt 1, Box 423 Matthews.......847-9262
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 752-5444
Pa Herman Lewis Co 1801 Penn Blvd
Philadelphia ....LO 7-2068
Tex John B Guenther Co 4533 N Central Expwy
Dallas....................LA 8-6286
Can Atlas Radio Corp Ltd 50 Wingold Ave
Toronto, Ont....................RU 1-6174
For O O Mallegg Co 400 W Madison St
Chicago, Ill ....FR 2-4868

CONSTANTA CO OF CANADA LTD 280 REGINA AVE
MONTREAL QUEBEC 766-8569
J WONG EMP 20 ENG 2 UP TO $100M
Cal Tech Rep 10606 W Pico Blvd
Los Angeles 213-836-6806
Fla Wm M Jones Co Inc 2317 E South Orlando..424-6298
Md Wm M Jones Co Inc 1107 Echo Ct N
Towson 823-5721
Mass Brookdale/Richter Engrg 348 Lake Ave
Newton Highlands....................244-6969

NY James M Glass Jr 284 Delaware Ave
Buffalo 856-9272
Ohio REP/CORP 2077 Embury Park Rd Dayton ..278-5885
Can D I Snell Ltd 700 Weston Rd Toronto, Ont ..767-9876
Fr Bureau De Liaison 113 Rue De L'universite
Paris....................INV 99-20

CONSTRUCTIONS RADIOELECTRIQUES ET
ELECTRONIQUES DU CENTRE 5 RUE DAGUERRE
42 SAINT-ETIENNE FRANCE 77-32-39-77
M FOURNEUF EMP 900 ENG 100
$5,000-$10,000M
For Danubia A G Krottenbachstr 88-82 Wien xix .011-104
Den Hans Orngreen Krogshojvej 30 Bagswaerd
Fr Agence DeParis 77 rue Gabriel Peri
92-Montrouge 253-54-40
Ger C D C Deutschland Gmbh Mozartstr 11
69 Heidelberg
Neth Meterfabriek Lynbaan 32 Dordrecht..........31-41
Ital S E B Via Savona 97 Milano 4700-54
Jap Air Liquide 75 Quai D Orsay Paris 7eme
Nor Sonnico Munkedamsv 67-71 Oslo
SAfr Fransa Box 11268 Johannesburg
Swed M Eric Axelsson Vasterlanggatan 27 Stockholm .20880
Belg Contigea 53 rue Birmingham Bruxelles 7 22-98-20
Spn Fabrication de contadores y Mat
Ave de Sarria 118 Barcelone 17 239-04-00
Aust Ward-Burton 372 Eastern Valley
Chatswood N S W 40-3261

CONTACT, INC BOX 6 HUDSON N H 03051 ..603 883-7708
R REID EMP 100 ENG 10 $100-$250M
Cal Claude Michael, Inc 703 W Ivy St
Glendale ....213 CH 5-8401
Fla Assembly Materials & Equip Sys
962 Victor Herbert Dr Largo 609 429-1005
Kan Burke Sales Co 3718 W 9th St
Leawood....................913-649-2727
Md David K Jones Co, Inc 2026 Maryland Ave
Baltimore 301 752-0577
Mass EPE Corp 345 Highland St Weston ...617 TW 9-0678
Minn Walt Schmitt Assoc 4522 Excelsior Blvd
Mnpls 612 920-3883
NJ Aero Sales Co Box 53 Caldwell.......201 CA 6-2642
NJ Mill Equipment Co 13 Tanner St
Haddonfield 609-429-1005
NY R&S Electronics Corp Box 217
Hempstead ....516 IV 5-1040
Ohio Perry Lohse & Co 529 Richmond Rd
Cleveland 216 381-7788
Tex Sivright Co 6115 Denton Dr Dallas ....FL 1-4416
Wash Don Smith Sales Co 2320 N 45th St
Seattle ....206 ME 3-3160
Can Willer Engineering Sales 1800 Avenue Rd
Toronto, Ont 783-3373

CONTACTS INC 1100 SILAS DANE HWY
WETHERSFIELD CONN 06109 203-529-3386
T GAGLIANO EMP 80 ENG 3 $2,500-$5,000M
Ariz A V Sales Corp Box 1086 Mesa 602-969-7281
Cal A V Sales Corp 16661 Ventura Blvd
Encino 213-783-8150
Colo Mile High Electronics Box 1577
Boulder 303-444-5615
Fla A V Sales Corp 224 Datura St
W Palm Beach 305-833-6877
Ill A V Sales Corp 6124 Milwaukee Ave
Chicago 312-631-1187
Mass A V Sales Corp Box 156 Reading 617-944-7000
Minn D C Perry Assoc 5010 France Ave So
Mnpls....................612-920-3212
Mo A V Sales Corp 34 N Brentwood Blvd
St Louis 314-862-6535
NY A V Sales Corp 320 L I Expwy S
Melville....................516-694-7900
NC Electro-Rep Assoc 128 W 30th St
Charlotte 704-333-0451
Ohio Bray Assoc Box 182 Chagrin Falls 216-247-4474
Pa J Keeble Assoc 1035 Spring View Dr
Southhampton 215-357-6905
Tex A V Sales Corp Box 41 Richardson 214-235-1551
Can Anbak Sales Canada Ltd 3208 Lenworth Dr
Cooksville Ont 416-625-1061
GB Kemtron Intl Ltd Victoria Ave
Southend-on-Sea Essex

CONTELEC S A PORTSTR 38, 2500 BIEL-BIENNE
SWITZ TWX 34397 ....032 3 10 31
A SCHMID EMP 120 ENG 10
Den IE Industrial Electronic 23-25 Rosenvaengets
Copenhagen
Fr Inter Composants 96, rue Championnet Paris 18e
Ger Omni Ray GmbH Nymphenburgerstr 164
8 Munchen 19
GB W Greenwood (London) Ltd 21 Germain St
Chesham, Bucks
Neth Nijkerk's Handelsonderneming Drentestr 7
Amsterdam 6
Nor Rieck & Co A/S Industrihuset A 7 Bergen
Swed Bo Palmblad AB Hornsgatan 58 Stockholm
Swit Omni Ray A G Dufourstr 56 Zurich 8
Isrl Messrs Talviton Ben Yeyuda Rd 43 Tel Aviv

CONTEMPORARY ELECTRONICS INC 4838 W 35TH ST
MINNEAPOLIS MINN 55416 ....612 920-6444
R VEGEMAST EMP 315 ENG 9 $2,500-$5,000M
ADV PGS 446,667
Cal Halbar Assoc 1805 W 3rd St Los Angeles ...387-8283
Md Eastern Components 6200 Annapolis Rd
Landover Hills 322-1412
Mass Hatch Assoc 19 Kearney Rd
Needham Heights 444-3310
NJ A & B Electronics Co Box 305 Fair Lawn ...797-5356
NY A & B Electronics Co 891 Fulton St
Valley Stream 825-8955
Pa Eastern Components 1349 Cheltenham Ave
Philadelphia....................927-6262
Can Gerry McKee Enterprises, Ltd
3300 Cavendish Blvd Montreal 482-1810
Isrl Elina Ltd 7 Harishonim St B 1020 Tel Aviv

CONTINENTAL CONNECTOR CORP 34-63 56TH ST
WOODSIDE N Y 11377
TWX 212 672-3709 ....212 TW 9-4422
P MALECKA EMP 600 ENG 10 OVER $10,000M
Cal Continental Connector Corp 4054 W Beverly Blvd
Los Angeles 381-2285
Ill B Higgins 9420 W Foster Ave Chicago 992-0886
Ind Chet Given 921 E 3rd St Mishawaka ......BL 5-1614
Mass Murray M Ross 678 VFW Pkwy Roxbury ...469-0674
NJ Mid-Eastern Assoc 1759 Country Club Dr
Cherry Hill 428-7977
Wis W Thompson 2040 W Wisconsin Ave
Milwaukee ....DI 4-2727

CONTINENTAL DEVICE CORP 12515 CHADRON AVE
HAWTHORNE CAL 90250
TWX 910 325-6217 ....213 772-4551
B MCCARTHY EMP 1000 ENG 150
OVER $10,000M
Alas Young & Lawrence Assoc 2907 Governors Dr SW
Huntsville 539-6575
Ariz Dorton Enterprises 132 East Stetson Dr
Scottsdale 946-6213
Cal Continental Device Corp 800 San Antonio Rd
Palo Alto 321-4681
Colo CFL Co 1391 S Inca St Denver 777-4381
Fla Continental Device Corp 124 East Morse Blvd
Winter Park 647-7813
Ill Continental Device Corp 6600 N Mannheim Rd
Des Plaines 299-6196
Kan Thunderbird Sales 7707 E Osie Wichita 684-3941
La J F McKinney Sales 2012 Condon Ave
Metairie....................887-1723
Md Continental Device Corp 1524 York Rd
Lutherville 825-1920
Mass Continental Device Corp 31 Sudbury St
Concord....................369-7233
Mich Elko Sales 3119 Midland Dr, S E
Grand Rapids 949-1451
Minn R J Sales Box 6172 Minneapolis..........922-1425
Mo Thunderbird Sales 400 Brooks Dr
Hazelwood 731-4343
NJ Continental Device Corp 115 Bloomfield Ave
Caldwell....................228-3422
NY Bowser & Sapecky 4317 E Genesee St
Dewitt 446-5920
Ohio Continental Device Corp 3481 Office Park Dr
Dayton....................298-7207
Okla J F McKinney Sales Box 3958 Tulsa 742-4595
Pa Danco Corp Fairview Village.............275-2600
Tex Continental Device Corp 6115 Denton Dr
Dallas 357-0259
Va Bugin-Kreh 2600 Memorial Ave Lynchburg ..845-5600
Wash Western Technical Sales 10843 NE 8th St
Bellevue....................454-3906
Can Samuel C Hooker (Can) Ltd 144 Ronald Dr
Montreal W Que 514-488-9114
Can Samuel C Hooker Can Ltd 2602 St Clair Ave W
Toronto Ont 416-767-7725
For Flan Assoc 6 Gertrudis St Santurce, P R....725-0759

CONTINENTAL ELECTRONICS CORP
302 MCGUINNESS BLVD BROOKLYN
N Y 11222 ....212 383-3331
A SYLVANE EMP 15 ENG 3

CONTINENTAL ELECTRONICS MFG CO SUB LTV
ELECTROSYSTEMS INC BOX 17040 DALLAS
TEX 75217 TWX 214-899-8694.........214 381-7161
T MOSELEY EMP 700 ENG 175 OVER $10,000M
DC F Strailman 1155 15th St NW
Washington....................202 659-2020
NY Arthur Rocke 750 Third Ave New York .212 986-2244
For Milton L Hinshaw Corniche Chouran Beirut ...252-030
Fr Robert A Fissette 15 Rue De Remusat
Paris ....AUT 90-95
Ital Giuseppe Moneti Via Porta Pinciana 34 Rome .483-505

CONTINENTAL INSTRUMENTS CORP
3327 ROYAL AVE OCEANSIDE
NY 11572 ....516 593-2266
J WEINRICH
Cal Sargent & Greenleaf 810 E 18th St
Los Angeles 750-1088
DC Sargent & Greenleaf 1800 Nichols Ave SE
Wash....................333-7611
NY Sargent & Greenleaf 24 Seneca Ave
Rochester 467-3200
Can Automatic Sprinkler Co Ltd
7000 Jeanne Mance St Montreal 276-3641

CONTINENTAL LEASING CO INC 30 PARK AVE
ARLINGTON MASS 02175 ....617 648-8620
F NERI EMP 45 ENG 5 $2,500-$5,000M
Ala Technical Assoc Inc Box 4088
Huntsville 205 881-8494
Cal Continental Rentals 2201 Carmelina Ave
Los Angeles 213-477-7521
Conn Instrument Assoc 234 Murphy Rd
Hartford 203 525-9367
Fla Technical Assoc 2319 E South St
Orlando 305 424-5681
Ill Continental Leasing Co 2200 E Devon Ave
Des Plaines....................312-297-4330
Md Continental Leasing Co 12316B Wilkins Ave
Rockville 301 933-0111
NJ Continental Leasing Co 70 Liberty St
Metuchen 201-549-8500
Ohio Continental Rentals 6500 Pearl Rd
Parma Heights 216-884-2001
SC Technical Assoc Box 5583 Spartanburg .803 585-3864
Tex Continental Rentals 7015 Gulf Frwy
Houston 713-644-1523
Wash Arva Inc 1320 Prospect St Seattle 206-622-0177

CONTINENTAL SCREW CO
459 MT PLEASANT ST, DEPT JA NEW BEDFORD
MASS 02742 TWX 710-334-0556 ......617 993-2621
J BOWERS EMP 650 ENG 15 $5,000-$10,000M
Ariz ANP Sales Co Box 15058 Phoenix 602-948-6195

Cal John Clark 1825 Salem Court Claremont 714 624-7057
Colo Larry Whetstone 1036 S Monroe St Denver 303-757-0458
Ill C W Hynes 8210 S Dante Ave Chicago ..312 375-4872
Ind Wm J Felts 3726 E Woodcliff Dr Indpls 317-786-3830
Iowa Rollie L Johnson Co 4001 39th Pl Des Moines 515 279-6433
Mich Continental Screw Co 23875 Northwestern Hwy Southfield 313-444-4207
Minn C R Massie 1049 Baldwin Cir Rosemount 612-432-4280
Mo R G Schroeder 11842 Branbridge Rd Florissant 314 652-3063
NJ Joseph Flynn 2657 Finlaw Ave Pennsauken 609 662-8735
NY J R Relyea 214 Riverine Rd Liverpool ...315-652-5805
Ohio Thomas G McMillan 1030 W Garbry Rd Piqua
Pa Allegheny Sales Co 1340 Hillcroft La York 412-681-4252
RI Joseph McIntyre 36 Pequot Trail E Greenwich 401 884-9539
Tenn J R Richards Co Box 8335 Chattanooga 615 892-8405
Tex Ragland-Houx & Co Box 38067 Dallas .214-321-2174
Utah L H Nelson 1401 E Claybourne St Salt Lake City 801-485-3600
Wash W J Brink Box 15261 Wedgewood Sta Seattle 206-682-8799

CONTINENTAL SEMICONDUCTOR 59 CENTRAL AVE
E FARMINGDALE N Y 11735
TWX 510-224-6444 516-694-3404
I ROSS EMP 60 ENG 2 $5,000-$10,000M

CONTINENTAL TESTING LABS 763 US HWY 17-92
FERN PARK FLA 32730 305-831-2700
G ABELY EMP 80 ENG 15 $500-$1,000M

CONTINENTAL WIRE & CABLE BOX 1863 YORK
PA 17405 ....717 792-2644
H GOODWIN EMP 168 ENG 6 $5,000-$10,000M
Cal Irwin & Co 1041 E Macy St Los Angeles 222-0155
Conn Russel V Meyer Box 4212 Hamden 288-9081
Ga Roach & Petrolina 713 Healey Bldg Atlanta 404 525-2959
Ill Snyder Sales Co 102 S Washington St Hinsdale 323-9191
Ind Klye Herder & Son 5653 E 62nd Pl Indianapolis 255-2523
La Al Levin & Assoc Box 52075 New Orleans ...524-8489
Md J Donald Amelia Box 6759 Towson 823-1044
Mich Robt M Gardner Co 26940 Lyndon St Detroit 531-1658
Minn D Schwab 6519 Nicollet Ave Mnpls 866-4888
Mo H & R Sales & Engr Co 3942 West Pine St Louis 652-5540
NJ Barclay More 8 Hancock Dr Florham Park ..377-3228
NY Mills, Talbot & Co Box 9833 Rochester 244-1311
NC C R Taylor Co Box 2196 Greensboro 299-9021
Ohio Stanley E Wallar 3521 Harvard Blvd Dayton 275-4151
Pa Chapman Co 819 Vine St Phila ....MA 7-5295
Tex Brenner Elect Sales 305 Velasco St Houston ....CA 5-0776
Wash Muth-Richards Co 1804 S Blush Pl Seattle .323-2127
WVa H E Ransford Co 1872 Louden Hts Rd Charleston 342-3203
Wis Fritz Meyer Co 724 E Mason St Milwaukee .272-3422

CONTINENTAL-WIRT ELECTRONICS CORP
26 W QUEEN LN PHILADELPHIA PA 19144
TWX 710-670-1230 ....215 VI 8-7700
H COHEN EMP 500 ENG 15
Cal Lebell Warren & Hickey 601 Old County Rd San Carlos 593-7688
Colo Gordon Moss Electronics Box J Greeley 353-1452
Conn D Haskell AM Ailene Dr Madison 245-1031
Fla Geartner Assocs Inc 350 Lincoln Road Miami Beach 531-0200
Ill G McL Cole Co 6514 W Higgins Rd Chicago ..774-3535
Ind Southern Sales Co 105 Lakeshore Dr Angola 665-2109
Ky Southern Sales Co 212 Republic Bldg Louisville 583-6902
Mass A & M Electronic Reps Inc 1492 Highland Ave Needham 444-8170
Mich Don Poulin Co 17222 E Warren Detroit 886-4990
Minn Ed Melius & Assoc 3758 N Dunlap St St Paul 488-7293
Mo Hill & Co 915 Buder Bldg St Louis 621-1818
NJ A Wetterhahn Co 201 W Cuthbert Blvd Oaklyn 627-1535
NM Lee Davis Co 1415 Richmond Dr, NE Albuquerque 256-1749
NY F Edwin Schmitt Co 311 Meacham Ave Elmont 437-8150
Ohio George L Herrick Co 845 Canterbury Rd Westlake 871-8855
Ore Van Voorhees Assoc Box 4383 Portland 287-6633
Pa T F Laslo & Assoc 411 Manor Rd Delmont ..468-5045
Tex Stasco 13310 Spring Grove Ave Dallas 239-5054
Va F B D Sales Corp 1806 Leslie Dr Chesapeake 484-3162
Can C A Pipe Assoc 65 Waterford Dr Weston Ont 249-1766
For Roburn Agencies 431 Greenwich St New York, NY 966-2130

CONTINENTAL X-RAY CORP 1536 N CLYBOURN
CHICAGO ILL 60610 ....312 642-3711
L FARNE EMP 75 ENG 10 $2,500-$5,000M

CONTROL CIRCUITS INC 66 TUTTLE ST
MIDDLETOWN CONN 06457
TWX 710-428-9435 ....203 347-7223
P HOOPER EMP 40 ENG 7 $500-$1,000M
Cal Cardinal Assoc 16024 Ventura Blvd Encino 213-788-4540

Fla Spartak Inc Box 915 Winter Park 644-3023
NY Charles B Hopkins Co Box 192 Massapequa 516-796-0066
Pa Automated Equip & Engrg Inc 648 Center Ave Pittsburgh 412 931-7616

CONTROL DATA CORP. BOSTON SP & DEF SYS DIV
400 BORDER ST EAST BOSTON MASS 02128
TWX 710-329-6639 617-569-2110
W JOHNSON EMP 450 ENG 10
ADV PG 372
Ala Gentry Assoc 2109 W Clinton Ave Huntsville 205-534-9771
Ariz Hyer Assoc 3300 S Mill Rd Tempe 602-275-7524
Cal Windsor Dynamics Inc Box 5500 Sherman Oaks 213-ST9-2421
Cal Windsor Dynamics Inc 195 Greer Rd Woodside 415-851-0417
Colo Hyer Assoc 8101 E Prentice Ave Englewood 303-771-5285
Fla Gentry Assoc 550 N Bumby Ave Orlando 305-841-7740
Ga Gentry Assoc Box 13513 Sta K Atlanta 404-233-3816
Ill Loren F Green & Assoc 5218 W Diversey Ave Chicago 312-286-6824
Iowa Engineering Serv Co 1026 Third Ave SE Cedar Rapids 319-366-1591
Kan Engineering Serv Co 7924 A State Line Prairie Vill 913-649-4000
Md Control Data Corp 11428 Rockville Pike Rockville 301-949-8800
Mich Tiby Co 380 Hilton Rd Ferndale 313-547-3550
Minn Loren F Green & Assoc 6225 University Ave N E Mnpls 612-781-1611
Mo Engineering Serv Co 6717 Vernon Ave St Louis 314-726-2233
NM Hyer Assoc 130 Alvarado Dr Albuq 505-989-1679
NY CDB Enterprises Inc 675 W Jericho Tpk Huntington 516-692-5200
NC Gentry Assoc 116 E O Neill Ave Burlington 919-227-2581
Ohio Tiby Co 2245 Warrensville Ctr Rd Cleveland 216-371-5335
Ohio Tiby Co 1960 N Main St Dayton 513-277-3822
Tex Vidal Electronics Co 3403 High Bluff Dr Dallas 214-241-4491
Utah Hyer Assoc 1425 S 2nd W Salt Lake City 801-487-7747
Wash Associated Industries 3711 S Hudson St Seattle 206-723-5600
Can Microwave Specialty Co 8490 Lafrenaie St Montreal 514-324-1780
Den Tage Olsen A/S 1 Ronnegade 2100 Copenhagen 29-48-00
Fr Radio Equipments 9 Rue Ernest Conacq 92 Levallois-Perret 737-54-80
Ger Nucletron Vertriebs-Gmbh 60 Gartnerstr 8 Munich 54 54-6081
GB Lyons Instruments Ltd Valley Wks Ware Rd Hoddesdon Herts 67161
Neth Air Parts Intl Nv 149 Haagweg Rijswijk 98-93-92
Ital Mario Vianello L Anelli 13 20122 Milan 553-081
Jap Seki & Co 92-Chome Nihonbashi Koamicho Chuo-Ku Tokyo 669-4121
Nor Scancopter A/S Drammernsvn 30 Oslo 467317
Swed Nanoteknik AB Box 3045 Taby 3 7586570
Swit Omni Ray Ag Dufourstr 56 Zurich 34-44-30
Belg Ets M Ponjaert 93 Ave Coghen Brussels 43-0695
Gr Kostas Karayannis 18 Ermou St Athens 126 .230-303
Ind B N Bose & Co 8 Waterloo St Calcutta 23-4213
Isrl Electronics & Engineering Div of Motor 16 Kremenetsky St Tel Aviv 35021
NZ Sample Electronics NZ Ltd 8 Matipo St Onehunga S E 5 Auckland 565-361
Aust Sample Electr Pty Ltd 100 Chandos St Crows Nest Nsw 439-1441

CONTROL DATA CORP, MAGNETIC PRODS OPER
775 COLORADO AVE S MINNEAPOLIS
MINN 55416
W NEES EMP 150 ENG 15 $1,000-$2,500M
Cal Held & Mollard Inc 1494 Oddstad Dr Redwood City 369-4871
Colo A-G Electronics 5417 S Oneida Way Englewood 771-1473
Conn Alvin S Mancib Co Randolph & Coe Rds Middletown 347-5629
Fla Scott & Assoc, Inc 1010 Executive Ctr Dr Orlando 841-4840
Ga Electro-Tech Inc 3020 Commerce Way Hapeville 767-8761
Ill Berndt Assoc, Inc 6414 W Belmont Ave Chicago 283-0713
Kan Impala Inc 6917 W 76th St Overland Park ..648-6901
Md Thomas H Closs Co 21 W Penna Ave Towson .825-4445
Mass Alvin S Mancib Co Middlesex Tpk & A St Burlington 272-9450
Mich The Satullo Co 4514 N Woodward Royal Oak 566-2375
Mo Impala Inc 47 Village Sq Shop Cen Hazelwood 522-1600
NM Electronic Enterprises 1900 Washington St NE Albuqu 256-1585
NY Cane Technical Sales, Inc 555 E Boston Post Rd Mamaroneck 698-4411
NC Electro-Tech Inc 3107 Cullman Ave Charlotte 333-0326
Ohio Pioneer-Standard Electronics 5403 Prospect Ave Cleveland 432-0010
Pa Acromatix Assoc, Inc 3118 Germantown Pike Fairview Village 279-0377
Pa W Reeves 2973 N Providence Rd Media 566-6709
Tex Ev Smith Sales Co 7007 Gulf Frwy Houston .649-5756
Wash Eicher-Richards Co 2727 N E Blakeley St Seattle 523-7888

CONTROL DATA CORP MELVILLE SPACE & DEF
SYS DIV 535 BROAD HOLLOW RD MELVILLE
N Y 11746 TWX 510-224-6438 516-531-0600
J MASON EMP 400 ENG 160
Ala Gentry Assoc 2109 W Clinton St Huntsville ..536-5306
Ariz Hyer Electronics 301 W Indian School Rd Phoenix 264-0291
Cal Tekmar Instr Inc 879 W 16th St Newport Beach 540-4435
Colo Hyer Electronics 7895 E Prentince Ave Englewood 771-5285
Fla Gentry Assoc 550 N Bumby Ave Orlando 841-7740
Ga Gentry Assoc Box 13513 Sta K Atlanta 841-7740
Ill Brooks Engrg 227 E Walton Pl Chicago 944-1227
Md Cain & Co Inc 7515 Annapolis Rd Hyattsville .459-6400
Mass Micronic Assoc Box 162-46 Lake Rd Cochituate 653-8229
NM Hyer Electronics 130 Alvarado Dr N E Albuquerque 265-5767
NY Industron Assoc 300 Northern Blvd Great Neck HU7-2620
Pa Scientific Pittsburgh 90 Clairton Ave Pittsburgh 665-2800
Wis Brooks Engrg Box 60 Stillwater Minn 439-7222
Can Electronetic Systems Ltd 62 Alness St Downview Ont 636-3673
Can Electronetic Systems Ltd 6421 Victoria Ave Montreal 26 Que 737-2744
For B Freudenberg & Co 50 Rockefeller Pl New York N Y
Jap Seki & Co Ltd 9 2-Chrome Nihonbashi Tokyo
Ind Toshinwal Bros Ltd 3 E/8 Jhandewalan Ext New Delhi
Fin Oy Christian Nissen AB Bulevardi 7 Helsinki
Aust Sample Electns (NSW) Pty Ltd 82 Alexander St Crows Nest NSW

CONTROL DATA CORP, ROCHESTER DIV
1480 N ROCHESTER RD ROCHESTER
MICH 48063 ....313 651-8811
H CRAIG
Cal R J Beese 8616 La Tigera Blvd Los Angeles .666-5000
Md J W Johnson 176 Riverside Ave Red Bank ...842-5555
Minn A S Dowd 7801 Computer Ave Minneapolis ..927-5411

CONTROL ELECTRONICS CO INC 153 FLORIDA ST
FARMINGDALE N Y 11735 ....516 694-0125
H GOLDSTEIN EMP 55 ENG 5 $500-$1,000M
Cal R T Assoc 155-43 Royal Ridge Rd Sherman Oaks 213 535-2363
Ill PGM Component Sales, Inc 5642 W Diversey Ave Chicago 622-8183
Md VPI 13001 Mistletoe Rd Laurel 301-792-7631
Mass J Gallagher Box 343 West Medway 617 533-7292
NJ Vince Pirro 44 Fresh Pond Rd E Brunswick ..821-8977
NY Nycom Inc 2002 Teall Ave Syracuse ...315 437-8343
Tex Texas Avionics Co 4515 Prentice St Dallas .EM 8-3566
Wash J J Backer Co 221 W Galer St Seattle ....AT 3-6470
Can Cantronics Ltd Box 296 Downsview, Ont 636-8331
For EMEC Inc 55 E Country Rd Hicksville N Y ....516 WE 1-3700

CONTROL ENGINEERING DIV J B WEBB CO
9000 ALPINE AVE DETROIT
MICH 48204 ....313 933-8010
M BLEMLY EMP 500 ENG 100 OVER $10,000M
Cal J B Webb Co of Cal 9301 Rayo Ave S Gate .LO 4-1821
Ga J B Webb Co of Ga Box 2866, Sta D Atlanta ....TR 5-8606
Ill J B Webb Co 6525 W North Av Oak Park ...848-5985
Md J B Webb Co 602 E Joppa Rd Towson 825-4063
Mass J B Webb Co 155 King St Rt 3A Cohassett ..383-9400
Mich J B Webb Co 11528 S Saginaw Rd Grand Blanc ....OW 4-4173
Minn J B Webb Co 14703 Richards Dr Hopkins ..WE 5-5874
NJ J B Webb Co 10 Stuyvesant Av Lyndhurst ..933-7474
NY J B Webb Co 1660 Kenmore Buffalo 875-7900
NC J B Webb Co Box 3152 Charlotte 377-1609
Ohio J B Webb Co 22649 Lorain Rd Fairview Park 734-3792
Pa J B Webb Co 111 N Lansdowne Av Lansdowne 623-7789
Tenn J B Webb Co 3387 Plaza Av Memphis 327-8911
Can Control Engineering Div 4470 S Service Rt Burlington, Ont 637-5695

CONTROL EQUIPMENT CORP 32 KEARNEY RD
NEEDHAM HEIGHTS MASS 02194 ....617 444-7550
H ADAMS EMP 20 ENG 5
Ala J L Highsmith & Co 3322 S Memorial Pkwy Huntsville 881-3294
Cal Westec Co Box 875 Garden Grove 636-2930
Colo Applied Engrg Products Co 1850 S Columbine Denver 733-2649
Fla J L Highsmith & Co 2543 Industrial Blvd Orlando 293-5202
Ill Scientific Sales Corp 7132 N Harlem Ave Chicago 775-7594
Ind Scientific Sales Corp 555 N Tacoma Ave Indianapolis 253-4606
Md Tek Rep, Inc 12000 Old Georgetown Rd Rockville 762-7777
Minn Scientific Sales Corp 5100 Edina Ind Blvd Minneapolis 941-2215
NY Salsbury Assoc 331 W John St Hicksville ...938-1080
NC J L Highsmith & Co 3733 Monroe Rd Charlotte 333-7743
Ohio Data-Tron 7016 Euclid Ave Cleveland 391-8421
Pa Rivco 580 Shoemaker Rd King of Prussia
Utah Applied Eng Prods Co 6375 Imigration Canyon Salt Lake City 364-4942
Va J L Highsmith & Co 5003 Brook Rd Richmond 266-2060

CONTROLLED ENVIRONMENT EQUIPMENT CORP
160 PLEASANT ST BROCKTON
MASS 02401 617-558-6177
R PECK EMP 20 ENG 2 $500-$1,000M

CONTROLLED POWER CORP
FARMINGTON FRWY IND PK FARMINGTON
MICH 48024 313-477-8000
E CAMPBELL EMP 40 ENG 6 $1,000-$2,500M

CONTROL LOGIC INC 3 STRATHMORE RD NATICK
MASS 01760 TWX 710-386-6677 ...... 617 655-1170
P NATHAN EMP 100 ENG 25
Ala Roy Attaway Co 900 Bob Wallace Ave
Huntsville 534-2811
Cal Wieler & Co 10842 S Paramount Blvd
Downey 861-9223
DC Sonco 4720 Montgomery La Washington ... 654-5226
Fla Roy Attaway Co 57 E Robinson St Orlando .. 424-9983
Ill Bard Assoc La Grange Ind Park La Grange .. 354-0660
Mass Instrument Reps Inc 1046 Massachusetts Ave
Arlington 617 646-1034
Mich R O Whitesell & Assoc 25100 Evergreen Rd
Southfield 313-358-2020
Minn Bard Assoc 4640 W 77th St Minneapolis ... 922-8233
NJ Sonco Crystal Brook Prof Bldg Eatontown .. 542-1441
NM Electronic Marketing Inc 13400 Central Ave
Albuquerque 505-296-5514
NY HAF Assoc 35 Broadfield Rd New Rochelle .. 632-3800
NY Bob Dean Inc 714 W Clinton St Ithaca . 607 272-2187
Ohio R O Whitesell & Assoc 4133 S Dixie Ave
Dayton 513-298-9546
Pa Sonco 107 Town Ctr Rd King of Prussia 265-3250
SC Radco Co 614 Nissen Bldg Winston Salem ... 722-9671
Tex Arnold Barnes Co 740 S Sherman St
Houston 214 235-4541

CONTROLOMAG LABS 2459 SUSQUEHANNA
ROSLYN PA 19001 .... 215 884-8098
R PATTERSON EMP 18 ENG 2 UP TO $100M

CONTROLOTRON CORP 35 CENTRAL AVE
FARMINGDALE N Y 11735 .... 516 CH 9-4400
J SEGALL EMP 45 ENG 7 $500-$1,000M
Cal D Dufford 12230 Viewcrest La
Studio City .... 213 PO 6-4890
NJ E C Smith & Assoc 797 Springfield Ave Summit
Ohio Rep/Corp 2077 Embury Park Rd
Dayton 513 278-5885
Tex Edmar Technical Sales Box 818 Hurst . 817-BU 2-5561
Wash Jon B Jolly 413 Maritime Bldg Seattle . 206 624-2152

CONTROL PRODUCTS CORP 4431 W DIVISION ST
CHICAGO ILL 60651 .... 312 BE 5-1131
H HART EMP 60 ENG 6 $1,000-$2,500M
Ala Roy Steckmesser Assoc Box 4006
Huntsville 205 881-1750
Cal B J Wolfe 10760 Burbank Blvd
N Hollywood 213-877-5518
Fla Roy Steckmasser Assoc 3039 Saratoga Dr
Orlando 305 425-4788
Ill Olson Engrg & Sales 1921 N Harlem Ave
Chicago 622-9777
Ind Delta Sales Inc 1407 N Illinois St
Indianapolis 317 631-4136
Minn Olson Engrg & Sales 6121 Excelsior Blvd
Mnpls 612-921-1833
Ohio Van-Hala Industrial Co 14812 Detroit Ave
Cleveland 216 521-6283
Pa Bidler Energies Inc 600 Market St
McKeesport 412 678-6194

CONTROL PRODUCTS INC 280 RIDGEDALE AVE
EAST HANOVER N J 07936 .... 201 887-9400
J NILE EMP 30 ENG 5 $500-$1,000M
Cal A-F Sales Engrg Inc 94 S Los Robles Ave
Pasadena 213-681-5631
Ill Bruce Cumming & Assoc 6029 W Belmont Ave
Chicago 312-725-8110
Mass Naton Assoc 20 Strawberry Hill Rd
Natick 617-235-1966
Mich J L Montgomery Co 24001 Southfield Rd
Southfield 313-358-2616
Minn Wenco Sales Inc 7728 Morgan Ave S
Minneapolis 866-3639
NJ Edwin B Hinck 139 Union St
Upper Montclair 201-PI 6-2625
Ohio R F Hardy 45 W Peach Orchard Rd
Dayton 513-293-5172
Tex Hillman Enterprises 3505 Turtle Creek Blvd
Dallas 214-521-9907
Wash Thorson Company 1767 15th Ave S
Seattle 206 325-5000
Wis Bruce Cumming & Assoc 5537 N Argyle Ave
Milwaukee 414-372-7650
Can Thermo Electric (Canada) Ltd Box 10
Brampton, Ont 416-451-0813

CONTROL SCIENCE CORP 4810 BEAUREGARD ST
ALEXANDRIA VA 22312 .... 703 354-1500
R POWELL EMP 80 ENG 20 $1,000-$2,500M

CONTROL SWITCH DIV CONTROLS CO OF AMERICA
1420 DELMAR DR FOLCROFT PA 19032
TWX 510-669-2136 .... 215 LU 67500
S PORCELLI EMP 500 ENG 42 $5,000-$10,000M
Ariz Vinson Assoc 44 E Indian School Rd
Scottsdale 947-7371
Cal R L Assoc 14547 Titus St Panorama City ... 782-7826
Colo Vinson Assoc 3600 S Lincoln Englewood 789-2203
Fla Buchanan & Abrams Assoc 1512 E Concord Ave
Orlando .... GA 3-8995
Ga Buchanan & Abrams Assoc
254 E Paces Ferry Rd NE Atlanta 874-6854
Ill Carlson Electronic Sales Co 7448 N Harlem Ave
Chicago .... SP 4-0277
Kan Thunderbird Eng Sales & Serv 4014A W 95th St
Prairie Village .... NI 2-7220
Md Arnold Assoc Inc 4633 Harcourt Rd
Baltimore 828-7666
Mass Wm Watson 150 Eaton Rd Framingham 872-3600
Mich A K Davis Co 37500 Carson Rd Farmington . 474-8300
Minn Bonament Heyda 6101 Auto Club Rd
Minneapolis .... TU 1-9166
Mo Thunderbird Eng Sales & Serv
47 Village Sq Shop Ctr Hazelwood ...... TE 8-6688
NM Vinson Assoc Box 3295, Sta D Albuquerque . 298-7442
NY I A Hotze Co 112 Dewitt St Syracuse ..... GR 9-6641
NC Electro-Rep Assoc Inc 128 W 30th St
Charlotte 333-0451
Ohio Jay Engineering Co 1721 E 3rd St Dayton .. 253-2151
Pa Arnold Assoc Inc 528 Ryers Ave Cheltenham . PI 2-0600
Tenn Buchanan & Abrams Assoc Inc
254 E Paces Ferry Rd Atlanta, Ga 874-6854
Tex Thunderbird Eng Sales & Serv 5526 Dyer St
Dallas .... EM 8-3064
Utah Vinson Assoc Box 865 Salt Lake City ..... EL 5-4164
Wash Fred Macdonald 1622 100th Ave NE
Bellevue .... GL 4-4823
Can Brian Engineering Ltd 2445 Duncan Rd
Montreal, Que 735-1671
Can Brian Engineering Ltd 2773 Dufferin St
Toronto, Ont .... RU 7-5441
Swit Controls AG Postfach 48 Zug 44455

CONTROL SYSTEMS RESEARCH INC 1811 MAIN ST
PITTSBURGH PA 15215 412-781-1887
N ANTONUCCIO EMP 18 ENG 6 $250-$500M
Fla Orbe Inc 4110 Central Ave St Peterson . 810-894-0687
Ill Bard Assoc Lagrange Ind Park
Lagrange 312-354-0660
Ind Bard Assoc 4000 Meadows Dr Indpls .. 317-547-3113
Mass Burlingame Assoc 7 Wellington St
Waltham 617-894-1955
Mich Technitron Instr 13657 Grand River Ave
Detroit 313-838-7324
Minn Bard Assoc 4640 W 77th St Mnpls 617-922-8233
NY Burlingame Assoc 510 S Fulton Ave
Mt Vernon 914-664-7530
Ohio Technitron Instruments 1250 W Dorothy La
Dayton 513-298-9964
Pa Burlingame Assoc 1 Belmont Ave
Bala Cynmyd 215-835-2080
Va Dyna Rep Tech Services 5070 Lee Hwy
Arlington 703-536-5088
Can Electro Design Ltd 9124 St Lawrence Blvd
Montreal 514-389-5914

CONTROL TECHNOLOGY CO INC 41-16 29TH ST
LONG ISLAND CITY N Y 11101 .... 212 EM 12133
H COOPER EMP 38 ENG 5 $500-$1,000M
Ariz Mercury Engineering Sales Box 3130
Scottsdale 945-1927
Cal Blaine Line Corp 14547 Titus St Van Nuys . ST 2-6303
Mass Adcour Engrg Reps 1 Summer St
Sharon 617-784-3996
NY Ellis-Haber Corp 2315 Broadway New York . 799-4040

CONVERSION CHEMICAL CORP 210 E MAIN ST
ROCKVILLE CONN 06066
TWX 710-435-2336 .... 203 872-0541
K BELLINGER EMP 42 ENG 6 $1,000-$2,500M
Ala Research Prods Inc 408 S Royal St
Mobile 205 432-3413
Ariz W Ehrlinger 11825 Balboa Dr Sun City . 602 933-4315
Cal R S DeSimone 2811 235th St
Torrance 213-534-4499
Conn A Morey 41 Barton St W Hartford 203 232-6726
Conn W Lindsay Box 613 Orange 203 799-2740
Fla J V Demarest 516 W Penna Ave Deland . 904 734-0883
Ill W C Blatherwick 35 W Harding Rd
Lombard 312 627-3180
Ill W Krone 439 S Kensington Ave
La Grange 312-354-7133
Ind J Anoskey 100 Patterson St Franklin .. 317 736-5968
Mich L Calicotte 1020 Burr Oak St Albion ... 517 629-3502
Mo R Blanchard 615 Charvel Dr Florissant . 314 839-1385
NC B G Deal Kenmore Ave, Rte 8
Statesville 704 872-3256
Ohio E P Agnew RR 1 Box 84 Rawson 419-963-2368
Ohio G Reuter 534 Janet Dr Canfield 216 533-4690
Can B Calver 21 Gulliver Rd Toronto Ont ... 416-249-4158
Can R W Niggemann 999 College St
Montreal, Que 514 937-4637
For Quin SC Munoz 399 Ciudadela Buenos Aires . 653-5293
Ger K Lindemann Birkenstr 13 Geinheim 6081 .. 06147 307
GB Silvercrown Ltd 660 Ajax Ave, Trading Est
Slough, Bucks .... Slough 28282
Swed Aktiebolaget Kafab Kungsholmsgatan 159
Stockholm 30 52-01-70
Braz K Hegedus Rua Alfredo Pujol 1586
Sao Paulo 298-5791
Aust Kenvert Australia 58 Kolora Rd W Heidelberg Vic

COOKE ENGINEERING CO 735 N ST ASAPH ST
ALEXANDRIA VA 22314 202-548-3889
F RILEY EMP 106 ENG 47 $1,000-$2,500M

COOKE VACUUM PRODUCTS INC 13 MERRITT ST
SOUTH NORWALK CONN 06854 .... 203 853-9500
J SANTUCCI EMP 30 ENG 4 $500-$1,000M
Cal Loren Patrick Assoc 2333 N Lake Ave
Altadena .... SY 7-4511
DC Scientific Systems Sales 7705 Georgia Ave NW
Washington 726-4161
Ill Byron Ellis Assoc 6242 N Kenmore Chicago . 262-2038
NY Scientific System Sales 376 Great Neck Rd
Great Neck 466-0053
Ohio D Spicer 23651 Delmere Dr N Olmsted 777-1855
Pa B Dugger 412 E Spring Ave Ardmore ..... MI 9-0889

COOK ELECTRIC CO AUTOMATIC CONTROLS DIV
200 E DANIELS RD PALATINE
ILL 60067 312-359-2100
T RIEGER EMP 120 ENG 5 $2,500-$5,000M
Ala Ridge Instru Co Inc 7220 Governors Dr W
Huntsville 205 837-3211
Ariz Robbins & Assoc 700 Poplar St Denver . 303-399-6618
Cal Celtel Co Box 11325 San Diego
Cal Frauman Assoc Box 969 Menlo Park .. 415-322-8461
Cal Don Weaver & Assoc 4350 W Broadway
Hawthorne 213-679-3355
Colo Robbins & Assoc 700 Poplar St Denver . 303-399-6618
Fla Ridge Instru Co 2227 N Seely Dr
Orlando 305 293-4711
Ga Ridge Instru Co 3094 McCulley Dr NE
Atlanta 404 939-1554
Ill Rinaldi Inc 6319 N Central Chicago 312-763-4848
Iowa Engineering Services Co 1026 3rd Ave SE
Cedar Rapids 319 366-1591
Kan Engineering Services Co 7924A State Line
Prairie Village 913 649-4000
La Ross & Pethtel Inc 3170 Florida Blvd
Baton Rouge 504 348-7206
Md Milan Assoc, Inc 7215 York Rd
Baltimore 301-825-1120
Mass Naton-Neenan Assoc 20 Strawberry Hill Rd
Natick 617-235-1966
Minn Jos-Co Sales Engrg 6621 Southcrest Dr
Minneapolis 612 927-5858
Mo Engineering Services Co 6717 Vernon Ave
St Louis 314 726-2233
NY H C Johnson Agencies, Inc 111 Mount Hope Ave
Rochester 716-232-2688
NY H C Johnson Agencies, Inc Box 315
Williamsville 716-632-7880
NY H C Johnson Agencies, Inc Box 215
Fayetteville 315-637-9383
NY H C Johnson Agencies, Inc Box 86
Schenectady 518-882-9303
Ohio Del Steffen & Assoc 1261 Hempstead Rd
Dayton 513-293-3145
Ohio Del Steffen & Assoc 904 E 222nd St
Cleveland 216-261-5055
Pa Colrwd Co 601 Ardmore Ave
Pitman NJ 609-589-5866
Tenn Ridge Instru Co 140 E Division Rd
Oak Ridge 615 483-1311
Tex T M Curtis Co 5635 Yale Blvd Dallas 361-1666
Wis Star Engr Sales Co 7328 W Burdick Ave
Milwaukee 414-543-3469
Can Robot-Control Co 230 Trafalgar Rd
Oakville Ont 416-845-8947

COOK CO, KEN 9929 W SILVER SPRING RD
MILWAUKEE WIS 53225 TWX 2-6825 .. 414 466-6060
D DOUBEK EMP 175 ENG 2 $2,500-$5,000M
Cal Education Tech Inc 1535 Pine St
San Francisco 415-771-2646
DC Martin Friedman Assoc 7 Heather Rd
Bala-Cynwyd Pa 215-839-3450
Fla Geo W Fenton 724 Clayton St Orlando . 305-423-5720
Ga J W Bell 657 Greenview Ave NE
Atlanta 404-237-6819
La Audio-Video Systems Div 1622 Clio St
New Orleans 504-486-3771
Miss Mississippi School Supply Co 116 E South St
Jackson 601-355-3691
Nev O P Yelton 5501 Kelrose Ct
Concord Cal 415-685-3407
NC Comm-Sound 215 W Fourth St
Charlotte 704-332-9046
Pa Control Assembly Co 7308 Church Ave
Pittsburgh 412 279-2264
Tex Hoover Bros Inc 1305 N 14th St
Temple 817-773-6842
Va Jack L Hartman & Co 2840 Peters Creek Rd
Roanoke 703-362-1891
Wash Don Smith Sales Co 2320 N 45th St
Seattle 206 633-3160

CO-OPERATIVE INDUSTRIES INC 100 OAKDALE RD
CHESTER N J 07930
TWX 510-235-1277 .... 201 879-5151
V BONARDEL EMP 340 ENG 12 $2,500-$5,000M

CO-ORD DIV LVC INDUSTRIES INC
102-48 43RD AVE CORONA NY 11368 ... 212-899-5588
L CARTELLI EMP 15 ENG 2 $100-$250M
Ala Young & Lawrence Assoc 2901 Governors Dr
Huntsville 539-6575
Cal Dyna-Sales Co 962 1/2 S Atlantic Blvd
Los Angeles 268-1175
Conn A & M Electronic Reps Box 1010
Manchester 643-4233
Fla Young & Lawrence Assoc 601 N New York Ave
Winter Park 647-6929
Mass A & M Electronic Rep, Inc 1492 Highland Ave
Needham 444-8170
NY Harvey J Krasner Assoc 33 Great Neck Rd
Great Neck 487-0690
NY Martin P Andrews Inc 319 Mott Rd
Fayetteville 637-3144
Ohio Augie Natalino Assoc 209 Harmony Hills
Akron 216-666-1447
Pa Victor S Malta Co Box 4007 Philadelphia ... 836-5122
Tex Carey & Assoc, Inc 3315 W 12th St
Houston 869-3623

COORS CO INC, H F 8729 AVIATION BLVD
INGLEWOOD CAL 90301 .... 213 OR 8-7839
R COORS EMP 70 ENG 2 $2,500-$5,000M

COORS PORCELAIN CO 600 NINTH ST GOLDEN
COLO 80401 TWX 45593 .... 303 279-6565
F WATERMAN EMP 1450 ENG 168
OVER $10,000M
Cal E Bradley Long Beach 213-430-0662
Fla A Tonn Clearwater 813-446-7420
Ill Tom Daly Crystal Lake 312 529-2510
Ind E Wade South Bend 309-833-2711
Mass H Peters Whitman 617 222-9520
NY B Dean Inc 714 W Clinton St Ithaca .. 607 AR 2-2187
Ohio Donald Lewis Cleveland 216 228-1000
Ore J Hague Milwaukie 503-228-8700
Pa Herb Larisch Philadelphia 215 563-4487
Tex Bill Ramsey Houston 712 864-6369
Can Cantronics Ltd 17 Dellbank Rd
Downsview, Ont 416-636-8311
Can Cantronics Quebec 4252 Braille Ave
Montreal, Que 514 733-0749

COPPERWELD STEEL CO FLEXO WIRE DIV
70 W FIRST ST OSWEGO N Y 13126 315-343-0524
C ALLEN EMP 150 ENG 3
Cal E Jordan Brookes Co 6601 Telegraph Rd Los Angeles ....213 RA 3-8431
Ill WFE Bomke Sales Co 6966 W North Ave Chicago ....312 ME 7-8433
Mass Hathaway Electronics Inc 7-11 Mystic St Arlington 617 646-1380
Mich Benfield Assoc 2920 E Jefferson St Detroit 313 567-1211
NY W R Punt Co 66 S Tyson Ave Floral Park ....516 FL 2-1742
Tenn J R Richards & Co 3756 Ringgold Rd Chattanooga 615 892-8405

CORCO CHEMICAL CORP TYBURN RD & CEDAR LA
FAIRLESS HILLS PA 19030
V SOMMERS $250-$500M

CORDEX, INC BOX 277 MOUNT EATON
OHIO 44659 216-359-5418
T WHALEN EMP 23 ENG 1 $250-$500M

CORE-TRONICS, INC 241 N DAY ST ORANGE
N J 07050 ....201 673-7660
H DELANEY EMP 15 ENG 2
Cal Pritchard & Haney Co Box 102 Los Altos 941-2240
Fla R P Bennett Rt 5, Box 124 Orlando
Ind F J Campisano & Assoc 3453 Nolen Dr Indianapolis 317 291-4066
NJ Horace R Delaney 5 Edgewood Pl Maplewood 762-6117

CORNELL-DUBILIER ELECTRONICS DIV FEDERAL
PACIFIC ELECTRIC CO 50 PARIS ST NEWARK
N J 07101 TWX 710 995-4566 ....201 MA 4-7500
J GLYNN EMP 3000 ENG 300 OVER $10,000M
Ark Dick Bellew Sales, Inc Box 1835 El Dorado 501 863-8352
Cal Cornell-Dubilier Electronics 4144 Glencoe Ave Venice 213-391-5201
Colo R G Bowen Co 1440 S Santa Fe Denver . 303 722-4641
Fla Millar-Huto Assoc 501 Park Ave N Winter Park 305 647-7407
Ga Millar-Hutto Assoc 3110 Maple Dr NE Atlanta 404 261-6160
Ill Cornell-Dubilier Electronics 2070 Maple St Des Plaines 312 299-8171
Ind Shamrock Electronic Sales 2511 E 46th St Indianapolis 317 546-8228
La Dick Bellew Sales, Inc 3017D 18th St Metairie 504-833-6496
Md Cornell-Dubilier Electronics 1802 Markley St Norristown Pa 215 272-0118
Mass Cornell-Dubilier Electronics 921 Providence Hwy Norwood 617 762-5333
Mich Butchart & Rathsburg Assoc 16637 E Warren Ave Detroit 313 882-1717
Minn Stan Olsen & Assoc 11040 Goodrich Cir Minneapolis 612-881-8282
Mo Knaggs Collins Havercamp Hempe Inc 5818 N Oak Trafficway Kansas City . . 816 453-3202
NM TCI Mfrs Reps 8313 Menaul Blvd NE Albuquerque 505 298-2628
NY Cornell-Dubilier Electronics 24 Bursen St Rochester 716-544-9580
NC Millar-Hutto Assoc Box 17173 North Hills Off Raleigh 919 787-9564
Ohio Cornell-Dubilier Electronics Box 2132, Kettering Br Dayton 513 298-7224
Pa Stinson Assoc 227 Haverford Ave Narberth 215 664-5511
Tex Cornell-Dubilier Electronics 901 Regal Row Dallas 214 631-4020
Utah R G Bowen Co 1380 W North Temple Salt Lake City 801 364-4632
Wash Northwestern Agencies 4130 1st Ave S Seattle 206 623-8882
WVa Covert-Newman 300 Mt Lebanon Blvd Pittsburgh Pa 412 563-0303
Can Rutherford Agencies Box 1013 St Laurent P Q 514-747-9941
BC Electro Tec Marketiers, Ltd 1624 W 3rd Ave Vancouver 604 736-6377

CORNING GLASS WORKS HOUGHTON PARK
CORNING N Y 14830
TWX 510-252-1384 ....607 962-4444
R RAHILL EMP 19,000 $250-$500M
Cal Corning Glass Works 500 S Main St Orange . 541-5275
Fla Corning Glass Works 2351 Hunter Field St Maitland 838-7125
Ill Corning Glass Works 1470 Merchandise Mart Chicago 337-6600
Md Lowery Assoc 4508 Annapolis Rd Bladensburg 864-4722
NY Corning Glass Works 717 Fifth Ave New York ....PL 2-1100
Pa L D Lowery Assoc 2801 West Chester Pike Broomall ....EL 6-5300
Wash James J Backer Co 221 W Galer St Seattle
Can Corning Glass Works Leaside Ont 421-1000
Fr Sovcor Electronique 11 Chemin De Ronde Le Vesinet S & D 966-5100
GB Electrosil Ltd Pallion Sunderland Co Durahm ....SU 7-1557
Neth Nijkerk's Handel NV Warmoesstr 94 Amsterdam 02067729
Jap Asahi Glass Co 14 2-Chome Marunouchi Chiyoda-ku Tokyo 0411
Swed M Stenhardt AB Bjornsonsgatan 197 Stockholm 87 02 40
Swit Corning Glass Intl SA 33 Bleicherweg Zurich . . . 271130

CORRUGATED PAPER PRODUCTS INC
300 BABYLON TPK ROOSEVELT
N Y 11575 ....516 379-8200
L WAGNER

CORRY JAMESTOWN CORP DIV SINGER CO
E COLUMBUS AVE CORRY PA 16407 ....814 668-5281
L FULLER EMP 700 ENG 40 OVER $10,000M
Cal W H Jenkins 56 Cypress La Brisbane . . . 415-467-2411
Colo J Lounsbury 2785 N Speer Blvd Denver . 303 477-4583
Ga C W Conrad 2914 Cocklebur Tr Decatur 404-284-8679
Ill R Briscoe 1126 Merchandise Mart Chicago 312-642-7313
Ind R B Denham 5340 E 77th St Indpls 317-849-3933
Mass R D Firth 64 Donna Rd Framingham 617-879-2134
Mich L J C Salter 3638 Tyrconnel Tr Orchard Lake 313-851-3770
NJ H Sumner 1166 Lenape Way Scotch Plains 201 756-8557
NY G Ferguson Jr 400 Park Ave New York . 412 421-7280
Pa W Bruce Ellsworth 1053 Beverly Rd Jenkintown 215-887-1228
Va W J Hirsch 5228 Cherokee Ave Alexandria 703 354-1576
Wash G Timmerman 5500 4th Ave, S Seattle . 206-762-7990

CORSON ELECTRIC MFG CORP WATROUS ST
EAST HAMPTON CONN 06424 ....203 267-2547
D CORSON EMP 20 ENG 1 $250-$500M

CORVAIR ELECTRONICS 150 FIFTH AVE NEW YORK
N Y 10011 ....212 255-7007
L VANHOFF EMP 14 ENG 1 $250-$500M

COSMICAR OPTICAL CO LTD
568, 2-CHOME, SHIMOOCHIAI, SHINJUKU-KU
TOKYO JAPAN 953-1264
N AMANO EMP 80 ENG 8 OVER $10,000M
ADV PG 334

COSMIC RADIO CORP 853 WHITTIER ST NEW YORK
N Y 10474 ....212 LU 9-3360
I ROSENWASSER ENG 1

COSMOCORD LTD ELEANOR CROSS RD
WALTHAM CROSS HERTFORDSHIRE UK . . . WS-27331
O CHARLES EMP 600 $2,500-$5,000M
Ariz Hearllear Corp Box 12853 5612 E Broadway Tucson 85711
NY Transatlantic Elctns Inc 55 Bloomingfield Rd Hicksville

COSMODYNE CORP 2920 COLUMBIA ST TORRANCE
CAL 90509 TWX 910 349-6651 ....213 775-6881
L TARLTON JR EMP 1000 ENG 79
OVER $10,000M
Fla Cosmodyne Corp 685 Gladiola St Merritt Island
Ill Cosmodyne Corp 466 Central Ave Northfield
Ky Cosmodyne Corp 4800 Allmond Ave Louisville 361-2356
NJ Cosmodyne Corp 535 Morris Ave Springfield . 379-2526
Ohio Cosmodyne Corp 3040 Revlon Dr Dayton . . . 299-8146
Tex Cosmodyne Corp 4101 N Frwy Houston
Va Cosmodyne Corp 2400 Wilson Blvd Arlington
Wash Antec Corp 10335 Main St Bellevue 454-2442
Can Eastern Steel Products Co 777 Laurel St Preston, Ont
For Industrias Metalurgicas Van Dam C A Ave Los Bucares Aptdo 1169 Caracas, Vene
For Adil Bros Ltd Bait-ul-hamd, 140 Bunder Rd Karachi, Pak
Fr Soc Francaise des Techniques 42 Firminy Paris
GB W P Butterfield (Engrs) Ltd Box 38 Shipley, Yorks
Neth Avio-Diepen, N Y Ypenburg Airport The Hague 070906640
Jap Daiho Sangyo Co Ltd 4-2, 3-chome Nishi-Shimbashi Minato-ku, Tokyo
Braz Nordon Industrias Metalurgicas SA Rua Dr Falcao, 56-12 Andar CP 391 Sao Palo
Aust Pioneer Welding Co Pty Ltd 154 Hume Hwy Cabramatta, N S W
Aust Toledo Engrg Pty Ltd 92 Wetherill St Lidcombe, N S W

COSMO PLASTICS CO 3239 W 14TH ST CLEVELAND
OHIO 44109 TWX 810 421-8444 ....216 861-5594
B GORDON EMP 200 ENG 4 $2,500-$5,000M
Ariz Electrical Specialty Co 202 S 29th St Phoenix 602-275-5739
Cal Electrical Specialty Co 2820 E 12th St Los Angeles 213-269-9511
Colo Electrical Specialty Co 2026 Arapahoe St Denver 303-244-4588
Conn R H Whitehead Jr Assoc Box 345 Cherry St Guilford 203-453-3762
Fla J Garrigan 373 Iowa Ave Ft Lauderdale 305-584-7070
Ill A J Ellis Co 1607 Howard St Chicago . . 312-262-2708
Md Heller-Freedman Assoc Box 293 Timonium 301-252-4780
Mass R H Whitehead Jr Assoc 481 Statler Off Bldg Boston 617-542-7676
Minn D A Schultz Co 801 SE 8th St Mnpls . . 612-339-7701
Mo Hippler Sales Co 1135 Cheshire La Webster Grvs 314-961-8499
NJ Andrews & Andrews Inc 44 N Dean St Englewood 201-569-8800
NY Andrews & Andrews Inc 140 E Main Huntington 516-692-8686
Ohio Plus Sales Box 9696 Bay Village 216-333-1547
Ore Electrical Specialty Co 2360 NW Quimby St Portland 503-227-3601
Pa Heller-Freedman Assoc Box 391 Ardmore 215-649-3679
Tenn T S Stone Co 1212 Pierce Pkwy Knoxville 615-546-9282
Tex Corwin Assoc Box 1207 Richardson 214-231-8661
Va A B Kreger Jr Box 4605 Roanoke 703-345-7011
Wash Electrical Specialty Co 2442 1st Ave S Seattle 206-682-3434
Can Paisley Prods of Can Ltd 40 Upton Rd Scarborough Ont 416-755-2216

COSMOS INDUSTRIES INC 45 WASHINGTON ST
BROOKLYN N Y 11201 ....212 MA 5-7400
N JACOBSON EMP 200 ENG 15 $2,500-$5,000M

COSTELOW CO INC 121 KANSAS AVE TOPEKA
KANS 66603 ....913 CE 36598
J COSTELOW

COTO-COIL CO INC 65 PAVILION AVE PROVIDENCE
R I 02905 ....401 941-3355
L BELLEM JR EMP 75 ENG 3 $500-$1,000M
Cal Paul Nurches Co 941 Charleston Rd Palo Alto ....DA 6-7842
Cal Paul Nurches Co 2396 E Foothill Blvd Pasadena ....MU 1-8957
Ill Ryan Assoc 7132 N Harlem Ave Chicago 775-5717
Md Robt L Wilkinson Inc 707 Stevenson La Baltimore 377-7800
Ohio John Olsen Co 16201 Shaker Blvd Cleveland . 752-5444
Ohio John Olsen Co 5539 Stockswood Ct Cincinnati 922-2176
Pa John Olsen Co 104 Elatan Dr Pittsburgh 279-2550
Pa Robt L Wilkinson Inc 245 Keswick Ave Glenside 424-8400
RI Milton Paisner 532 Elmgrove Ave Providence 521-3522
Wash Harry Levinson Co 1211 E Denny Way Seattle 323-5100

COTTRELL PAPER CO INC 10 PURCHASE ST
FALL RIVER MASS 02722 ....518 885-7510
J COTTRELL JR EMP 68 ENG 2 $2,500-$5,000M
Ala Electric Motor Materials Inc 63 Sidney Phillips Dr Mobile 471-2541
Ariz Electrical Specialty Co 120 S 29th St Phoenix
Cal Essex Wire/IWI 544 S San Pedro St Los Angeles ....MA 8-2354
Colo Ward Electric Supply Co 1909 Blake St Denver 222-3541
Conn John A Jones 100 Boxwood Dr Stamford 348-4512
Fla Brownell Inc 307 27th St Orlando 424-5634
Ga Electrical Insul Suppliers 1255 Collier Rd NW Atlanta 355-1651
Ill Federal Insulation Co 549 W Randolph St Chicago ....CE 6-7704
Iowa Special Electric Co 313 E 7th St Des Moines 515 288-0958
Ky E & H Electric Supply Box 1022 Louisville . . 587-0991
Md Electric Motor Supply Co 356 N Gay St Baltimore 685-4523
Mass Huse Liberty/IWI Lynnfield St Peabody ....JE 1-7100
Mich Insulation Mfrs Corp 7430 Second Blvd Detroit ....313 TR 5-3103
Minn D A Schultz Co 801 SE Eighth Mnpls ....FE 9-7701
Mo White Supply - IWI 4343 Duncan Ave St Louis ....FR 1-2616
NJ Chalker Insulation Co Box 944 New Brunswick ....CH 7-0654
NY Schmitz Bros Inc 84 St Paul St Rochester . . 546-7628
NC Special Electric Co 619 A S 3rd St Smithfield 919 934-7592
Ohio C J Voneman Co 18522 Detroit Ave Cleveland ....AC 1-2800
Okla John H Cole Co 1811 NW First Oklahoma City ....CE 2-3171
Ore Electrical Specialty Co 2360 N W Quimby St Portland
Pa Electrical Maint/IWI 917 N Broad St Phila ....CE 6-7100
SC Insulating Fabricators Inc 834 Hayne St Spartanburg 582-7507
Tenn Brownell Inc 217 Cumberland St Memphis . . 323-7693
Tex Southern Electric Sales 4320 Main St Dallas ....TA 7-8891
Utah Electric Parts & Insulation 246 W 13th S Salt Lake City 486-0773
Wash C E Riggs Inc 314 2nd Ave Seattle 206 623-5707
WVa Charleston Electrical Supply Co 312 McCorkle Ave SE Charleston 346-0321
Wis Special Electric Co 3628 W Pierce St Milwaukee 383-6370
Can Electric Insulation & Fibre 24 Mendota Rd Toronto ....CL 1-1174
Can Andrew Gilchrist Ltd 5645 Pare St Montreal 735-3603
Can Arborite Co 46 Hollinger Rd Toronto, Ont . . . 755-5211
For Masten Wright Corp 282 State St N Haven, Conn 288-1638

COUCH S H, DIV ESB INC 36 RIVER ST BOSTON
MASS 02026 ....617 298-4147
B GRAY EMP 100 ENG 6 $1,000-$2,500M
ADV PG 544
Cal R J Homer & Assoc 14436 Sherman Way Van Nuys 213-781-1236
Conn Connecticut Valley Enterprises Box 188 Essex 203 767-1128
Fla Roy Attaway Co 51-53 E Robinson St Orlando 305 424-9983
Ill Harry Halinton Engrg Assoc 6418 N Central Ave Chicago 312-763-2131
Iowa Snider Sales 2042 Franklin Ave N E Cedar Rapids 319-362-4410
Minn International Sales Co 8703 Beard Rd Minneapolis 612 881-6683
Mo Pem Sales Co 9537 Lackland Rd St Louis 314 427-7200
NJ Electrical Mfrs Services Box 102 Ridgewood 201 471-6900
NY C W Floring & H R Murray, Inc 6585 Kinne Rd Syracuse 315 446-5555
NC Radco Co 614 Nissen Bldg Winston-Salem 919 722-9671
Ohio Robert R Stone & Assoc Box 47 Mentor . 216 946-6766
Ore J W Eckersley Co 3150 SW Hamilton St Portland 503 246-3183
Pa Technicraft Co 7028 Ridge Ave Philadelphia 215 483-4700
Tex Hillman Enterprises 3505 Turtle Creek Blvd Dallas 214 521-9907

Can Leonard Electric Ltd 1008 Range View Rd
Port Credit, Ont 416 274-3454
Swed Bo Palmblad Aktiebolag Hornsgatan 58
Stockholm

COULTER ELECTRONICS INC 590 W 20TH ST
HIALEAH FLA 33010 ....305 887-8131
F HENDERSON EMP 100 ENG 15

COUNTING INSTRUMENTS LTD
5 ELSTREE WAY, BOREHAM WOOD
HERTFORDSHIRE ENGLAND 01-953-4151
P WERNER EMP 400
Conn Zaslow Sales Co Inc 526 Farmington Ave Hartford

COUNTIS INDUSTRIES BOX 1444 SAN LUIS OBISPO
CAL 93401 ....805 544-1770
T COUNTIS EMP 8 ENG 2 UP TO $100M

COURIER COMMUNICATIONS INC SUB WHITTAKER
CORP 439 FRELINGHUYEN AVE NEWARK
N J 07114 TWX 137-319 ....201 242-3000
S KAPPEL EMP 400 ENG 5 $5,000-$10,000M

COX & COMPANY, INC 215 PARK AVE S NEW YORK
NY 10003 ....212 OR 44727
E COX EMP 195 ENG 18 $2,500-$5,000M
Cal Jackson Edwards Co 4101 Lankershim Blvd
N Hollywood 877-9603
Mo Eugene Hitt & Assoc 9623 St Chas Rock Rd
Overland 314-426-2322
NJ Andrew A Foley Assoc Box 155
Moorestown ....NO 3-4545
NY Electro-Rep Inc 366 N Broadway Hicksville .938-0540
Ohio Paul Bach Inc 2209 Losantiville Rd
Cincinnati 513-731-3822
Tex Bill Mc Clumg & Co 2245 Valwood Pkwy
Dallas 241-3655
Vt Malcom Benton Vergennes 877-2656
Wash Associated Industries 1752 Rainier Ave
Seattle 723-5600

COX INSTRUMENTS DIV LYNCH CORP
15300 FULLERTON AVE DETROIT MICH 48227
TWX 810-243-6444 ....313 838-5780
D JARRED EMP 230 ENG 45
Ala Vaughn Electrosources Sahara Office Park
Huntsville 881-8830
Cal Research Data Corp 110 S Euclid
Pasadena ....MU 1-3451
Colo Fluid Systems Inc 1550 S Pearl St Denver ..744-1781
Conn Northeast Engineering Inc 3013 Dixwell Ave
Hamden 248-4481
Kan Aero-Hill Sales Box 1312 Wichita ....AM 7-7167
Md Ansell Engineering Co 816 Thayer Ave
Silver Spring 588-4222
Minn Automation Service Corp 4815 W 77th St
Minneapolis 920-7241
Mo Carl F Gast Co 6110 Garesche Ave
St Louis ....EV 3-0750
NY Rayelco Elctns Inc Box 560 Alden 937-7487
Okla James E Dyer Co Box 1226 Tulsa ....RI 2-8832
Ore Fryer & Co Inc 2035 SW 58th Ave Portland .292-4471
Pa Test Equipment Sales Co 4447 N Bodine St
Phila ....DA 9-1822
Tex Cordel Corp 3130 Southwest Fwy Houston .JA-9-2230
Can Aeromotive Engrg Products Ltd
887 Montee de Liesse St Laurent 747-4781
Jap C Itoh & Co (America) Inc 245 Park Ave
New York N Y

COX MFG CO 8934 BROADWAY SAN ANTONIO
TEX 78217 ....512-TA 4-5711
W COX EMP 27 ENG 4 $250-$500M

C/P CORP RFD 3 COLUMBIA S C 29205 ....803 787-8710
D KING EMP 200 ENG 8 $1,000-$2,500M
Cal Wallace & Wallace 1206 Maple Ave
Los Angeles ....RI 7-0401
Fla J R Sproch Sales Co 125000 NW 1st Ave
N Miami 754-2212
Ill Markal Sales Corp 5787 Lincoln Ave
Chicago 561-7290
Neb Marketing Assoc Box 53938 Lincoln
NY Chester Drexler 3 Lee Dr Farmingdale .....CH 9-8206
Ohio J W Lehner Co 367 Brynhild Rd Columbus ...268-5260
Tex Bill Wylds Co 1247 Caudle Houston 468-8411
Va L H Arnold Gwynn 725-3255

CP ELECTRONICS INC 2851 SOUTHEASTERN AVE
COLUMBUS IND 47201
TWX 810 352-1281 ....812 372-4471
J WEAVER EMP 687 ENG 4 $5,000-$10,000M
Fla Henry G Richter Inc 2318 Nash St
Clearwater 813-446-5631
Ill S Sterling Co 2 Talcott Rd Park Ridge 692-4125
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 357-3700
NY S F Foster Co 2806 Hennaberry Rd Pompey .677-3333
Ohio S Sterling Co 2673 Culver Ave Dayton 298-7573
Ohio S Sterling Co 5827 Mayfield Rd Cleveland ..442-8080
Pa Joseph G Oberlies Box 517 Hatboro 672-6633
Tex Geo Weinreich & Assoc 11554 E Northwest Hwy
Dallas 321-2800
Va Allie B Kreger Jr Box 4605 Roanoke 345-7011

CRAIG SYSTEMS CORP 360 MERRIMACK ST
LAWRENCE MASS 01842
TWX 710 342-0765 ....617 MU 8-6961
P NIES EMP 300 ENG 27 $5,000-$10,000M
Cal R D Noebel 8820 Sepulveda Blvd
Los Angeles 670-1256
DC S D Conley, Jr 2217 M St NW Washington ..965-2606
Minn Engineering Products Assoc 2119 Grand Ave
St Paul 822-4265
Tex Walter Bigger Meadows Bldg Dallas 899-8305

CRAMCO SOLDER ALLOYS 80 SINNOTT RD
SCARBOROUGH ONT 416 757-2876
E WALTON EMP 28 ENG 3 $500-$1,000M

Colo Electronic Mfg Consultants Inc 1619 N Royer
Colorado Springs 636-5131
Conn Keyline Enterprise Box 399 Farmington 677-0084
NJ D & R Assoc 248 Lorraine Ave
Upper Montclair 586-6247
Ital Argon Service Ltd Milan

CRAMER DIV CONRAC CORP MILL ROCK RD
OLD SAYBROOK CONN 06475
TWX 966453 ....203 388-3574
S ARMSTRONG EMP 350 OVER $10,000M
Ala Electro-Tech, Inc 106 Jordan La, NW
Huntsville 205 539-3718
Ariz Williams Assoc, Inc 1110 E McDowell Rd
Phoenix 602 254-6085
Cal Cramer Div 222 E Glenarm St
Pasadena 213 682-3601
Colo Williams Assoc 4971 Jackson St
Denver 303 388-4391
Fla Electro-Tech, Inc 307 27th St Orlando .305 423-5589
Ga Electro-Tech, Inc 3020 Commerce Way
Hapeville 404 767-8761
Ill Cramer Div 3150 S Des Plaines Ave
Des Plaines 312 827-7134
Ind Delta Sales, Inc 1407 N Illinois St
Indianapolis 317 631-4136
Iowa Elec Sales Co, Inc 1310 Hertz Dr, SE
Cedar Rapids 319 364-4342
La Ross & Pethtel, Inc 3170 Florida Blvd
Baton Rouge 504 348-7206
Md Mc Court Co Inc 28 W Penna Ave
Towson 301-823-3455
Mass Cramer Div 235 Bear Hill Rd Waltham ..617 893-8181
Mich Thos E Redmond Co Box 175
St Clair Shores 313-771-3020
Minn Robt W Marshall Co 6106 Excelsior Blvd
Minneapolis 612 929-0457
Mo Automation Specialties Inc 215 E 27th St
Kansas City 816-421-6646
Mo Kurt Mueller & Assoc 4253 Westminster Pl
St Louis 314 652-5366
NM Williams Assoc, Inc 420 Washington St SE
Albuquerque 505 255-1638
NY Alan E DeCew Agency Box 56 Sodus ...315 483-3261
NY Cramer Div 122 E Main St Elmsford ...914 592-5500
NC Electro-Tech, Inc 5141 Belhaven Blvd
Charlotte 704 392-7451
Ohio McNay Equipment Co 4850 Cooper Rd
Cincinnati 513 891-7122
Ohio Cramer Div 2500 Euclid Ave Cleveland ..216 261-0626
Okla Components Inc 1526 E 4th St Tulsa ..918 583-9149
Pa John C Whiddett Co 7716 West Chester Pike
Upper Darby 215 528-6400
Tex Robert E Nesbitt Co 2930 Merrell Rd
Dallas 214 357-4601
Tex Robert E Nesbitt Co Box 66831
Houston 713 528-3811
Utah Williams Assoc, Inc 2469 S Main
Salt Lake City 801 466-8709
Va Air Conditioning Suppliers 3100 W Clay St
Richmond 703 359-2468
Wash Eicher-Richards Co 2727 N E Blakeley
Seattle 206 523-7888
Can Motion Control Engrg Box 374
Burlington,Ont 416 637-9369
GB Conrac Corp 31 Pembroke Gardens
London W8 ....WES 9493
GB Perfection Parts Ltd 59 Union St London SE 1
Ital S M E R I di Ing F Pirrone s r l Via Soperga 45
20127 Milan
Jap Marabun Co,Ltd 1,2 Chome,Odenmacho
Nibonbashi,Chuo-Ku Tokyo
BC Pacific Controls Ltd 2015 Columbia St
Vancouver 604 879-6711
Aust Boustead-Wood Pty,Ltd
608 Harris St Ultimo NSW Sidney

CRAMER INDUSTRIES INC 625 ADAMS ST
KANSAS CITY KANSAS 66105 ....913 MA 1-6700
R WEHNER EMP 210 ENG 6

CRANE PACKING CO 6400 W OAKTON ST
MORTON GROVE ILL 60053 ....312 YO 6-6400
H JACOBSON EMP 1400 ENG 60 $1,000-$2,500M
Cal Crane Packing Co Box 3066 N Hollywood ...787-1682
Cal Crane Packing Co 145 Utah Ave
S San Francisco 761-3077
Colo Crane Packing Co Box 22314 Denver 756-4949
Ill Crane Packing Co 6400 Oakton St
Morton Grove ....YO 6-6400
Ind Crane Packing Co 4161 Millersville Rd
Indpls ....LI 5-2772
La Crane Packing Co 4122 Scenic Hwy
Baton Rouge 356-3523
Mass Crane Packing Co 60 Dedham Ave Needham .HI 4-7408
Mich Crane Packing Co 27224 Southfield Rd
Lathrup Village 357-0963
Minn Crane Packing Co 32 10th Ave So Hopkins .WE 5-2432
Mo Crane Packing Co 9322 Manchester Rd
St Louis ....WO 2-1984
NJ Crane Packing Co Box 2007 S Hackensack .HU 7-3212
NY Crane Packing Co 1807 Elmwood Ave
Buffalo ....TR 6-4122
Ohio Crane Packing Co 24700 Chagrin Blvd
Cleveland 464-8844
Ohio Crane Packing Co 1720 Section Rd
Cincinnati 351-3480
Okla Crane Packing Co Box 2333 Tulsa ....LU 2-6340
Pa Crane Packing Co 4135 Brownsville Rd
Pittsburgh ....TU 4-0131
Pa Crane Packing Co 2200 W Chester Ave
Broomall ....EL 6-6800
Tenn Crane Packing Co 936 Minnehaha Memphis .FL 5-4072
Tex Crane Packing Co 6633 Polk Ave Houston .WA 8-5351
Wash Crane Packing Co 1402 3rd Ave Seattle ...MA 2-3661
Wis Crane Packing Co 4447 N Oakland Ave
Milwaukee ....WO 4-0660
Can Crane Packing Co Ltd 617 Parkdale Ave N
Hamilton Ont ....LI 4-3358

GB Payne Prods Int'l Ltd Buckingham A Trading Est
Slough Bucks ....SL 26741-4
Mex Ind John Crane de Mex, SA
Poniente 152--679 Ind Vallejo
Mexico 16, DF 67-24-79

CRC CHEMICALS LIMEKILN PIKE DRESHER
PA 19025 TWX ACG 84-6449 ....215 646-3800
H LOVELL EMP 32 ENG 4 $2,500-$5,000M
Ala J Heusser 620 Sundale Dr Birmingham .205 836-3896
Ariz Norman S Wright & Co 2641 E Adams St
Phoenix 602 275-4469
Cal Norman S Wright & Co 625 N Alvarado St
Los Angeles 213 386-4515
Colo Strong & Assoc 635 Canoga Ct Denver .303 292-6900
Fla Jack's Co 12199 NW 7th Ave Miami ...305 685-3591
Ga Tech Sales 3874 Green Ind Way
Atlanta 404 451-2633
Ill Lee Butter Assoc 570 Northwest Hwy
Des Plaines 312 824-6179
Kan James D Hataway Co 107 E 27th St
Kansas City 816BA1-0552
La Shell Ranwa Co 1922 Lafayette St
New Orleans 504 525-7000
Mass Conti Younger Assoc 195 West St
Waltham 617 891-4582
Mich Hoofnagle Bros 28165 Greenfield Rd
Southfield 313 357-5640
Minn J R Petersen 135 E Stanley St St Paul .612 224-2765
Mo James D Hataway Co 107 E 27th St
Kansas City 816-BA1-0552
NM J C Slavin Co 325 Glorietta NE
Albuquerque 505 298-4179
NY L A Osterman E Lake Rd Cazenovia ...315-655-9626
Ohio Gobeille-Robinson & Assoc 320 S Illinois Ave
Mansfield 419-525-1858
Okla A Greenlee 200 S Classen Moore
Pa Richard H May Assoc Box 312
Newtown 215-W08-4404
Tenn Associated Prods 255 E Georgia Ave
Memphis 901 525-0645
Tex McIver Slavin Co 3200 Audley St
Houston 713 524-1155
Va James H Thrower 10155 Merrimac Rd
Bowair 703 272-3660
Wash Norman S Wright & Co 1055 N 38th St
Seattle 206 633-1366
Can H Roy Gray Ltd 14 Laidlaw Blvd
Markham, Ont 416-294-4833
Den Lindemann A/S Baunegardsvej 9
Gentofte ....(01-33) GE9311
Fr Overseas France 19 Rue de Paris
Clichy (Seine) 737 42.95
Ger Paul Hellermann GmbH Siemensstr 5
Pinneberg 2002/3
Neth Isolectra N.V. Dovenetelstr 25 Rotterdam 119370
Ital O Bitossi Via Rossini 2 Livorno 22158
Jap Kure Engineering Ltd 812 Togin Bldg
Marunouchi Tokyo 211-2641/3
Nor Nor-Marine Bygdoy Alle 98 Oslo 2 56-54-21
SAfr Keen's Electrical Dist (Pty) Ltd Box 2656
Johannesburg 28-1155
Swed Crc Lafo Ab Chalmersgaten 31
Gothenburg 031/1680 68
Swit H Hurlimann Sihlquai 75 Zurich 42 54 41

CREARE INC BOX 71 HANOVER N H 03755 .603 643-3800
R COUCH JR EMP 18 ENG 7 $250-$500M

CREATIVE ELECTRIC INC 20 HULBERT ST AUBURN
N Y 13021 ....315 253-9759
L SPRINGER EMP 12 ENG 3 $100-$250M
Cal Universal Components, Inc Box 4352
Panorama City 781-2090
Md Faion Lott & Co Box 534 Glen Burnie 744-4611
Mass R H Sturdy Co, Inc 603 Worcester Rd
Natick 235-2330
NJ Unicomp Inc 18 Sunny Ridge Rd Wayne 696-2888

CRESCENT TOOL CO DIV CRESCENT NIAGARA CORP
70 NIAGARA ST BUFFALO N Y 14202
TWX 9-1582 ....716 853-5100
J LEWIS EMP 600 ENG 3 OVER $10,000M
Cal E S Dennis 5508 N Marshburn Ave
Arcadia 213-444-3884
Cal J H Gilmour 600 16th St Oakland 415-451-3001
Colo W Sundberg 1151 York St Denver 303-399-1805
Fla Paul Bennett 731 Humber La Orlando 277-1100
Ill E F Hallissey 548 Michigan Ave
Evanston 312-342-3431
Mass Howard Edick 45 Priest St Hudson 562-9337
Mich Norman Reganall 477 Carey St Deerfield ...447-3315
Minn G Stenglein 629 Turnpike Rd
Minneapolis 612-545-7201
Mo R W Hartman 8912 N Oak Trfwy
Kansas City 816-436-6566
NY Percy Heslink 94 Lakin Ave Jamestown 483-1443
NY Jerry Miller 223-16 59th Ave Bay Side 631-4174
Ore D Akers 3616 NE Bryce Portland 503-282-6763
Tenn Thomas Williams 1595 Westlawn Dr
Memphis 743-0704
Tex G Latsko Jr 10208 Linkwood Dr Dallas .214-348-0434
Tex J R Hartman 13115 Buxley Houston ...713-729-2264
Va Walter Umbreit 420 W Cecil St Winchester .662-7430
Can O Cliff 3465 Pony Trail Dr
Cooksville Ont 416-625-0272

CRESTRONICS BOX S 744 ROCKY LOOP CRESTLINE
CAL 92325 ....714 338-1722
R TORELL EMP 12 ENG 2 $100-$250M

CREST ULTRASONICS CORP
DEPT EBG, MERCER COUNTY ARPT TRENTON
N J 08628 ....609 883-4000
J NEIDHART EMP 50 ENG 5 $500-$1,000M

C & R MFG CO 85 MANCHESTER ST CONCORD
NH 03301 603-224-5840
R NIEDER EMP 2 ENG 1
ADV PG 343

CROSS CO, H 363 PARK AVE WEEHAWKEN
N J 07087 .... 201 863-1134
G MCCLARY EMP 500 $250-$500M

CROUSE-HINDS CO SYRACUSE N Y 13201 . 315 477-7000
F OBERLE EMP 2500 ENG 110 OVER $10,000M
Sales Offices in principal cities in the United State

CROVEN LTD 500 BEECH ST WHITBY ONT
TWX 610-384-2750 668-3324
R DIX EMP 325 ENG 10 $1,000-$2,500M
Cal Melvin Sales Co 113 El Camino Real
Millbrae 697-6922
Cal R L Assoc 14401 Gilmore St Van Nuys 782-7826
Fla J J Smith & Assoc 935 Orange Ave
Winter Park 644-4316
Ill Thos B Hunter Assoc 5653 W Irving Park Rd
Chicago .... SP 7-2500
Md Charles Emrich Rolling Rd & Wilkens Ave
Baltimore 747-2746
Mo KSW Assoc 7546 Troost Ave Kansas City . EM 3-5651
NY Bowser & Sapecky Assoc 4541 Main St
Buffalo 839-2044
NC L & D Inc Box 7243 Greensboro
Ohio G & H Sales Co Box 37416 Cincinnati 761-6185
Tex Steven Sales Box 34493 Dallas .... CH 1-3645
Va Electronic Research & Sales Co 706 Forrest St
Charlottesville
Can Ben Manis & Assoc 6600 St Urbain
Montreal 10 274-8271
Den A/S Dantronik Ltd Buddingevej 312
Copenhagen Sobourg
GB A E P Intl Ltd High St Staines

CROWN ENGINEERING & SALES CO 421 HILL ST
HARRISON N J 07029 .... 201 485-4848
S IANNELLI EMP 12 ENG 2 $100-$250M

CROWN INT'L RADIO & ELECTRONICS CORP
1718 W MISHAWAKA RD ELKHART
IND 46514 .... 219 523-4919
C MOORE EMP 65 ENG 6 $500-$1,000M
ADV PGS 16,18,516
Cal Dobbs/Stanford Box 266 San Carlos 591-0339
Cal Marshank Sales Co 7422 Melrose Ave
Los Angeles 938-2591
Colo Mc Loud & Raymond Co Box 22044 Denver . 756-1589
Ga Chalmers Inc Box 29924 Atlanta 633-6325
Ill John Gill 1043 E 95th St Chicago 731-4405
Ind Central Electronics Box 265 Tipton 675-4821
Iowa Forristal-Young Sales Co Box 1170 Des Moines
Kan Forristal-Young Sales Co Box 552 Mission .. 432-1420
Mass Bud Ente Sales Co 64 Mandalay Rd
Newton Centre 244-4842
Mich Elias Electronics 26817 W 7 Mile Rd Detroit . 255-2111
Mo Forristal-Young Sales Co 7110 Oakland Ave
St Louis 645-2360
NJ Metrorep Box 782 Freehold 462-1221
NJ Eldiserco 52 Meadowbrook Dr S Somerville . 359-6492
Ohio Robert White Box 39104 Solon .... CH 8-1317
Ore A C McMillan 16679 SW Maple Cir
Lake Oswego 636-6257
Tex D Mull Box 6795 San Antonio 822-1516
Can Caldwell A/V Equip Co 135 Midwest Rd
Scarborough 751-0881
For Niles Christensen 382 Springfield Ave
Summit, NJ .... CR 3-3833
For Telesco Intl 171 Madison Ave New York N Y . 683-9420

CROWN METAL PRODUCTS BOX 38 WYANO
PA 15695 .... 412 872-8720
K WILLIAMS EMP 12 $100-$250M
Cal J A Butler Assoc Box 1065 Pacifica ... 415 359-3215
Ga Murphy & Cota 586 Armour Circle NE
Atlanta 875-2525
Ill Markal Sales Corp 5787 N Lincoln Ave Chicago
Mo Maury E Bettis Co 3706 Broadway Kansas City
NJ Sunday-O'Brien 15 Potter St Haddonfield .. HA 9-4013
NY Copperweld Steel Intl 225 Broadway New York
Wash Jas J Backer Co 221 W Galer St Seattle

CRYOGENIC ENGINEERING CO 4955 BANNOCK ST
DENVER COLO 80216 TWX 45-770 ..... 303 244-8691
G COVINGTON EMP 145 ENG 15 $2,500-$5,000M

CRYOGENIC RESEARCH CO INC BOX 881 BOULDER
COLO 80302 .... 303 443-4992
B HUNTER EMP 11 ENG 5 $250-$500M
Cal Ra Tron, Inc Box 282 Northridge 873-4885
Ill Anger Assoc, Inc 10926 S Western Ave
Chicago 233-2214
Mich Anger Assoc Inc 13126 Mich Ave Dearborn .. 584-9853
NJ R N Juntwiat & Co Box 295 Ridgewood 652-9191
Ohio Anger Assoc Inc 20800 Westgate Plaza
Cleveland 333-4180

CRYOLAB DIV, STATICS-DYNAMICS INC
1155 SUNSET BLVD LOS OSOS
CAL 93401 .... 805 528-1598
W WOOD EMP 8 ENG 2 $100-$250M
Ala A & S Industries, Inc Box 1474
Huntsville 205 539-2337
Cal Fieldtec Inc 3822 Campus Dr
Newport Beach 213 860-4000
Colo Continental Divide Prods Box 127
Rollinsville 303 443-8320
Ill Mesco, Inc 10436 S Western Ave
Chicago 312 445-7121
Pa Kohl Equip Co Box 107 Wayne 215 688-9550
Tex Maveric Co Box 36327 Houston 713 782-3894
GB R Cupitt, Ltd Exchange St
Aylesbury, Buckinghamshire 5786/7
Neth Instrumentenhandle 'Utrecht' Perkstr 6
Hilvesum .... (02950) 16

CRYO-THERM INC FOGELSVILLE
PA 18051 .... 215 285-4811
J WELLER EMP 25 ENG 1 $1,000-$2,500M

CRYPLEX INDUSTRIES INC
2800 COLLEGE POINT CAUSEWAY FLUSHING
N Y 11354 .... 212 539-8500
M EISENBERG EMP 40 ENG 10 $500-$1,000M

CRYSTALAB PRODUCTS CORP 19 LEGION PL
ROCHELLE PARK N J 07662 .... 201 843-5780
R GOLDSTEIN EMP 10 ENG 6
Cal Griot Assoc 3002 Midvale Ave
Los Angeles 213 474-1587
Conn Northeast Assoc 516 Pepper Ridge Rd
Stamford 203-329-0012
Ill Brooks Engineering 227 E Walton Pl
Chicago 312 944-1227
Mass Northeast Assoc Box 31 Marblehead .. 617-595-1000
Minn Brooks Engineering Box 60 Stillwater .. 612-439-7222
NJ E C Smith & Assoc 797 Springfield Ave
Summit 201-273-8881
Ore Griot Assoc 560 San Antonio Rd
Palo Alto Cal 415-327-3996
Wash Griot Assoc Bellevue .... 206 GL 4-8592

CRYSTAL COMPONENTS GR SAEGERTOWN DIV GTI
CORP S MAIN ST SAEGERTOWN
PA 16433 814-763-2515
D GUSTAFSON EMP 125 ENG 8
Ariz GTI Corp 3920 E Indian School Rd Phoenix
Cal GTI Corp 21044 Ventura Blvd Woodland Hills
Mass GTI Corp 99 Cambridge St Burlington
NY GTI Corp 122 E Main St Wappingers Falls
Pa GTI Corp 123 W Germantown Pike Norristown
Tex GTI Corp 3300 W Mockingbird La Dallas
Ger GTI Corp 8 Munchen 90 Tegernseer Landstr 300

CRYSTALONICS A TELEDYNE CO 147 SHERMAN ST
CAMBRIDGE MASS 02140
TWX 710-320-1196 .... 617 491-1670
T PARADISE EMP 160 ENG 25 $2,500-$5,000M
Ariz Dubblar Assoc 3030 N 7th St Phoenix . 602-277-9739
Cal Westaironics Inc 1800 N Highland Ave
Hollywood 213-466-6201
Colo Simpson Assoc 2552 Ridge Rd Littleton . 309-798-8439
Conn J W Engvall 261 Grove St Waterbury .. 203-757-7387
Fla Geartner Assoc 2101 Mohawk Trail
Maitland 305-647-4000
Ill Fiat Engineering 5133 St Charles Rd
Bellwood 312-547-6200
Ind FIAT Engrg Assoc Box 1165 Muncie .. 317-289-6322
Iowa Herbert B Kirkland & Assoc
286 Tomahawk Tr SE Cedar Rapids . 319-363-6425
Md Valley 8809 Satyr Hill Rd Baltimore 301-668-4646
Mass Conti-Younger Assoc 181 West St Waltham . 891-4582
Mich W R Hummon & Assoc Box 501
Farmington 313-474-0661
Minn R G Ragon, Inc 1136 W Larpenteur Ave
St Paul 612-488-6634
Mo R R Burton Sales Co 1016 Baltimore Ave
Kansas City 816-471-2850
NJ Comp-Tech Sales 22 Sherwood Ct
West Milford 201-835-0332
NM Data Handling Co 209 San Pablo S E
Albuquerque 505-268-0928
NY Comp-Tech Sales 23 Curtis Place
Lynbrook 516-593-2628
NC P J Nahser Co, Inc 2709 Amherst Ave
Burlington 584-8077
Ohio Richard D Calhoun & Assoc 40 Southmoor Cir
Dayton 513-299-4144
Pa E J Murphy G Sherman 835 Connell Ave
Yeadon 664-7316
Tex Roberts Sales Co 9704 Lanward Dr
Dallas 214-348-4283
Wash Harry Levinson Co 1211 E Denny Way
Seattle 206-323-5100
Can Lake Engrg Co Ltd 3380 Toupin Blvd
St Laurent Que 514-331-4884
Can Lake Engineering Co, Ltd 123 Manville Rd
Scarborough, Ont 751-5980
For Dage Corp 757 Main St
Stamford Conn 203-324-3123
Fr Spetelec 12 rue Le Chateller Paris .... GAL 05-23
Ger Selectron GMBH Pappenheimstr 7/5
Munchen 2 .... 59 65 38
GB G E Electroncs (London) Ltd
182/4 Campden Hill Rd London, W 8 .... Park 0711
Neth Koning en Hartman N V Haagweg Lsd 42
The Hague 685450
Ital R S T via Fontana 18 Milan 709303
Swit Egli, Fischer & Co A G Gotthardstr 6
Zurich 051/25 02 34
Belg Koning & Hartman 53 Rue Gachard Brussels ... 482655

CRYSTAL RESEARCH INC 42 CONCORD LANE
CAMBRIDGE MASS 02138 .... 617 547-4001
W DRAISIN EMP 6 ENG 3 UP TO $100M

CRYSTAL RESEARCH LAB INC 612 CAPITOL AVE
HARTFORD CONN 06106 203-527-3215
D GOODINE EMP 50 ENG 2
Can Revac Supply Co 1500 Sherbrooke St W
Montreal P Q
Fr Labo-Moderne 6 Rue De La Vrilliere Paris
GB Baird & Tatlock London Ltd Freshwater Rd
Chadwell Heath Essex
Neth Gorcusche Auto Centrale N V 59 Haarstraat
Gorinchem
Ital Rimassa S A S Via A Checchi 13 Genova
Swed Kistner-Labtanst AB Box 5247-40224
Gotesborg 5
Swit Technische Vertretungen
Postcheck 80-11015 Laubiweg 29 Zurich

CRYSTAL-X CORP 2ND & PINE STS DARBY
PA 19023 .... 215-LU6-3200
R GEROW EMP 200 ENG 3 $2,500-$5,000M

CRYSTEK DIV WHITEHALL ELECTRONICS
1000 CRYSTAL DR FT MYERS FLA 33901
TWX 510-951-6388 813-936-2109
G GAY EMP 100 ENG 5 $1,000-$2,500M

Cal Technical Sales Assoc 1485 Bayshore Blvd
San Francisco 467-1434
Colo Hyde Electronics Co 888 S Lipan St Denver . 936-3455
Conn Robert S Reiss Assoc 70 Jessie Dr
West Haven 933-8542
Ga Grady-Duckett Sales Co 24 E Andrews Dr NW
Atlanta 451-3529
Ill Ellinger Sales Corp 6580 Northwest Hwy
Chicago 763-1570
La S B Ormsby 230 20th St New Orleans
Mass Edcom Inc 815 Washington St Newtonville
Minn Heimann Co Inc 5603 Lyndale Ave S
Minneapolis 827-5457
NJ Jackson Elctn Sales Corp 71 Valley St
South Orange 763-7900
NY Verter Sales Co 2352 E 66th St Brooklyn .. 444-3880
Ohio Pery Lohse & Co 529 Richmond Rd
Cleveland 381-7788
Pa F P Yarussi Co 312 Rockfield Rd Pittsburgh . 221-4676
Tex Texelex 4222 Richmond Ave Houston 666-1636
Wash Wm Lamphear Co 159 Western Ave W
Seattle 284-8150
Can Robert J Buckland Co Box 367 Sta B
London Ont 432-7731
For E D Magnus & Assoc Inc 5715 N Lincoln Ave
Chicago Ill 334-1503

CTS CORP 905 N WEST BLVD ELKHART IND 46514
TWX 810 294-2256 .... 219 293-7511
R STACKHOUSE EMP 7500 ENG 129
OVER $10,000M
Ala NBS Inc Box 1343 Huntsville 205-881-3175
Ariz Hecht Henschen & Assoc 2435 E University Dr
Phoenix 602-275-4411
Cal CTS Electronics 1010 Sycamore Ave
S Pasadena 254-9141
Colo Electronic Components Sales Box 22011
Denver 303-771-6200
Conn CompRep Assoc Inc 14 Bowling Green Ave
N Haven 203-239-9762
Fla Orbe Inc 4110 Central Ave
St Petersburg 813-894-0687
Ind CTS Corp 901 S West Blvd Elkhart ... 219-293-7511
Kan Poly-Onics Inc 4434 W 90th Terr
Leawood 913-NI 8-4173
Ky CTS of Paducah Inc 1500 N 8th St
Paducah 442-1641
Mass CompRep Assoc Inc 1116 Great Plain Ave
Needham 617-444-2484
Mich J L Montgomery Co 24001 Southfield Rd
Southfield 313-358-2616
Minn Robert W Marshall Co 6106 Excelsior Blvd
Mnpls 612-929-0457
Mo Poly-Onics Inc 47 Village Square Shop
Hazelwood 314-Te 7-0597
NJ CTS Corp Box 322 Cherry Hill 609-424-1207
NM Electronic Components Sales 209 San Pablo SE
Albuq 505-256-3663
NY S-J Sales Assoc Inc 148-05 Archer Ave
Jamaica 212-AX 1-3232
NC CTS of Asheville Inc Mills Gap Rd
Skyland 704-684-6451
Ohio Baehr, Greenleaf & Assoc 14700 Detroit Ave
Cleveland 216-AC 1-9030
Ohio Baehr, Greenleaf & Assoc Box 5722
Columbus 486-4046
Ore Richard Legg Co 4475 SW Scholls Ferry Rd
Portland 503-292-8824
Pa Covert & Newman Co 300 Mt Lebanon Blvd
Pittsburgh 412-563-0303
Tex Parvin Sales Co 307 Addison Road
Dallas 214-239-9148
Utah Electronic Components Sales 4480 Camille Dr
Salt Lake City 801-278-6044
Can CTS of Canada Ltd 80 Thomas St
Streetsville 826-1141
For Moriss Saliss Box 2307 GPO San Juan, P R
For Indelec S A Apartado 2018 Caracas, Ven
Den Vitrohm Elctns Industr Linde Alle 51-53
Copenhagen-Vanlose 74 42 00
Fr Manudax-France S A R L 3 Ave Jos Beidier
Paris 13E
Ger CTS Deutschland GmbH Wuppermanstr 1
Pinneberg/Holstein 04101-5094
GB A B Elctn Components Ltd Abercynon Works
Glamorgan .... EUS 9226
Ital Infin, SAS Via Avellino, 6 Torino 48 22 22
Arg J Luis Pontet, S A Avda Cordoba 1432
Buenos Aires
Belg Manudax S A R L 108/110 rue Stephenson
Brussels 3
Mex Coypo S A Velazquez 163 Mexico 19 63-54-00
Mex Distrimex S A Box 60506 Mexico 18 D F ... 15-39-71
Aust IRH Components Pty Ltd Box 71 Kingsgrove
Sydney, NSW 50-0111

CTS ELECTRONICS INC 1010 SYCAMORE AVE
SOUTH PASADENA CAL 91030
TWX 910-321-4060 .... 213 254-9141
J BELL EMP 400 ENG 15
Ala NBS Inc Box 1343 Huntsville 881-3175
Ariz Hecht Henschen & Assoc 3825 North 39th Ave
Phoenix
Cal Jack Logan & Assoc 801 Mahler Rd
Burlingame .... OX 7-6100
Colo Electronic Components Sales Box 22011
Denver 303-771-6200
Conn Comp Rep Assoc 22 Broadway
North Haven 203 239-9762
Fla Orbe Inc 4110 Central Ave
St Petersburg 813-894-0687
Ill CTS Knights Inc 101 E Church St
Sandwich 815 786-2141
Ind CTS Corp 905 N West Blvd Elkhart ... 219-293-7511
Kan Poly-onics Inc 4434 W 90th Terr Leawood .. NI 8-4173
Ky CTS of Paducah Inc 1500 N 8th St
Paducah 442-1641
Mass Comprep Assoc Inc 1116 Great Plain Ave
Needham 444-2484

Mich J L Montgomery Co 24001 Southfield
Southfield 313 358-2616
Minn Robert W Marshall Co 6106 Excelsior Blvd
Mnpls 929-0457
Mo Poly-Onics Inc 47 Vlg Sq Shop Ctr
Hazelwood ....314 TE 7-0597
NM Electronic Components Sales 209 San Pablo S E
Albuquerque 505-256-3663
NY S-J Sales Assoc Inc 148-05 Archer Ave
Jamaica ....AX 1-3232
NC CTS of Asheville Inc Mills Gap Rd Skyland . . . 341-0785
Ohio Baehr Greenleaf & Assoc 14700 Detroit Ave
Cleveland ....AC 1-9030
Ore Richard Legg Co Box 25327 Portland . . 503-292-8824
Pa Covert & Newman Co 300 Mt Lebanon Blvd
Pittsburgh 563-0303
Tex Parvin Sales Co Box 307 Addison 214 239-9148
Utah Electronic Components Sales 445 E 2nd S
Salt Lake City 801-355-5327
Can CTS of Canada Ltd 80 Thomas St
Streetsville Ont 826-1141

CTS KNIGHTS INC 101 E CHURCH ST SANDWICH
ILL 60548 TWX 910-642-0860 ....815 786-8411
M HINKLE EMP 850 ENG 25 $5,000-$10,000M
Ala NBS, Inc Box 1343 Huntsville 205 881-3175
Ariz Hecht Henschen & Assoc Box 21166
Phoenix 602-275-4411
Cal Jack Logan & Assoc 801 Mahler Rd
Burlingame ....OX 7-6100
Cal CTS Electronics Inc 1010 Sycamore Ave
S Pasadena 213-254-9141
Colo Electronic Component Sales Inc Box 22011
Denver 303-771-6200
Conn Comprep Assoc 14 Bowling Green Ave
North Haven 203-239-9762
Fla Orbe Inc 4110 Central Ave
St Petersburg 813-894-0687
Ill CTS Corp 101 Church St Sandwich . . . 815-786-8411
Ind CTS Corp NW Blvd Elkhart ....JA 3-0210
Md CTS Corp Box 322 Cherry Hill NJ 609 424-1207
Mass Comp Rep Assoc Inc 1116 Great Plain Ave
Needham 617-444-2484
Mich J L Montgomery Inc 24001 Southfield Rd
Southfield 313 358-2616
Minn James Lee Co 4241 Toledo Ave S
Mnpls 612-920-1525
Mo R R Burton Sales 1016 Baltimore Ave
Kansas City 816-471-2850
NJ F F Sylvester Assoc 649 Morris Ave
Springfield 201-DR 6-3324
NY E W Stone Co 308 Merritt Ave
Syracuse 315-469-6688
NC CTS Corp Mills Gap Rd Skyland 704-684-6451
Ohio Sheridan Assoc Box 37646 Cincinnati . . 513 761-5432
Ore Richard Legg Co Box 25327 Portland . . 502 292-8824
Tex Parvin Sales Box 307 Addison 214 239-9148

CTS MICROELECTRONICS INC BOX 1278
LAFAYETTE IND 47902
TWX 810-342-1882 317-463-2565
R BRISTOL EMP 380 ENG 26
Ala NBS Inc Box 1343 205-881-3175 . . . . 205 536-7786
Ariz Hecht Henschen & Assoc Box 21166
Phoenix 602-275-4411
Cal Jack Logan & Assoc 801 Mahler Rd
Burlingame ....OX 7-6100
Colo Electronic Components Sales Inc 2340 W Main St
Littleton 798-8481
Conn Comprep Assoc Inc 14 Bowling Green Ave
North Haven 239-9762
Fla Orbe Inc 4110 Central Ave St Petersburg . . . 894-0687
Ga NBS Inc 4500 Bellsferry Rd Kennesaw 926-6324
Kan Poly-Onics Inc 4434 W 90th Terr Leawood . NI 8-4173
Mass Comprep Assoc Inc 1116 Great Plain Ave
Needham 444-2485
Mich J L Montgomery Inc 24001 Southfield Rd
Southfield ....MI 6-6894
Minn Robt W Marshall Co 6106 Excelsior Blvd
Minneapolis 929-0457
Mo Poly-Onics Inc 47 Vlg Sq Shop Ctr
Hazelwood ....TE 7-0597
NJ CTS Corp Box 322 Cherry Hill 424-1207
NM Electronic Components Sales Inc Box 3087
Albuquerque 344-8130
NY S-J Sales Assoc Inc 148-05 Archer Ave
Jamaica ....AX 1-3232
NC CTS of Asheville Inc Mills Gap Rd Skyland . . . 684-6451
Ohio Baehr, Greenleaf & Assoc 14700 Detroit Ave
Cleveland ....AC 1-9030
Ore Richard Legg Co Box 25327 Portland 222-1353
Pa Covert & Newman Co 300 Mt Lebanon Blvd
Pittsburgh 563-0303
Tex Parvin Sales Co Addison Rd Addison
Utah Electronic Components Sales Box 2066
Salt Lake City 262-3700

CUBEX CO 373 PARKMAN ALTADENA
CAL 91001 ....213 798-8106
M CARLTON EMP 2 ENG 2 UP TO $100M

CULBERTSON PRODUCTS INC 4 CLAREMONT RD
BERNARDSVILLE N J 07924 201-766-0913
R EAVES EMP 30 ENG 2 $250-$500M
Ariz Electrical Specialty Co 916 W Adams St
Phoenix ....AL 2-2107
Cal Electrical Specialty Co 2820 E 12th St
Los Angeles ....AN 9-9511
Colo Electrical Specialty Co 2026 Arapahoe St
Denver ....CH 4-4588
Ill Knoblock & Assoc 4902 Tollview Dr
Rolling Meadows 392-8586
NY Tollefson Assoc 71 State St Pittsford
Ore Electrical Specialty Co 1822 NW 25th Ave
Portland ....CA 7-3601
Wash Electrical Specialty Co 2406 First Ave S
Seattle ....MA 3-8061

CULLIGAN INC 1657 SCHERMER RD NORTHBROOK
ILL 60062 ....312 272-1000
D MCCOMMON OVER $10,000M
ADV PG 223

CUNNINGHAM CORP SUB GLEASON WKS
10 CARRIAGE ST HONEOYE FALLS N Y 14472
TWX 510-254-4202 716-624-2000
V FRANCESCA EMP 100 ENG 5 $1,000-$2,500M
ADV PG 598
Ala Gentry Assoc 2109 W Clinton St Huntsville . . 534-9771
Ariz T Louis Snitzer Co 15 No 40th Pl
Phoenix 602-273-1673
Cal T Louis Snitzer Co 9005 Exposition Blvd
Los Angeles 213-836-6170
Conn Instrument Consultants Inc 2381 Whitney Ave
Hamden 248-4174
Fla Gentry Assoc 550 N Bumby Ave Orlando 841-7740
Ga Gentry Assoc Box 13513 Sta K Atlanta 233-3816
Ill Scientific Sales Corp 7132 N Harlem Ave
Chicago 775-7594
Ind Scientific Sales Corp 5555 N Tacoma Ave
Indpls 317-253-4606
Md Bartlett Assoc 7979 Old Georgetown Rd
Bethesda 656-3061
Mass Instrument Consultants Inc Box 25 Waban . . 969-9881
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 313-357-3700
Minn Scientific Sales Corp 5100 Edina Ind Blvd
Mnpls 612-941-2215
NY Bartlett Assoc 470 Mamaroneck Ave
White Plains 914-949-6476
NC Gentry Assoc 116 E O Neal Ave
Burlington 919-227-2581
Ohio S Sterling Co 2673 Culver Ave Dayton 298-7573
Pa Bartlett Assoc 130 W Lancaster Ave
Wayne 215-688-7325
Tex Scientific Sales Co 777 S Central Expwy
Richardson 214-231-6541
Wash Paratech 2208 NW Market St Seattle . 206-784-6447
WVa S Sterling Co 2 Parkway Ctr
Pittsburgh Pa 412-922-5720
Can X-Tronix Engrg Box 190 Sta H Toronto Ont . 425-6118
Fr Imex-France B P 93
2 Rue Navoiseau Montreuil-Sous Seine . . . 808-1920
Neth Schreiner & Co N V Parkstr 99
The Hague 070-601930
Jap Takeda Riken Industry Co Ltd
285 Asahi-Cho Nerima-Ku Tokyo 930-4111
Isrl G E T S Ltd 44 Petach Tiqva Rd Tel-Aviv 32089

CUNNINGHAM INDUSTRIES INC 56 HUBBARD AVE
STAMFORD CONN 06905 ....203 324-2942
F CUNNINGHAM EMP 3 ENG 2 UP TO $100M
ADV PG 281

CURRY ENGINEERING CO 5655 CAHUENGA BLVD
N HOLLYWOOD CAL 91601 ....213 877-1786
R CURRY EMP 20 ENG 5 $250-$500M

CURTIS DEVELOPMENT & MFG CO 3226 N 33RD ST
MILWAUKEE WIS 53216
TWX 910-262-3125 ....414 445-1817
R LARSEN EMP 135 ENG 10
ADV PGS 577,625
Ariz Nelson Co Box 13546 Phoenix 272-2065
Cal Ewing-Foley Inc 900 N San Antonio Rd
Los Altos 941-4525
Colo Nelson Co 1294 S Bannock Denver 733-5528
Fla Buchanan & Abrams Assoc 1512 E Concord Ave
Orlando 423-8995
Haw Dougherty Enterprises 1164 Waimanu St
Honolulu
Ill Rockford Controls Co 21W181 Hill Ave
Glen Ellyn 312 469-6016
Ind Val-Skol Sales Inc 510 Ft Wayne Bank Bldg
Fort Wayne 742-9122
Md Naudain Assoc Box One Lutherville 252-5378
Mass Electrical Apparatus Co 1200 Soldiers Field Rd
Boston 782-7440
Mich Hilltronics, Inc 13720 Puritan Ave Detroit . . 342-3242
Minn Northport Engrg Inc 2027 Grand Ave
St Paul 563-3674
Mo E J McCaffrey 505 Delaware Kansas City . . 842-4640
NY Cooper-Simon & Co Inc 7 W Broad St
Mt Vernon 699-5400
NC L G White & Co 1014 Brookstown Ave
Winston-Salem 725-3612
Ohio Val-Skol Sales Inc 12417 Cedar Rd
Cleveland Hts 321-0266
Pa Naudain Assoc 1032 Suburban Sta Bldg
Philadelphia 654-3194
Tex R F Kimball Co 5531 Dyer St Dallas 361-6067
Wash C B Parsons & Co 5319 Fourth Ave S
Seattle 872-7373
Can A C Simmonds & Sons, Ltd 285 Yorkland Blvd
Agincourt, Ont 445-9111
For Conductores & Accessorios, SA Lerma 345-102
Mexico 5, DF 11-57-81
Fr Martindale Electrique, S A
147 Rue D'Aguesseau Boulogne Paris
GB Martindale Elec Co Ltd Neasden La
London NW 10

CURTIS INSTRUMENTS INC 200 KISCO AVE MT KISCO
N Y 10549 TWX 710-571-2163 ....914 MO 6-2971
E MARWELL EMP 27 ENG 4
ADV PGS 358,711
Cal Cairns Engrg Sales Co 6151 W Century Blvd
Los Angeles 670-1700
Cal Cairns Engrg Sales Co 900 N San Antonio Rd
Los Altos 321-8737
Colo Aztec Enterprises Inc 3385 S Bannock
Englewood 761-0101
Ill Midwest Electronic Sales 5707 W Division
Chicago 626-0030
Ind McDonald Sales Co 227 S Cornell Cir
Fort Wayne 745-9214
Md Aeron Assoc 1110 Fidler Silver Spring 588-4047
Mass Harmon Assoc 251 Harvard St Brookline . . . 232-6687
Minn E C Electronic Sales 10108 Abbott Ave S
Minneapolis 888-4626
Mo Kay Sales Co 4149 Penna Kansas City 221-2733
NM Aztec Enterprises Inc 3202 Caldelaria Rd
Albuquerque 345-3441
NY B D Aaron & Co 55 Northern Blvd
Greenvale ....MA 1-0630
NY Rep Tech, Inc Box 98 Pickard Bldg
Syracuse 454-0761
Pa W Reeves Assoc 2973 N Providence Rd
Media ....LO 6-6709
Tex Techno Assoc 2324 Shore Crest Dr Dallas . . FL-7-9213
Wash J J Backer Co 221 W Galer Seattle ....AT 3-6470
Wis Midwest Electronic Sales 1317 Garfield Ave
Waukesha ....LI 2-5129
Can Brian Engineering Ltd 2445 Duncan Rd
Montreal 735-1671
Fr Technique et Produits Rue Carle-Vernet Seures
GB Miniature Electronics, Ltd Copse Rd, St Johns
Woking, Surrey

CURTISS-WRIGHT CORP ELECTRONICS DIV
35 MARKET ST E PATERSON N J 07407
TWX 133323 ....201 777-2900
J KASLEY EMP 600 ENG 100 OVER $10,000M

CURTIS UNIVERSAL JOINT CO 19 BIRNIE AVE
SPRINGFIELD MASS 01107 ....413 737-0281
T CAVANAUGH EMP 35

CUSH CRAFT 621 HAYWARD ST MANCHESTER
N H 03103 603-627-7877
R CUSHMAN EMP 25 ENG 2 $250-$500M
Ala Stanley K Wallace Assoc 1871 Grove Hill La
Montgomery
Cal Frank Sacks Co 914 E Armstrong
Santa Maria 625-2365
Colo W B Golliher Co 12891 E Nevade Cir Aurora . 366-0208
Fla Stanley K Wallace 3115 N W 81st Terr
Miami 691-1654
Ga Stanley K Wallace Assoc 715 Flamingo Dr
Atlanta
Kan Lowell, Kangas & Assoc, Inc Box 4116
Overland Park 888-3200
Mo Lowell, Kangas & Assoc
Box 12526 Creve Coeur Sta St Louis 647-1111
NJ Braddock Assoc Box 305 Haddonfield 429-0087
NY Chester Drexler Co 3 Lee Dr Farmingdale . . CH 9-8206
NC Stanley K Wallace Assoc Box 26 Kernersville
Ohio Ohio Assoc Box 283-A N Jackson
SC Stanley K Wallace Assoc Box 215 Mathews
Tenn Stanley K Wallace Assoc 5960 Brierdale Cove
Memphis
Tex Branum Sales Co 747 Sherman St
Richardson 231-6148
For Emec, Inc 160 Terminal Dr Plainview, N Y . WE 1-3700

CUSHMAN ELECTRONICS INC
166 SAN LAZARO AVE SUNNYVALE
CAL 94086 ....408 739-6760
H ANDERSON EMP 65 ENG 6 $1,000-$2,500M
Cal Kennedy Engrg Co Box 2667
Santa Fe Springs 213 868-9965
Cal Dolphin Engineering 3410 Lakeshore Ave
Oakland 415-451-8262
Colo Lindberg Co 2654 S Krameria Denver . . 303 757-6489
Fla Elmore Electronics, Inc 5310 Diplomat Cir
Orlando 305 647-1900
Haw Intelect, Inc 818 Kapiolani Blvd
Honolulu 808-531-0437
Ill W L Cunningham & Assoc 435 Addison Ave
Elmhurst 312 832-0905
Md Tessco, Inc 1931 Greenspring Dr
Timonium 301 252-5610
Mass Techmar Assoc 18 Bothwell Rd
Brighton 617-782-2244
Neb Comm Systems Assoc 203 Chevro La
Bellevue 402 291-4309
NM A L S Electronics Box 11626
Albuquerque 505 298-2575
NY Puleo Assoc 39 Hutcheson Pl Lynbrook . 516-599-4875
NY Tesco Assoc 2002 Teall Ave Syracuse . . 315-463-4566
Ohio Peter E Lax Co 13945 Lake Ave
Cleveland 216 226-8815
Pa Peter E Lax Co 1725 Washington Rd
Pittsburgh 412 833-5477
Tex Diversity Communications Co 6434 Maple Bldg
Dallas 214 351-1611
Va Tessco Inc 2713 Greenhill La
Lynchburg 703 384-2062
Wash B J Hudson Co 10210 NE 8th St
Bellevue 206-455-0773
Can Tele-Radio Systems Ltd 1015 Finch Ave W
Toronto, Ont 635-5221
Can Tele-Radio Systems 281 Palace St
Eastview Ottawa Ont
BC Tele-Radio Systems Ltd 1518 W Third Ave
Vancouver ....RE 11321

CUSTOM COATING & LAMINATING CORP
717 PLANTATION ST WORCESTER
MASS 01605 ....617 752-3631
EMP 6 ENG 1 $500-$1,000M

CUSTOM COIL CO 640 LEE ST ZANESVILLE
OHIO 43701 ....614 452-6973
D YOUNG EMP 84 ENG 3 $500-$1,000M

CUSTOM COMPONENTS INC BOX 248 CALDWELL
N J 07006 ....201 226-3403
C ZUCCON EMP 40 ENG 3 $500-$1,000M
Cal Yarbrough Sales 1608 Orange St Alhambra . 283-0668
Fla Wm Jones Co 2317 E South St Orlando 424-6298
Ga Wm Jones Co 2666 Redding Rd NW Atlanta . 261-8275
Ill Rozner Sls Corp 4720 N Central Ave
Chicago ....AV 3-0022
Md Wm Jones Co 1107 Echo Ct N Towson 823-5721
Mich R S Lohman Co 21501 W 7 Mile Rd Detroit . 535-6144
Minn Wagner Component Consultants 542 S Snelling
St Paul 698-0331

Mo Havercamp & Day Co 8115 Troost
Kansas City 444-0683
NJ Wm Jones Co 332 S Landing Rd
Maple Shade 662-0480
NY Stuart F Foster Co 2806 Hennaberry Rd
Pompey 677-3333
Ohio Leo Liakos 1479 Devonhurst Dr
Columbus 614 866-6701
Okla Gordon V Peck Co Box 15671 Tulsa 939-3047
Ore C K Shanks Assoc 3104 SW 87th Ave
Portland 292-5656
Tex Gordon V Peck Co 210 Casa Linda Plaza
Dallas 328-3511
Can Lake Engineering Co 123 Manville Rd
Scarborough, Ont 757-3253

CUSTOM COMPONENT SWITCHES INC
21111 PLUMMER ST CHATSWORTH CAL 91311
TWX 910-494-1927 ....213 341-4610
C CASEY EMP 300 ENG 35 $5,000-$10,000M
Ala Air & Hydraulics Eng Inc 124 W Oxmoor Rd
Birmingham 879-1701
Ariz Haskel Engrg & Supply 3518 N 24th St
Phoenix 956-4740
Cal Haskel Engineering & Supply 100 E Graham Pl
Burbank 843-4000
Colo Haskel Engrg & Supply 2262 S Broadway
Denver 744-6456
Conn O E Pfannkuch 935 White Plain Rd
Trumbull ....AM 8-4950
Fla Craft Assoc Box 986 Maitland 645-2242
Ga Air & Hydraulics Engrg 3201B Cains Hill Pl NW
Atlanta 261-8451
Ill Fluid-Scope 15 S Wolf Rd Northlake .....MU 1-1050
Ind Fluid-Scope 5257 N Tacoma Indianapolis ...251-9411
Kan Sturgis Equip Co 8418 Peach Tree La
Wichita ....MU 4-4440
La Hildebrandt Engrg Co Box 183 Metairie 729-2692
Md Dees Hydraulics 4501 E Monument St
Baltimore 276-5600
Mass Lindco Inc 765 W Boylston St Worcester ...853-2882
Mich J H Bennett & Co 12605 Arnold Ave
Detroit ....KE 7-0577
Minn William M Ruva Co 3553 46th Ave S Mnpls .724-1744
Mo Sturgis Equip Co 601 S Taylor Ave
St Louis ....OL 2-5380
NJ George M Pearse & Co 907 E Hazelwood Ave
Rahway 382-5730
NY Keller Ind Products 70 Mt Hope Ave
Rochester 546-4313
NC General Control Eqpt Co Box 15315
Charlotte 588-0484
Ohio W J Purcell Co 4315 Myrtle Ave Cincinnati .SY 1-1131
Okla Kennedy Engnrg Co 1312 S Peoria Tulsa ...582-7178
Ore Haskel Engineering & Supply 3158 E Burnside
Portland 234-7293
Pa Winco Fluid Power 2414 Old Welsh Rd
Willow Grove 657-0616
Tenn Air & Hydraulics Engrg 107 Jubilee Rd
Chattanooga 892-3985
Tex Hildebrandt Engrg Co 7707 Pinemont St
Houston 462-5341
Va Robts Lovelace Co Inc Box 7187 Richmond ..358-0404
Wash Haskell Engineering & Supply 206 Brandon
Seattle 762-7222
WVa S G Morris 222 South St South Charleston ..744-0294
Wis D E Riley Corp 7832 W Burleigh St
Milwaukee 871-4040
Can Pneumatic Ind Equip Co 85 Nantucket Blvd
Scarborough Ont 751-9910
Can Rousseau Controls Ltd 271 Labrosse Ave
Pointe Claire Que 695-1240
Ger Amphenol-Tuchel Elctns GmbH 8024 Deisenhofen
Bei Munich
GB Arca Controls Ltd Biddenham Wks Old Fordend Rd
Bedford
GB Waycom Ltd Workingham Rd, Bracknell Berks
Neth DeGidts & Feldman 8, Haringvlietstr
Amsterdam - Z
Ital Fas Intl Via F Koristka 8 Milano
Jap Japan Controls Ltd Box 1187 Tokyo
Swed Hymo-AB Hydraulmekono Box 75 Norrkoping
Belg Broomwade-Belge S A Nijverheidslaan I
Diegem-Lex-Bruxelles
Mex Tableros YControls S A San Francisco 765
Mexico 12 DF

CUSTOM CONTROL MFG INC 5601 MERRIAM DR
MERRIAM KAN 66203 ....913 RA 2-0343
M HUCKABY EMP 19 ENG 2 $100-$250M

CUSTOM ELECTRONICS INC BROWNE ST ONEONTA
N Y 13820 607-432-1962
D HATHAWAY EMP 85 ENG 6 $1,000-$2,500M
Cal M A Stolarott Co 4622 W Slauson Ave
L A 213-295-7781
Ill Rozner Sales 4720 No Central Ave
Chicago 312-283-0022
Md Naudain Assoc Box 1
Lutherville-Timonium 301-252-5378
Mass Musello Assoc Box 125 Stow 617-369-5900
NY LRC Assoc 652 Waters Edge
Vally Cottage 212-298-8964
NC Naudain Assoc Box 2186 Raleigh
Pa Naudain Assoc 1032 Suburban Sta Bldg
Phila 212-564-3194
Tex Hillman Enterprises 3505 Turtle Creek Blvd
Dallas 214-521-9907
For R I Mendels Co 21 Gray Oaks Ave
Yonkers 914-965-4210

CUSTOM MATERIALS INC ALPHA INDL PARK
CHELMSFORD MASS 01824
TWX 710-343-6929 617-256-3911
J LEARD EMP 50 ENG 10 $1,000-$2,500M
Ariz Fryco 403 N Old Scottsdale Rd Scottsdale .WH 5-3281
Cal Jay Stone & Assoc 140 Main St Los Altos ..948-4563
Fla Brennan Assoc Box 5006 Clearwater ..813-446-5006
Ga Brennan Assoc Box 372 Atlanta 404-939-6094

Ill Communications Engineers 7106 N Western Ave
Chicago ....RO 1-0548
Kan Simpson Enterprises Box 18066 SE Sta
Wichita ....WH 3-0502
NJ Unicomp, Inc 18 Sunny Ridge Rd Wayne 696-2888
Ohio FCI 12212 Sprecher Ave Cleveland 216-267-3530
Tex Thorson Co 7700 Carpenter Frwy Dallas ..ME 1-5440
Va Schibley Assoc 10604 Warwick Ave Fairfax .591-3008
Wash Bergford & Assoc 5600 Calif Ave S W
Seattle 206-937-6664
Can J Herring & Co Ltd 3468 Dundas St W
Toronto, Ont 762-7545
Fr Auriema-France 90-98 Victor Hugo Blvd
92 Clichy
GB Rank Precision Ind Park La Shiremoor
Northumberland
Ind Cinerama Private Ltd Box 1232 Bombay
Isrl Talviton Box 3282 Tel-Aviv

CUSTOM METAL PRODUCTS DIV TYCO LABS INC
200 BROADWAY GARDEN CITY PARK
N Y 11040 ....516 741-1100
P STANGER EMP 100 ENG 4 $1,000-$2,500M
Mass L Roffer Co 12 Nancy La Framingham ..617 877-4900

CUSTOM SCIENTIFIC INSTRUMENTS INC
BOX A, 13 WING DR WHIPPANY
N J 07981 ....201 538-8500
H BULTMAN JR EMP 24 ENG 3 $500-$1,000M
NC S McIntosh 7316 Marlbrook Dr Charlotte ..537-9043

CUTLER-HAMMER INC 4201 N 27TH ST
MILWAUKEE WISC 53216
TWX 910-262-3089 ....414 442-7800
J COOK EMP 4500 ENG 600 OVER $10,000M
Ala Cutler-Hammer Inc 15 Office Pk Cir
Birmingham 871-1166
Ariz Cutler-Hammer Inc 1741 E Thomas Rd
Phoenix 264-1184
Cal Cutler-Hammer Inc 6431 Bandini Blvd
Los Angeles 723-8391
Colo Cutler-Hammer Inc 2650 W 2nd Ave 4
Denver 934-5408
Conn Cutler-Hammer Inc 1700 Post Rd Fairfield ..255-1561
DC Cutler-Hammer Inc 12216 Parklawn Dr
Rockville 946-1450
Fla Cutler-Hammer Inc 6957 Lillian Rd
Jacksonville 725-2845
Ga Cutler-Hammer Inc 3001 McCall Dr
Doraville 451-2331
Ill Cutler-Hammer Inc 3201 Old Glenview Rd
Wilmette 273-4150
Ind Cutler-Hammer Inc 2511 E 46th St
Indianapolis 546-4096
Iowa Cutler-Hammer Inc 220 Main St Davenport .323-8057
Kan Cutler-Hammer Inc 5845 Horton Mission ...236-6313
La Cutler-Hammer Inc 4860 General Meyer Ave
New Orleans 366-1616
Md Cutler-Hammer Inc 320 Hillen Rd Towson ...825-6041
Mass Cutler-Hammer Inc 415 Western Ave
Brighton 254-6210
Mich Cutler-Hammer Inc 24315 Northwestern Hwy
Southfield 444-8700
Minn Cutler-Hammer Inc 4439 Hiawatha Ave
Mnpls 721-4453
Mo Cutler-Hammer Inc 8118 Page Blvd
St Louis 429-7711
Neb Cutler-Hammer Inc 6936 Maple St Omaha ..553-6553
NH Cutler-Hammer Inc 4 Tanglewood Dr Dover .742-1687
NJ Cutler-Hammer Inc 370 Chestnut St Union ..687-4433
NM Cutler-Hammer Inc 1405 'D' San Mateo Blvd NE
Albuquerque 268-7190
NY Cutler-Hammer Inc 733 Third Ave
New York 687-0707
NC Cutler-Hammer Inc 4200 Park Rd Charlotte .523-3056
Ohio Cutler-Hammer Inc 1461 W 117th St
Cleveland 221-0100
Okla Cutler-Hammer Inc 8102 E 46th St Tulsa ..627-3312
Ore Cutler-Hammer Inc 936 SE Ankeny
Portland 234-6488
Pa Cutler-Hammer Inc 2 Radnor Sta Bldg
Radnor 878-0820
RI Cutler-Hammer Inc 152 Warren Ave
E Providence 434-8555
SC Cutler-Hammer Inc 209 E Stone Ave
Greenville 232-4639
Tenn Cutler-Hammer Inc 3340 Poplar Ave
Memphis 458-2631
Tex Cutler-Hammer Inc 9209 Chancellor Row
Dallas 631-3460
Utah Cutler-Hammer Inc 3068 Highland Dr
Salt Lake City 487-1338
Va Cutler-Hammer Inc 4906 Fitzhugh Ave
Richmond 353-4413
Wash Cutler-Hammer Inc 615 8th Ave S Seattle ..624-5735
WVa Cutler-Hammer Inc 1018 Kanawha Blvd E
Charleston 343-4141
Wis Cutler-Hammer Inc 7701 N Teutonia Ave
Milwaukee 354-6050

CUTLER METAL PRODUCTS CO 1025 LINE ST
CAMDEN N J 08103 ....609 WO 3-1060
H CUTLER EMP 300 $2,500-$5,000M

CVI CORP 930 KINNEAR RD COLUMBUS OHIO 43212
TWX 614 759-0367 ....614 486-9535
G KANNAPEL EMP 150 ENG 50 $5,000-$10,000M
Cal CVI Corp 14937 Ventura Blvd
Sherman Oaks 783-3170
Tex CVI Corp 1115 Gemini Ave Houston 488-1111
Can Stork Werkspoor Can Ltd 1600 Norman St
Lachine Montreal 514 637-4681

CYCLE-DYNE, INC 134-20 JAMAICA AVE DEPT CD
JAMAICA N Y 11418
TWX 710-582-2618 ....212 291-3907
G MCCOOK $1,000-$2,500M
Colo E & M Sales Co, Inc 2660 Walnut St
Denver 303-244-4291

DC Precision Sales Co 9301 Georgia Ave
Silver Spring Md 301 589-7690
Fla H R Gross & Co Box 4607 Clearwater ..813-446-6649
Ga Applebee-Church, Inc 1958 A Monroe Dr, NE
Atlanta 875-7244
Ill Robert J Songer Eng Co Box 801
Lake Forest ....CE 4-5886
Md Precision Sales Co 104 W Joppa Rd
Baltimore 828-4897
Mass Thermo Technology Assoc 27 Tanglewood Rd
Wellesley 469-0351
Minn Volco Co 831 S Sixth St Minneapolis 336-6631
Mo Engineered Sales Assoc 18 Progress Pkwy
Maryland Heights 314-432-1800
NJ Ferrotherm 23-35 Bell Blvd Bayside ...212 229-5638
NY Ferrotherm 23-35 Bell Blvd Bayside.......229-5638
NC Carolina Technical Reps 211 Greenwich Rd
Charlotte 704-364-0163
Ohio Hawkins & Hawkins 245 Acorn Dr
Dayton 513-293-2628
Pa J V Calhoun Co 349 Montgomery Ave
Bala-Cynwyd 215-839-3000
SC Applebee-Church, Inc 1599 Broad River Rd
Columbia 803-772-3142
Tex Kencar Co Box 6770 Ft Worth 817-WA3-4476
Wis AKO Engrg Sales & Service
12819 W Silver Spring Rd Butler 781-8360
For Kerby Intl Inc 14 Maiden La
New York, N Y ....CO 7-5890

CYCLE EQUIPMENT CO BOX 307 LOS GATOS
CAL 95030 ....408 378-4220
H ALLEN EMP 7 ENG 1 UP TO $100M
Ala Data Processors Supply Co Box 3263
Huntsville 205 534-2198
Cal O H Davison Co 760 Bryant St
San Francisco 415 421-3688
DC Rex Peake Assoc, Inc 1346 Connecticut Ave, N W
Washington 202 223-4737
Fla MacDonald Computer Supplies Co Box 68-501
Miami 305 757-1091
Ill Edw R Stemm, Inc 17W480 Lake St
Addison 312 279-2440
Minn R Edward Stemm Inc 2713 Lundale Ave So
Minneapolis 612 822-8404
NM E D Flournoy & Assoc 923 Monroe St N E
Albuquerque 505 268-4589
Ohio Geo H Drysdale & Assoc 4512 Forest Trail
Cincinnati 513 752-2069
Tex Whitfield Co 14028 Brookcrest Dr
Dallas 214 235-2776
Wash Computer Products Co 2716 Second Ave
Seattle ....206 MU 2-7394
Can York Instruments 1262 Don Mills Rd
Don Mills Ont 445-1255

CYCLE TRANSFORMER CORP 177 MAIN ST
WEST ORANGE N J 07052.............201-731-7440
P BRUBAKER EMP 60 ENG 3 $500-$1,000M

CYCLO-TRONICS, INC 3858 N CICERO AVE CHICAGO
ILL 60641 ....312 282-6141
D GOLDWARE EMP 10 ENG 1 $100-$250M
Cal Eastman Kodak Stores 2021 S Flower St
Los Angeles 213 748-7351
Mass Circuit Lines Assoc Box 261 Groton 617 448-5280
NY Eastman Kodak Stores 1 W 39th St
New York ....212 LO 4-6240
For B Freudenberg, Inc 50 Rockefeller Plaza
New York, N Y ....PI 7-9130

DABURN ELECTRONICS & CABLE CORP
2360 HOFFMAN ST BRONX N Y 10458 ...212 295-0050
S SCHAEFFER
ADV PGS 690,719
Ala Frank C Nickerson Co Box 1463
Huntsville 704 525-2683
Cal Rissi Sales Co 1817 S San Gabriel Blvd
San Gabriel 213-283-7614
Colo AES Inc 1549 Chester St Aurora 303 366-0208
Fla Frank C Nickerson Co 611 NW 73rd Terr
Ft Lauderdale 305-524-4331
Ga Frank C Nickerson Co 1244 Claimont Ave
Decatur 404-377-1575
Md Charles Lienau Co 11411 Amherst Ave
Wheaton 301-949-6464
Mass Anderson Sales Co 177 State St
Boston 617-227-2980
Mo Havacamp & Day 8115 Troost
Kansas City 816-444-2871
NY Maury Farber Assoc 220 Delaware Ave
Buffalo 716-856-3543
NC Frank C Nickerson Co 4332 University Dr
Charlotte 704 525-2683
Ohio Thomas Shelby & Co 17 S Walnut St
New Bremen 419-629-6511
Pa Gene S Root & Co 809 Wainwright Dr
Pittsburgh 412-561-4125
SC Frank C Nickerson Co Rt 6 Salters Rd Greenville
Tex J Earl Smith Co 1353 Chemical St
Dallas ....214 ME 1-1727
Wash Electronic Sales Corp 621 S Michigan St
Seattle 206-767-3160
Wis Mueller Elctn Sales 10721 W Capitol Dr
Milwaukee 414 464-4210
Can Abbey Electronics Ltd 1 Daybar Ave
Rexdale, Ont 416-249-8431
For Roburn Agencies Inc 431 Greenwich St
New York N Y 212-966-2130

DACO INSTRUMENT CO INC MERRITT BLVD
TRUMBULL CONN 06611
TWX 710-453-1095 ....203 375-5871
A STAUBER EMP 125 ENG 4 $1,000-$2,500M
GB Bowmar Instr Ltd Drakes Way
Swindon, Wiltshire ....Swindon 21351

DAEDALUS SALES CO 1338 S ATLANTIC BLVD
LOS ANGELES CAL 90022 ....213 263-7451
H BENIKE EMP 3 ENG 1 UP TO $100M

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DAGE ELECTRIC CO INC HURRICANE RD FRANKLIN IND 46131 TWX 810-260-2600 ....317 736-6136
W CANFIELD

Ala	Bendix 3322 Memorial Pkwy S Huntsville	881-9700
Ariz	Jewett Co Box 172 Scottsdale	945-9711
Cal	Jewett Co 13111 Ventura Blvd North Hollywood	789-8103
Cal	Bendix 800 San Antonio Rd Palo Alto	327-4511
Cal	Bendix 1001 S Grand Ave Santa Ana	547-6454
DC	Bendix 1730 K St NW Washington	333-8200
Fla	Bendix 2122A E Colonial Dr Orlando	241-6559
Ill	Wasson-Gallagher 1024 N Blvd Oak Park	383-6572
Ind	E H Jordan 6811 Grosvenor Pl Indianapolis	632-3321
Mass	Bendix 9 Meriam St Lexington	861-8900
Mich	E H Jordan 2024 Glen Dr Jackson	782-0694
Minn	Fred B Hill Co 6110 Excelsior Blvd Mnpls	939-6727
Mo	Bendix 3026 Aberdeen Pl Florissant	647-1111
NJ	Bendix 215 Union St Hackensack	343-8982
NY	Harries & Kershaw 15 Canterbury La E Aurora	652-1221
Ore	C K Shanks & Assoc 3104 SW 87th Ave Portland	292-5656
Pa	Bendix 128 Linden Ave Woodbury Heights N J	455-6868
Tex	Jack McKinney Sales Co 1303 Chemical St Dallas	631-9450
Tex	Jack McKinney Sales Co Box 1026 Bellaire	665-3653
Can	Simmonds Aerocessories of Can Ltd 637 Parkdale Ave N Hamilton Ont	547-1248

DAHLSTROM MFG CORP 443 BUFFALO ST JAMESTOWN N Y 14701 ....716 487-0111
R CARLSON EMP 750 ENG 20 OVER $10,000M

Cal	Littrell Western Sales Inc 100 Produce St S San Francisco	415-822-5595
Colo	Dahlstrom Mfg Co 11155 E 45th Ave Denver	303 366-3503
Ill	Jay C Angel & Co 2743 Peterson Ave Chicago	312-878-0653
Mass	Schutter Young Corp 22 Franklin Pl Beverly	617 922-6121
Mich	Malcolm V Otis Creson Bldg Birmingham	313 646-4412
Minn	Crum Co 1455 W Lake St Minneapolis	612 824-5394
NJ	Dahlstrom Mfg Corp 60 Glen Ave Glen Rock	201 447-2800
Ohio	Davis-Hawley Sales Inc 3725 Lee Rd Shaker Heights	216 751-7400
Pa	J A Schultz Co 530 Sixth Ave Pittsburgh	412 281-0511
Va	Royall B Ferguson Box 254 Lynchburg	703 846-7117

DAICO INDUSTRIES INC 1711 W 135TH ST GARDENA CAL 90249................213 532-7621
P NOOTEBOOM EMP 12 ENG 4 $250-$500M

Ariz	E Whittaker 710 E Erie Dr Tempe	602-967-0879
Cal	H Stout Assoc 200 Third St Los Altos	415-948-3265
Cal	Fred W Falck Co Inc Box 1733 La Jolla	233-3341
Ill	Communications Engrs 7106 N Western Ave Chicago	312-761-0548
Ind	Communications Engrs 418 East Erie Ft Wayne	219-743-9866
Kan	J C Mankus & Assoc Box 6264 Overland Park	913-DU-1-0004
Mass	Micronics Assoc Box 162 Cochituate	617 653-8229
Mo	J C Mankus & Assoc 400 Brookes La Hazelwood	314-731-4334
NJ	Bressler Assoc 4808 Bergenline Ave Union City	201-864-9577
Ohio	Max Gams 745 Salem Ave Dayton	513-278-6111
Pa	Walch Co Box 261 Newtown	215-968-3989
Tex	Roberts Sales Co 9704 Lanward Dr Dallas	214-348-4283
Wash	D & D Sales 43 Logan Ave S Renton	206 BA 6-4120

DAINICHI-NIPPON CABLES, LTD 3-4 MARUNOUCHI CHIYODAKU TOKYO JAPAN TWX 222-3146 03-216-1551
Y SAKIYAMA EMP 4300 ENG 700 OVER $10,000M
ADV PG 712

Cal	Mitsubishi Intl Corp 606 S Hill St Los Angeles	627-1491
Ill	Mitsubishi Intl Corp 130 East, Randolph Dr Chicago	467-1111
NY	Mitsubishi Intl Corp 277 Park Ave New York	212-922-3700
Ore	Mitsubishi Intl Corp 562 N Broadway Coos Bay	503 267-3066
Tex	Mitsubishi Intl Corp 1101 1st City Natl Bank Bdg Houston	228-7423
Wash	Mitsubishi Intl Corp 810 Third Ave Seattle	682-0744
Can	Mitsubishi Canada Ltd 900 W Hastings St Vancouver	682-2316
Fr	Mitsubishi France (SA) 25, Rue de Berri Paris	359-0927
Ger	Deutsche Mitsubishi 1 Ludwig-Zimmermannstr 4000 Dusseldorf	8691
GB	Mitsubishi Shoji Kaisha, Ltd Bread St London EC 4	City 3292
Ital	Mitsubishi Italia S p A Via Fabio Filzi 27 Milano	635342
Jap	Mitubishi Shoji Kaisha, Ltd 2-20, Marunouchi, Chiyoda-ku Tokyo	211-0211
SAfr	Mitsubishi Shoji Kaisha, Ltd 23, Rue Kasr EL Nil Cairo	40461

DAIWA, LTD. 1, 2-CHOME, EDOBASHI, NIHONBASHI CHUO-KU, TOKYO JAPAN, TWX 222-3388..........273-7001
KIM TAE ILL
ADV PG 82

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DALE ELECTRONICS INC BOX 609 COLUMBUS
NEB 68601 .... 402 564-3131
I GATES EMP 1750 ENG 80 OVER $10,000M
ADV PGS 432,433,552,553
Ariz Williams Assoc 1110 E McDowell Rd
Phoenix 602 254-6085
Cal J S Heaton Co 3695 Haven Ave Menlo Park . 369-4671
Cal J S Heaton Co Box 2757 Fullerton 714-521-3969
Colo Williams Assoc 4971 Jackson St
Denver 303 388-4391
Fla W J Reasor & Assoc 2605 Morrison Ave
Tampa 813 251-3825
Fla W J Reasor & Assoc Box 12601
West Palm Beach Gardens 848-0203
Ill D J M Electronic Sales, Inc
5356 N Milwaukee Ave Chicago 774-1212
Ind Scott Electronics Inc 911 N Penna Ave
Indianapolis 635-8951
Ind Scott Electronics Inc 418 E Berry St
Fort Wayne 743-1586
Md R L Wilkinson Inc 707 Stevenson La
Baltimore 377-7800
Mass Howard C Jappe 37 Hillcrest Rd Wakefield .. 245-9359
Mich Burcaw Co & Assoc 18236 W McNichols Rd
Detroit 533-7700
Minn Merrill Franklin Co 4820 Minnetonka Blvd
Minneapolis 612-920-8014
Mo Ray Deane 10825 McGee St Kansas City ... 942-0130
NJ Daniel Miller 9-09 Walsh Pl Fair Lawn 797-7782
NM Williams Assoc 3221 Silver Ave SE
Albuquerque 505 255-1638
NY Kaelber & Mack, Inc 75 Plandome Rd
Manhasset 627-6620
NY Maury Farber Assoc 220 Delaware Ave
Buffalo 856-5526
NC Jake Rudisill Assoc 2009 N Tryon St
Charlotte 704-377-6901
Ohio Scott Electronics Inc 1836 Euclid Ave
Cleveland 861-2626
Ohio Scott Electronics Inc 120 W 2nd St Dayton . 223-2652
Ohio Scott Electronics Inc 9505 Montgomery Rd
Cincinnati 791-2513
Ohio Scott Electronics Inc 79 E State St
Columbus 228-2313
Ore Arneson Assoc 200 Northeast Canyon Rd
Beaverton 646-3416
Pa R L Wilkinson Inc Box 215 Glenside 424-8400
Pa Scott Electronics Inc 313 Empire Bldg
Pittsburgh 471-5233
Tex Aymond Co, Inc Box 1064 4811 Saxson
Bellaire 666-1804
Tex Aymond Co, Inc 4340 N Central Expwy
Dallas 827-8043
Utah Williams Assoc 2464 S Main St
Salt Lake City 801 466-8799
Va R L Wilkinson, Inc Box 218 Falls Church 532-6076
Wash Arneson Assoc 5950-6th Ave S Seattle 762-7664
Can Dale Electronics Canada, Ltd 18 Howden Rd
Scarboro Ont 759-5631

DALE ELECTRONICS INC, SIOUX DIV E HWY 50
YANKTON S DAK 57078 .... 805 665-9301
K MOOIBROEK EMP 400 ENG 10 $5,000-$10,000M
ADV PG 138
Ariz Williams & Assoc 1110 E McDowell Rd
Phoenix 602 254-6085
Cal Heaton Co 3695 Haven Ave Menlo Park . 415 369-4671
Cal Heaton Co 4301 W Commonwealth Ave
Fullerton 714-521-3961
Colo Williams & Assoc 4971 Jackson St
Denver 303 388-4391
Fla Wm J Reasor & Assoc Box 10135
Tampa 813 251-3825
Fla Wm J Reasor & Assoc Box 12601
Palm Beach Gardens 305 848-0203
Ill D J M Electronic Sales Inc 5356 N Milwaukee Ave
Chicago 312 774-1212
Ill Matthews-Midwest Co 5439 W Lawrence Ave
Chicago 312 725-1500
Ind Scott Electronics Inc 1300-02 N Penna St
Indianapolis 317 635-8951
Ind Scott Electronics Inc 124 W Washington Blvd
Fort Wayne 219 743-1586
Ky Scott Electronics Inc 366 Francis Bldg
Louisville 502 583-3220
Md Robt L Wilkinson Inc 707 Stevenson La
Baltimore 301 377-7800
Mass Kaelber & Mack Inc 37 Hillcrest Rd
Wakefield 617 245-9359
Mich Burcaw Co & Assoc 18236 W Mc Nichols Rd
Detroit 313 533-7700
Minn Merrill Franklin Co 4820 Minnetonka Blvd
Minneapolis 612-920-8014
Mo Ray Deane 10825 MCGee St
Kansas City 816 942-0130
NJ Kaelber & Mack Inc 9- 09 Walsh Pl
Fair Lawn 201 797-7782
NM Williams & Assoc 420 Washington St SE
Albuquerque 505 255-1638
NY Maury Farber Assoc 220 Delaware Ave
Buffalo 716-856-3543
NY Kaelber & Mack Inc 75 Plandome Rd
Manhasset 516 627-6620
NC Jake Rudisill Assoc 1225 Harding Pl
Charlotte 704 377-6901
Ohio Scott Electronics Inc 1836 Euclid Ave
Cleveland 216 861-2626
Ohio Scott Electronics Inc 517 Hulman Bldg
Dayton 513 223-2652
Ohio Scott Electronics Inc 9505 Montgomery Rd
Cincinnati 513 791-2513
Ore Arneson Assoc 200 NE Canyon Rd
Beaverton 503 646-3416
Pa Robt L Wilkinson Inc Box 215 Glenside . . 215 424-8400
Pa Scott Electronics Inc 313 Empire Bldg
Pittsburgh 412 471-5233
Tex Aymond Co Inc 4340 N Central Expwy
Dallas 214 827-8043
Tex Aymond Co Inc Box 1064 Bellaire 713 666-1804
Utah Williams & Assoc 2469 S Main St
Salt Lake City 801-466-8709
Wash Arneson Assoc 5950 6th Ave S Seattle . 206 762-7664
Can Dale Electronics Canada Ltd 18 Howden Rd
Scarborough 416 759-5631

DALES CO, FRANKLIN 180-83 E MILL ST AKRON
OHIO 44308 .... 216 762-7236
G MEIDLINGER EMP 100 ENG 3 $1,000-$2,500M

DALMO VICTOR, A TEXTRON DIV
1515 INDUSTRIAL WAY BELMONT CAL 94002
TWX 910-376-4400 .... 415 591-1414
J SMITH EMP 1700 ENG 325 OVER $10,000M
Cal Colldeweih Irwin 4370 Hill St
San Diego 714-234-8119
DC D O'Hara 1000 Conn Ave NW
Washington 202 296-4580
NY Daniel Hoffman 50 Rockland Dr
Jericho .... 516 WE 5-9473
Ohio C H Meuche 1448 Third National Bldg
Dayton 513 223-5196
Va Alan Donaldson 11023 Del Mar Ct
Fairfax 703 273-5569

DALTO ELECTRONICS CORP 38 OAK ST NORWOOD
N J 07648 TWX FGL 201 768-6200
M CABOT EMP 128 ENG 32 $2,500-$5,000M

DALTRONICS INC 100 MANTON AVE PROVIDENCE
R I 02909 .... 401 351-3525
D MENDELSOHN EMP 60 ENG 6 $1,000-$2,500M

DAMON ENGINEERING INC, ELCTNS DIV
115 4TH AVE NEEDHAM HEIGHTS MASS 02194
TWX 710-325-6916 .... 617 449-0800
N ROY EMP 600 ENG 33 OVER $10,000M
Cal Jewett Co 13111 Ventura Blvd
N Hollywood .... ST 9-8103
Fla Kirkwood Assoc Box 52 Winter Park ... 305 645-2220
Ill Carlson Electronic Sales 7448 N Harlem Ave
Chicago .... SP 4-0277
Mass Vector Sales 774 Pleasant St Belmont 489-1400
NM A L S Electronics Box 11626 Albuquerque .. 298-2575
NY Cain & Co 324 First Ave 5 Liverpool 437-2933
Pa E-Tech Box 52 Bala Cynwyd 667-5110
Tex Stasco 13310 Spring Grove Ave Dallas .... AD 9-5054
Va E-Tech 6615 Backlick Rd Springfield 451-6500

DANA LABORATORIES INC 2401 CAMPUS DR
IRVINE CAL 92664 TWX 910-595-1136 . 714 833-1234
A KEST EMP 450 ENG 30 $5,000-$10,000M
Ala Mekco Assoc Inc Holiday Office Ctr
Huntsville 881-3721
Ariz Barnhill Assoc 4900 E Indian School Rd
Phoenix 959-2115
Cal Ward-Davis Assoc 3921 E Bayshore
Palo Alto 968-7116
Cal Ward-Davis Assoc 770 S Arroyo Pkwy
Pasadena 684-2840
Cal Ward-Davis Assoc 3442 Hancock St
San Diego 297-4619
Colo Barnhill Assoc 1170 S Sheridan Blvd Denver . 934-5505
Conn Instrument Assoc Inc 234 Murphy Rd
Hartford 525-9367
Fla Mekco Assoc Inc 3165 McCrory Rd Orlando . 841-2215
Ill Pivan Engineering 3535 W Peterson Ave
Chicago .... KE 9-4838
Ind Pivan Engineering 8545 Northcrest Crt
Indianapolis 253-1681
Iowa Pivan Engineering 4403 1st Ave SE
Cedar Rapids 365-6635
Kan Pivan Engineering 5920 Nall Ave Mission ... 722-1030
Md Electronic Marketing Assoc 11501 Huff Ct
Kensington 946-0300
Mass Instrument Assoc Inc 30 Park Ave
Arlington .... MI 8-2922
Mich S Sterling Co 21250 101/2 Mile Rd
Southfield 357-3700
Minn Pivan Engineering 3307 N Hwy 100
Minneapolis 537-4501
Mo Pivan Engineering Co 400 Brooks Dr
Hazelwood 731-3000
NJ SBM Assoc 1519 Stuyvesant Ave Union 687-8737
NM Barnhill Assoc 827 Penna NE Albuquerque .. 265-7766
NY SBM Assoc Inc 800 Linden Ave Rochester .. 381-8330
NY SBM Assoc Inc 5858 E Molloy Rd Syracuse . 454-9377
NY SBM Assoc Inc 28 Hobby St Pleasantville ... 769-1811
NY SBM Assoc Inc 528 Old Country Rd
Plainview 433-1421
Ohio S Sterling Co 2673 Culver Ave Dayton 298-7573
Ohio S Sterling Co 5827 Mayfield Rd Cleveland .. 442-8080
Pa S Sterling Co 2 Parkway Center Pittsburgh .. 922-5720
Pa Electronic Mktg Assoc 210 Goddard Blvd
King of Prussia 265-1600
Tex Barnhill Assoc 312 N Central Expwy
Richardson .... AD 1-2573
Tex Barnhill Assoc 3810 Westheimer Houston .. NA 1-0040
Wash Rush S Drake Assoc, Inc 6133 Maynard Ave S
Seattle 763-2755
Wis Pivan Engineering 3640 Mountain Dr
Brookfield 547-5131
Can Allan Crawford Assoc Ltd 65 Martin Ross Ave
Downsview, Ont 636-4910
Can Allan Crawford Assoc Ltd 1285 Hodge St
Montreal, Que 747-9849
Can Allan Crawford Assoc Ltd 376 Churchill Ave
Ottawa, Ont 725-1288
BC Allan Crawford Assoc Ltd 721 Aldford Ave
New Westminster 524-1161

DANEX CORP 60 TOMLINSON RD
HUNTINGDON VALLEY PA 19006 215-947-4225
W STAATS EMP 45 ENG 7 $500-$1,000M
Ala Jas L Highsmith Co 3322 S Memorial Pkwy
Huntsville 205-881-3294
Ariz Allen Assoc 120 E Sixth Ave
Scottsdale 602-946-4903
Cal Walter Assoc Box AN Los Altos 415-941-3141
Colo E 0 Sales 1423 S Lipan St Denver 303-744-7081

Fla Jas L Highsmith & Co Box 7835
Orlando 305-293-5202
Haw Victor Kim Electronics 625 South St
Honolulu 808-507-132
Ill Universal Sales & Supply 5144 Main St
Skokie 312-676-3650
Iowa Thomas & Modrcin Assoc 890 17th Ave
Marion 319 377-6261
Kan Thomas & Modrcin Assoc 5450 Buena Vista Dr
Shawnee Mission................914-432-2131
Md Engineering Assoc 1406 Shoemaker Rd
Baltimore........................301-825-2385
Mass Connors & Mann 100 Everett St
Westwood 617-769-2570
Minn Hasse & Assoc Box 7707 Minneapolis ..612-588-0551
Mo Thomas & Modrcin Assoc 47 Village Sq
Hazelwood 913-432-2131
Neb Electric Specialties Co
Box 14042 West Omaha Sta Omaha .402-393-5535
NJ Bressler Assoc 4808 Bergenline Ave
Union City........................201 864-9577
NY R J Davis Assoc 107 James St Utica ...315-724-5773
NC Jas L Highsmith & Co Box 9367
Charlotte 704-333-7743
Ohio Jay Engineering 1721 E Third St
Dayton........................513-253-2151
Pa Massey Assoc 1325 W Chester Pike
Havertown 215 789-2320
Tex P J Scanlon Co 724 S Sherman St
Richardson 214 231-4661
Va Jas L Highsmith & Co Box 9225
Richmond........................703-266-2060
Can Ben Manis Assoc 2690 Pitfield Blvd
Montreal Que 514-336-4500
BC Canadian Dynamics 8264 St George
Vancouver B C 604-325-6014

DANIELS INC, C R DANIELS MD 21033
TWX 710-862-1884 ....301 465-1200
C SILVERNAIL EMP 450 ENG 15
$5,000-$10,000M

DAN-L INC 20 RAILROAD AVE E NORTHPORT
N Y 11731 ....516 757-8000
D ELTERMANN EMP 12 ENG 2 $250-$500M

DANO ELECTRIC CO 97 MAIN ST WINSTED
CONN 06098........................203 379-3302
W DAVEY EMP 190 ENG 1 $1,000-$2,500M

DANTE ELECTRIC MFG CO BOX 6 BANTAM
CONN 06750 ....203 JO 7-5307
J DANTE EMP 12 ENG 1 UP TO $100M
Conn Larry Whelan Co Box 752 Hartford........CH 9-4005
Ill C W Lint & Assoc 2323 W 18th St Chicago . TA 9-1142
NJ Levy Elec Sales Co 311 Reynolds Terr
Orange........................677-2312

DA/PRO RUBBER INC 8044 WOODLEY AVE
VAN NUYS CAL 91406 ....213 989-4400
C DAUBENBERGER EMP 70 ENG 1
$1,000-$2,500M
Ala Tech-Sales Southern Inc Box 6102 Homewood
Birmingham
Conn Schutter Young Corp 32 Lydall Rd Newington
Fla Tech-Sales Southern Inc Box 278 Riverview
Ga Tech-Sales Southern Inc 715 Spring St NW
Atlanta
Mass Schutter Young Corp 22 Franklin Pl Beverly
Mich Lor-Mac Assoc 803 W 11 Mile Royal Oak
Minn G E Arneson & Co 4900 Viking Dr Minneapolis
Mo Brig Inc 230 Heather Crest Cir Chesterfield
NC Tech-Sales Southern Inc Box 1484 Charlotte
Ohio J E Dunkelberger 149 Valley View Dr Dayton
Okla Dynamic Component Sales Box 4573 Tulsa
Pa Layne Assoc Box 201 Downingtown
Tex Dynamic Component Sales Inc 6330 Alder St
Houston
Utah J C Rowley & Co 955 Folsom Ave Salt Lake City

DARCY INDUSTRIES INC 1723 CLOVERFIELD BLVD
SANTA MONICA CAL 90404............213 393-9611
E BERTOLET EMP 150 ENG 15
Ala Currie Aerospace Assoc 2603 Artie St SW
Huntsville 205 536-5650
Ariz Hytronic Msmts Inc 1017 N 3rd St
Phoenix........................602 253-6104
Cal Instrument Specialists Inc 1109 S Central Ave
Glendale 213-245-9404
Colo Hytronic Msmts Inc 4940 39th Ave
Denver 303 388-4081
Conn Applied Measurements 2531 Whitney Ave
Hamden 203 288-5288
Fla Currie Aerospace 2907 McCoy Rd
Orlando........................305 855-0843
Ill Cozzens & Cudahy 9501 Devon Ave
Rosemount 312 825-1114
Ind Cozzens & Cudahy 647 Mulford Ct
Indpls 317 244-2456
Md Lee Assoc 12250 Wilkens Ave Rockville . 301-949-4800
Mass Applied Measurments 86 Hayward Rd
Acton 617 263-2766
Mich Cozzens & Cudahy 127 Edmund St
Royal Oaks 313-585-5159
Minn Cozzens & Cudahy 7710 Computer Ave
Minneapolis 612-920-1022
Mo Cozzens & Cudahy 10534 Natl Bridge Rd
Edmundson 314 423-1234
NJ Instrument Mktg Assoc Box 303
Hillsdale 201-664-4088
NM Hytronic Msmts Inc 205 S San Pablo SE
Albuquerque 505 268-3941
NY Ossmann Instr Inc 101 Pickard Dr
Syracuse 315-454-2461
NC Currie Aerospace Assoc 614 Nissen Bldg
Winston-Salem 919 725-1927
Ohio Cozzens & Cudahy 735 S Court St
Medina 216 725-5660
Pa Letronix 251 W Dekalb Pike
King of Prussia 215-265-1020

Tex Scientific Sales Co 777 S Central Expwy
Richardson 214-231-6541
Utah Currie Aerospace Assoc 2022 S Main St
Salt Lake City 801-466-4924
Wash Instrument Specialists Inc 5950 6th Ave S
Seattle 206 767-4260
Can Radionics Ltd 195 Graveline St
Montreal Que 514-735-4565
Can Radionics Ltd 376 Churchill St
Ottawa Ont 613-728-4624
For Trans-World Trade 11973 San Vincente Blvd
LA Cal 213-472-0444
BC Radionics Ltd 2182 W 12th Ave Vancouver

DARRAH ELECTRIC CO INC 5914 MERRILL AVE
CLEVELAND OHIO 44102..............216 631-0912
R DARRAH EMP 21 ENG 2 $250-$500M

DASA CORP 15 STEVENS ST ANDOVER
MASS 01810 ....617 475-4940
J BULLIS EMP 500 ENG 30 $5,000-$10,000M
NY Dasa Corp 201 E 42nd St New York 687-0177

DATA ACCESS SYSTEMS INC BOX M 418 LANDING
N J 07850 201-398-2345
R COPPOLETTA EMP 20 ENG 4 $250-$500M
Ariz Portis & Assoc Box 3109 Scottsdale ...602-947-4379
Cal Luscombe Engineering Co 610 S Arroyo Pwky
Pasadena 213-684-2000
Colo Claredon Co 2890 Robb Circle Denver ..303-238-4462
DC A Faiola 1629 K St N W Washington ..202-223-1759
Ga Naeco Assoc Box 20023
St Petersburg Fla 813-527-3149
Haw Pacific Factors Inc 1204 Waimanu St
Honolulu........................507-135
Ill W L Cunningham Assoc 435 Addison Ave
Elmhurst 312-832-0905
Ky Utility & Ind Prods Inc 3925 N College Ave
Indpls........................317-924-3607
La Mid-Sooth Sales Co Box 13625
New Orleans 504-822-3038
Neb Comm Systems Assoc 203 Chevrolane
Bellevue 402-291-4309
NM Stepco Inc Box 9836 El Paso Tex.....915-772-5274
NY H Ryder 20 S Shore Dr Cecil NJ 609-629-8402
Ohio Edw J Stoker 2888 Highridge Dr
Baldwin Twp Pa 412-343-6616
Ore Tarbell Commonications 100 S W 6th Ave
Portland........................503-228-4111
Tenn Naeco Associates Inc 1925 N Lynne St
Arlington Va 703-524-4551
Utah Cannon Eng & Sales Co 768 E 9th S
Salt Lake City 801-328-3205
Can Uni Tel Ltd 100 Barbados Blvd
Scars Borough Ont 416-261-7265
For Badrena & Perez Inc Box 1839 Hato Key ...762-2455
For Telesco Intl Corp 171 Madison Ave
New York NY 212-683-9420
Fr Cie Europeene DeTele Transmission
17 R De La Reine 92 Boulogne..........825-23-80
GB Wessex Electronics Ltd Baldwin St Bristol 1 26952
Belg Salt Electronics 66 Chaussee De Ruisbroek
Brusselles 76-20-30
Mex Ind Electronicas Ese Sde R L Amado Nervo 156
Mexico 4 D F 46-34-39
Spn Rema Leo Haag SA C/Gen Sanjurjo 18
Madrid 2-53-40-03

DATA AUTOMATION INC BOX 3285 SCOTTSDALE
ARIZ 85257 602-959-0936
K POTTER EMP 6 ENG 4 UP TO $100M

DATA-CONTROL SYSTEMS INC E LIBERTY ST
DANBURY CONN 06810
TWX 714-456-2596 ....203 743-9241
R MEI EMP 500 ENG 75
Ala DCS 2109 W Clinton Ave Huntsville 536-4907
Cal DCS 7350 Bolsa Ave Westminster 714-894-4471
Conn DCS E Liberty St Danbury 203-743-9241
Fla H W Collison 550 Via Lugano
Winter Park 305 647-0800
Ill Marsland Assoc 6699 Lincoln Ave
Chicago 312 676-1100
Md K-G Sales 11151 Viers Mills Rd
Wheaton 301 946-4055
NM Space Systems Sls Engrg 1401 Valencia S E
Albuquerque 505 255-7058
NY Ossmann Instruments 101 Pickard Dr
Syracuse........................315 454-2461
Ohio Electro Sales Assoc 335 East 200th St
Cleveland 216 486-1140
Wash Rush S Drake 6133 Maynard Ave
Seattle 206 763-2755

DATACRAFT CORP 776 NE 40TH CT
FORT LAUDERDALE FLA 33307.........305 565-9441
R MARLATT EMP 110 ENG 12 $2,500-$5,000M
Ala eynolds & Assoc 904 Bob Wallace Ave
Huntsville 205 536-1941
Cal Costello Little & Co 8737 Venice Blvd
Los Angeles 213-870-5951
Colo Cropley Inc 1523 E Easter Cir
Littleton........................303-794-4231
Fla Reynolds & Assoc Box 1043 Eau Gallie .305 727-3222
Ill Scientific Sales Corp 7132 N Harlem Ave
Chicago 312 775-7594
Mass New England Mktg Assoc 55 Salem St
Lynnfield 617-245-9530
NY Measurement Technology Inc 295 Northern Blvd
Great Neck........................516-482-3500
Ohio Monatron Corp 20850 Sheldon Rd
Cleveland 216-243-6500
Pa J E Cuesta & Co Valley Forge........215-265-5800
Tex Carey Wolf Co Box 12425 Ft Worth ...817 738-1702
GB Costello Little & Co Oxford Rd
Aylesbury Bucks ....Ayl 4778

DATA DELAY DEVICES 253 CROOKS AVE CLIFTON
N J 07011............................201 772-1106
A LUPI EMP 5 ENG 2 $100-$250M

DATA-DESIGN LABS BOX 711 CUCAMONGA
CAL 91730..........................714-987-2511
P SAMPSON EMP 190 ENG 100 $2,500-$5,000M
Md Data-Design Labs 8720 Georgia Ave Silver Spring

DATA DEVICE CORP 100 TEC ST HICKSVILLE
N Y 11801 TWX 510 221-1874..........516 433-5330
G HELLER EMP 125 ENG 20
Ala Inter Sci Instru Box 2091 Huntsville 536-9686
Cal Engrg Liaison Assocs 3360 Barham Blvd
Hollywood........................213-469-2283
Cal RDP Instruments Inc 999 Commercial St
Palo Alto 408-328-6666
Colo D E Bond Assoc 2149 S Clermont St Denver . 756-1234
Conn Instrument Assoc 234 Murphy Rd Hartford . . 525-9367
Mass Instrument Assoc 30 Park Ave Arlington 648-2922
Mich Anderson Electronics 30785 Grand River Ave
Farmington 476-9161
Mo PEM Sales Co 9537 Lackland Rd St. Louis . . 427-7200
NJ Marshbank-Monteiro Assoc 95 W Gate Dr
Cherry Hill........................609 428-5551
NM D E Bond Assoc Box 11331 Albuquerque ...247-3442
NY Nycom Inc 2002 Teall Ave Syracuse ...315 437-8343
NC Inter Sci Instru Box 2356 Winston-Salem ...725-3612
Ohio McShane 3633 Trails End Dr Medina 725-4283
Pa Automated Equip & Engrg Inc 648 Center Ave
Pittsburgh 931-7616
Tex Scientific Sales Co 777 S Central Expwy
Richardson 231-6541
Tex Scientific Sales Co 6400 Westpark Dr
Houston 781-2711
Va Dyna Rep Tech Services 5070 Lee Hwy
Arlington 536-5088
Wash Seatronics Inc 5616 4th Ave S Seattle.....767-4330
Can Electronetic Systems Ltd 62 Alness St
Downsview 636-3673
Can Electronetic Systems Ltd 6420 Victoria Ave
Montreal 737-2744
Can Electronetic Systems Ltd 1342 Bank St
Ottawa Ont 733-3781

DATA DISC INC COMPUTER PRODUCTS DIV
1275 CALIFORNIA AVE PALO ALTO CAL 94304
TWX 910-373-1248 ....415 326-7602
D REDICK EMP 108 ENG 14 $2,500-$5,000M
Ala Lee Components Corp 5 Traylor Island
Huntsville 205 539-0761
Cal Mitronics Industries 18039 Crenshaw Blvd
Los Angeles........................213 323-7934
Conn Instrument Dynamics Inc 345 N Main St
W Hartford 203 233-5503
Fla Lee Components Corp 200 E Marks St
Orlando........................305 241-4445
Ill H H Sales 1255 Sandburg Ave Chicago . 312-642-4464
Md Bartlett Assoc 7979 Old Georgetown Rd
Bethesda 301-656-3061
Mass Instrument Dynamics Inc Wakefield Ind Pk
Wakefield 617 245-5100
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 313 357-3700
Mo S Sterling Co 11734 Lackland Ind Dr
St Louis 314 542-3636
NM Data Handling Co 209 San Pablo, SE
Albuquerque 505 268-0928
NY Bartlett Assoc 470 Mamaroneck Ave
White Plains 914 949-6476
NC Lee Components Corp Box 906
Winston-Salem 919 724-2406
Ohio S Sterling Co 5827 Mayfield Rd
Cleveland 216 442-8080
Pa Bartlett Assoc Box 72 Wayne 215 688-7325
Pa S Sterling Co 4232 Brownsville Rd
Pittsburgh........................412 884-5515
Tex Arnold Barnes Co 740 S Sherman St
Richardson 214 235-4541
Wash Rush Drake Assoc 6133 Maynard Ave S
Seattle 206 763-2755
Can Allan Crawford Assoc Ltd 65 Martin Ross Ave
Downsview Ont 416-235-4541
Jap Nissei Sangyo Co Ltd Central Box 1316
Tokyo 503-2311

DATA DISC INC, DISPLAY DIV
1275 CALIFORNIA AVE PALO ALTO CAL 94304
TWX 910-373-1248 ....415 326-7602
C MASTERS EMP 36 ENG 14 $2,500-$5,000M
Ala Lee Components Corp 5R Traylor Island
Huntsville 205 539-0761
Cal Mitronics Industries 18039 Crenshaw Blvd
Torrance........................213 323-7934
Fla Lee Components Corp 200 E Marks St
Orlando........................305 241-4445
Ill H H Sales 1255 Sandburg Ave Chicago . 312-642-4464
Md Bartlett Assoc Inc 7979 Old Georgetown Rd
Bethesda 301-656-3061
Mass Lake Systems Corp 55 Chapel St
Newton 617 244-6881
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield 313 357-3700
Mo S Sterling Co 11734 Lackland Ind Dr
St Louis 314-542-3636
NM Data Handling Co 209 San Pablo, SE
Albuquerque 505 268-0928
NY Bartlett Assoc Inc 470 Mamaroneck Ave
White Plains 914-949-6476
NC Lee Components Corp 829 Burke St
Winston-Salem 919 724-2406
Ohio S Sterling Co 2673 Culver Ave Dayton . . 513 298-7573
Pa Bartlett Assoc Inc 130 W Lancaster Ave
Wayne 215 688-7325
Pa S Sterling Co 4232 Brownsville Rd
Pittsburgh........................412 884-5515
Tex Arnold Barnes Co 740 S Sherman St
Richardson 214-235-4541
Wash Rush Drake Assoc 6133 Maynard Ave, S
Seattle 206 763-2755
Can Allan Crawford Assoc Ltd 65 Martin Ross Ave
Downsview Ont 416-636-4910

DATADYNE CORP BLDG 37A VALLEY FORGE CTR
KING OF PRUSSIA PA 19406
G HOLDSWORTH EMP 17 ENG 4 $100-$250M

DATA GENERAL CORP RTE 9 SOUTHBORO
MASS 01772
H RICHMAN
Ala W A Brown & Assoc 1314 Buford St NW
Huntsville 205-536-8393
Cal J D Kennedy Corp 3270 Alpine Rd
Menlo Park....................415-854-6536
Colo J D Kennedy Corp 1459 Detroit St
Denver 303-322-0190
Fla W A Brown & Assoc Box 513 Orlando ..305-425-5505
Ga W A Brown & Assoc 1590 Cooledge Rd NW
Tucker 404-939-1674
Ill Carter Elctns Inc 4919 W 63rd St
Chicago 312-776-1601
Ind Carter Elctns Inc 6333 Hollister Dr
Indpls....................317-293-0696
Kan Poly-Onics Inc 4434 W 90 Terr
Leawood....................913-648-4173
Md Brogan Assoc 4709 Montgomery Lane
Bethesda 301-652-4300
Mass Brogan Assoc 69 Hickory Dr Waltham ..617-894-3250
Mich Chandler Assoc 32401 W Eight Mile Rd
Livonia 313-476-5800
Minn Carter Elctns Inc 2401 W 66 St Mnpls .612-869-3261
Mo Poly-Onics Inc 47 Vlg Sq Shop Ctr
Hazelwood 837-0597
NJ Brogan Assoc 780 N Riverview Dr
Totowa....................201-256-0174
NY Brogan Assoc 80 Urban Ave Westbury .516-333-6683
NC W A Brown & Assoc 1108 Burke St
Winston-Salem....................919-725-5384
Ohio Chandler Assoc 9701 Brookpark Rd
Cleveland 216-661-9835
Okla Data Engineering Corp 4580 East 50 Street
Tulsa 918-622-3753
Pa Brogan Assoc 107 W Ridge Pike
Conshohoken 215-825-0510
Tex Data Engrg Corp 777 S Central Expwy
Richardson 214-231-4846
Wash J D Kennedy Corp 2124 S W 170 St
Seattle....................206-242-8024

D A T A INC 282 LINCOLN AVE ORANGE N J 07050
TWX 710-994-5839....................201-673-8030
R GOTTBERG EMP 45 ENG 12 $500-$1,000M
Fr RadioTelevision Francaise 73 Ave De Neuilly
92 Neuilly-Sur-Seine

DATA INSTRUMENT DIV 7300 CRESCENT BLVD
PENNSAUKEN N J 08110 ....609 662-3031
H LANGEFELD EMP 45 ENG 3 $1,000-$2,500M
Cal W K Geist Co 1205 Airway Ave
Glendale 213 245-9501
Fla Technical Assoc 2319 E South St
Orlando 305-424-5681
Ill R Edw Stemm Inc 17 W 480 Lake St
Addison....................312 279-2440
Md G King Assoc 13215 Grenoble Dr
Rockville....................301-933-1586
Mass H J Shuft Co 815 Washington St
Newtonville....................617-527-5304
Minn James Lee Co 4241 Toledo Ave
Minneapolis....................612 920-1525
NJ Instrument Mkt Assoc Box 303
Hillsdale 201-664-4088
NY J D Ryerson Assoc Box 8369 Rochester .716-442-1900
Ohio Harvey Teplitz & Co Inc 3718 Salem Ave
Dayton....................513-277-9178
Pa Letronix 251 W De Kalb Park
King of Prussia 215-265-1020
Tex Noakes Engineering Box 968 Irving....214-638-3569

DATA MARK INC CANTIAGUE RD WESTBURY
N Y 11590 ....516 333-8910
C WASSERMAN EMP 56 ENG 12 $500-$1,000M

DATA MATE COMPUTER SYSTEMS INC BOX 310
BIG SPRING TEX 79720 915-267-8766
L HIGHTOWER EMP 80 ENG 4 $1,000-$2,500M
Cal Mitronics Industries Inc 18039 Crenshaw Blvd
Torrance 213-323-7934
Ga E G Holmes & Assoc 4185 Clairmont Rd
Chamblee 404-451-6161
Md S & S Assoc 7720 Wisconsin Bethesda .301-654-1434
Mass Moody-Carlson Assoc 23 Harvard St
Brookline 617-267-0161
NY H A F Spectrum Assoc 35 Broadfield Rd
New Rochelle 914-632-3800
Ohio Advanced Technical Sales 3540 Ridge Rd
Cleveland 216-631-1300
Pa S & S Assoc Boro Line Rd
King of Prussia 215-265-3450
Wis Arthur Engrg Sales Co 10720 W Scharles Ave
Hales Corners 414-425-2553

DATA MEASUREMENTS CORP
855 COMMERCIAL ST PALO ALTO CAL 94303
TWX 910-373-1179....................415-328-2961
D NELSON EMP 53 ENG 4
Ala W A Brown & Assoc 1314 Buford St N W
Huntsville 205-536-8393
Cal Ward/Davis Assoc 770 S Arroyo Pkwy
Pasadena 213-684-2840
Colo Space Sys Sales & Engrg 5810 W 38th Ave
Denver 303-424-5574
Conn Instrument Assoc 234 Murphy Rd
Hartford....................203-525-9367
Fla W A Brown & Assoc Box 513 Orlando ..305-425-5505
Ga W A Brown & Assoc 1590 Cooledge Rd NW
Tucker 404-939-1674
Ill Loren F Green & Assoc 5218 W Diversey Ave
Chicago 312-286-6824
Md Sel Tronics Inc 721 Ellsworth Dr
Silver Spring 301-365-8575
Mass Instruments Assoc 30 Park Ave
Arlington 617-648-2922

Minn Loren F Green & Assoc 6225 University Ave NW
Mnpls....................612-781-1611
NJ L & M Assoc 511 Victor St
Saddle Brook 201-843-8700
NM Space Sys Sales & Engrg 1401 Valencia SE
Albuquerque....................505-255-7058
NY Martin P Andrews Inc 319 Mott Rd
Fayetteville 315-637-3144
NC W A Brown & Assoc 1108 Burke St
Winston-Salem....................919-725-5384
Ohio E V Swenson Mfrs Reps 1112 Talbott Tower
Dayton....................515-223-4279
Pa L & M Assoc 965a Bristol Pike
Andalusia 215-639-3100
Tex Space Sys Sales & Engrg 8383 Stemmons Frwy
Dallas....................214-631-1740
Utah Space Sys Sales & Engrg 1380 W N Temple
Salt Lake City 801-322-5045
Wash Rush Drake Assoc 6133 Maynard Ave S
Seattle....................206-763-2755
Wis Loren F Green & Assoc 830 Plateau
Waukesha 414-786-2180

DATA MEMORY INC 1255 TERRA BELLA AVE
MOUNTAIN VIEW CAL 94040 415-961-9440
J SWEENEY EMP 75 ENG 15 $1,000-$2,500M
Conn Brogan Assoc 80 Urban Ave
Westbury NY 516-333-6683
Fla Jaeger Assoc 999 Woodcock Orlando ..305-841-1511
Md Paddock-Joslow Co 721 Ellsworth Dr
Silver Spring 301-588-7866
Mass Brogan Assoc 69 Hickory Dr Waltham..617-894-3250
Mich Electro Sales Assoc 10745 Morang Dr
Detroit 313-886-2280
NJ Data-Rep Assoc Inc 1250 E Ridgewood Ave
Ridgewood 201-447-0660
NY Data-Rep Assoc Box 164
Huntington Sta....................516-423-7677
Ohio Electro Sales Assoc 335 East 200th St
Cleveland 216-486-1140
Pa Data-Rep Assoc Box 349 Norristown ..215-279-8210
Neth N V Optishe Indus De Dude Delft Box 72
Delft 01730-24044
Aust RCA of Australia Pty Ltd 221 Elizabeth St
Sydney 61-8541

DATAMETRICS CORP 7632 GLORIA AVE VAN NUYS
CAL 91406 ....213 989-3840
G MCCREADY EMP 50 ENG 20 $1,000-$2,500M
Minn Datametrics Corp 7710 Computer Ave
Mnpls....................612-920-4594
NJ Datametrics Corp 26 Haddon Ave
Camden 609-964-6990

DATAMETRICS INC 87 BEAVER ST WALTHAM
MASS 02154 ....617 899-0090
H GRAY JR
Ala Roy Attaway Co 900 Bob Wallace Ave
Huntsville 205 534-2811
Cal R W Thompson Assoc 4135 El Camino Way
Palo Alto 321-6383
Md East Coast Liaison Inc Box 243 Lutherville ..252-1288
Mass Andruss-Peskin Corp 5 Main St Natick.....653-3919
NC RADCO 614 Nissen Bldg Winston-Salem....722-9671
Pa Scientific Pittsburg 90 Clairton Blvd
Pittsburg 655-2800

DATA PRODUCTS CORP 6219 DE SOTO AVE
WOODLAND HILLS CAL 91364
TWX 674-734 213-887-8000
B ALLEN EMP 2500 ENG 300 OVER $10,000M
Fla Data Products Corp Box 1646 Melbourne...262-4773
Md Data Products Corp 4720 Montgomery La
Bethesda 652-8120
Mass Data Products Corp 409 Massachusetts Ave
Acton 263-3961
Minn Data Products Corp 4940 Viking Dr Mnpls ..927-8747
Tex Data Products Corp 1450 Preston Forest Sq
Dallas 239-9641

DATA-RAM CORP RTE 206 PRINCETON N J 08540
TWX 510-685-9283 ....609 924-3331
E PODSIADLO EMP 110 $1,000-$2,500M
Ala Mekco Assoc Holiday Off Ctr Huntsville .205 881-3721
Ariz Hecht Henschen & Assoc Box 2116
Phoenix 602-275-4411
Cal Williams, Hedge & Martin Inc 2956 Randolph St
Costa Mesa....................714 540-3244
Fla Mekco Assoc 3165 McCrory Rd
Orlando....................305 841-2215
Mass W E Weeton Co Box 77 Needham 617 444-1012
Minn Loonam Assoc Box 111 Hopkins 612-935-0361
NY A & D Devices 830 Linden Ave
Rochester....................716-586-8033
NY H J Heffernan Co 111 Old Country Rd
Hicksville 516-433-5411
NC Mekco Assoc 100-B Lindsey St
Burlington....................919 226-7177
Ohio Data-Tron 7016 Euclid Ave Cleveland ..216 391-8421
Okla Southwest Electronic Ind 2015-C S Lakewood
Tulsa 918 835-2481
Pa H J Heffernan Co Box 395
Fort Washington 215 836-4411
Tex Southwest Electronic Ind 1405 S Post Oak Rd
Houston 713 621-3760
Tex Southwest Electronic Ind 621 Meadows Bldg
Dallas....................214 363-1671
Va H J Heffernan Co 1123 N Irving St
Arlington....................703 522-6666

DATA ROYAL CORP 8014 ARMOUR ST SAN DIEGO
CAL 92111 ....714 279-4020
W KRAUS EMP 50 ENG 6 $1,000-$2,500M
Ala E G Holmes & Assoc 4862 Governors' Dr
Huntsville 205 837-6900
Alas Arva Inc Box 759 Anchorage..........907 272-5231
Cal Instrument Specialists, Inc 1109 S Central Ave
Glendale 213-245-9404
Fla E G Holmes & Assoc 316 1/2 S Bumby St
Orlando....................305 241-2128

Ga E G Holmes & Assoc 4185 Clairmont Rd
Chamblee 404 451-6161
Ill Cozzens & Cudahy 9501 W Devon Ave
Rosemont 312 825-1144
Ind Cozzens & Cudahy 647 Mulford Ct
Indpls 317 244-2456
Md Burlingame Assoc 1749 Rockville Pike
Rockville 301 427-1255
Mass Burlingame Assoc 7 Wellington St
Waltham....................617 894-1955
Mich Cozzens & Cudahy 127 Edmund St
Royal Oaks 313 585-5159
Minn Cozzens & Cudahy 7710 Computer Ave
Minneapolis....................612 920-1022
Mo Cozzens & Cudahy 10534 Natl Bridge Rd
Edmundson 314 423-1234
NY Burlingame Assoc 510 S Fulton Ave
Mount Vernon 914 664-7530
NC E G Holmes & Assoc 430 W Friendly St
Greensboro 919 275-0897
Ohio Cozzens & Cudahy 735 S Court St
Medina 216 725-5660
Ore Arva, Inc 2035 SW 58th Ave Portland .503 292-8762
Pa Burlingame Assoc 1 Belmont Ave
Bala Cynwyd 215 835-2080
Tex Barnhill Assoc 312 N Central Expwy
Richardson 214-231-2573
Wash Arva Inc 1320 Prospect Ave Seattle ...206 622-0177
Can Radionics Ltd 195 Graveline St
Montreal 9 Que 514-735-4565
Can Radionics Ltd 376 Churchill Ave
Ottawa 3 Ont 613-728-4624
BC Radionics Ltd 2182 West 12th Ave
Vancouver 604-732-7317

DATASCAN INC 1111 PAULISON AVE CLIFTON
N J 07013 ....201 478-2800
G LEFFER EMP 400 ENG 25 OVER $10,000M
ADV PGS 362,377,500
Cal B J Wolfe Enterprises 10760 Burbank Blvd
N Hollywood 213-877-5518
Colo Cropley Inc 1523 E Easter Cir
Littleton....................303-794-4231
Mass Daner-Buchler Inc 684 Commonwealth Ave
Newton Center 617-969-4650
Mich Anderson Elctns Inc 30785 Grand River Ave
Farmington 313-476-9161
NJ Maloy-Stagnitti & Co 4 Horizon Rd
Fort Lee....................201-224-6911
NC L G White Southern Co 1014 Brookstown Ave
Winston Salem 919-725-3612
Ohio A C Wahl & Assoc Inc Box 15220 Cincinnati .821-3270
Pa Eastern Instrumentation 613 Cheltenham Ave
Phila 215-927-6269
Tex Preceptron Inc 11422 Harry Hines Blvd
Dallas....................214-241-3143
Wash Cane-Topp Co Inc 13547 SE 26th
Bellevue 206-746-5750
For Rocke Intl Corp 13 E 40th St
New York NY 212-689-0200

DATASCOPE CORP 520 VICTOR ST SADDLE BROOK
NJ 07662 ....201 845-7650
G HELLER EMP 40 ENG 3 $500-$1,000M

DATA SENSORS INC 735 FACTORY RD ADDISON
ILL 60101....................312 543-3100
B BADGER EMP 10 ENG 2 $100-$250M

DATA TECHNOLOGY CORP 1050 E MEADOW CIRCLE
PALO ALTO CAL 94303
TWX 910-379-6476 ....415 964-2600
T BAKEY EMP 210 ENG 27 $2,500-$5,000M
Ala Gentry Assoc 2109 W Clinton Ave Huntsville .534-9771
Ariz Moxon Electronics 15 N 10th Pl Phoenix ...273-7363
Cal Moxon Electronics Co 2311 Pontius Ave
Los Angeles 272-9311
Colo Aztec Enterprises 3385 S Bannock
Englewood 761-0101
Conn Howard J Schuft Co, Inc 965 Dixwell Ave
New Haven....................865-1365
Fla Gentry Assoc 550 N Bumby Ave Orlando....841-7740
Ill Loren F Green Assoc 5218 W Diversey Ave
Chicago 286-6824
Kan TRI 9412 Woodward Overland Park 381-5852
Md Ron Davies 1125 Oakleaf Dr
Silver Spring 301 588-8134
Mass Howard J Schuft Co, Inc 815 Washington Ave
Newtonville 527-5304
Mich Carter, McCormic & Peirce Inc 16239 Wyoming
Detroit 313 863-4600
Minn Loren F Green & Assoc 6225 University Ave NE
Minneapolis 781-1611
Mo TRI 525 St Francois Floressant 838-9100
NJ Moxon Electronics 40 Coles Ave Cherry Hill..665-5444
NM Aztec Enterprise Albuquerque 343-3441
NY KLM Assoc 9 Hollywood Dr Whitesboro .315 736-2450
NC Gentry Assoc 116 E O'Neal Ave Burlington ..227-2581
Ohio Carter, McCormic & Peirce Inc 3406 N Main St
Dayton....................513 278-5873
Tex Noakes Engrg Box 36258 Houston........529-6213
Wash Harry Levinson Co 1211 E Denny Way
Seattle 323-5100
Wis Loren F Green Assoc 830 Plateau
Waukesha 786-2180
Can Instronics Techno Products Box 100
Stittsville Ont....................836-4411
Fr Tek Elec Cite des Bruyeres, Rue Carle Vernet
Sevres Seine et Oise 626-02-35

DATA TECHNOLOGY, INC 65 GROVE ST WATERTOWN
MASS 02172 TWX 710 329-0607 ....617 924-1773
M SCHIFFMAN EMP 60 ENG 7 $1,000-$2,500M
ADV PGS 200,247,342
Cal Data Technology Inc 630 E Sepulveda Blvd
El Segundo
Ill Data Technology Inc 9420 W Foster Ave
Chicago 312-942-0818
Mich Data Technology Inc 26200 Greenfield Rd
Oak Park 313-542-5010

NY N W Alexander Assoc Box 2529 Upper Union Bra
Schenectady....................518-377-0581
Ohio Data Technology Inc 747 Alpha Dr
Highland Hts....................216-449-6700
Pa Data Technology Inc One Bala Ave Bldg
Bala Cynwyd....................215-664-5070
Tex Data Technology Inc 435 Braniff Tower
Dallas....................214-351-6197

DATATOTAL INC RTE 3, BOX 291 AA ARLINGTON
TEX 76010....................817 CR 5-3911
M SUMMERS EMP 25 ENG 4 $500-$1,000M
Ariz Moxon Elctns 15 N 40th Pl Phoenix ...602-273-7363
Cal Moxon Electns Corp 2311 Pontius
Los Angeles....................213 272-9311
Ill Megatek Inc 1915 N Harlem Ave
Chicago....................312-889-1277
Ind Megatek Inc Rte 1 Freetown 317-988-7002
Mass K C Stevens Co Box 24 Lexington
Mich Bob Hocker & Assoc 26847 Grand River Ave
Detroit....................313-531-1403
Minn Clark R Gibb 1311 W 25 St Mnpls 612-377-1200
NJ Moxon Elctns Corp 151 Hackensack Ave
Hackensack....................201 343-9490
NY Labtronics 161 Pickard Bldg Syracuse 454-9314
Ohio Bob Hocker & Assoc 1400 Devereux Dr
Dayton....................513-298-8638

DATA TRENDS INC BOX 82 MOUNTAIN LAKES
NJ 07046....................201 334-1515
D CARVER EMP 108 ENG 30 $1,000-$2,500M

DATATROL CORP 32 BRAND AVE CLEMONTON
NJ 08021....................609-783-3703
H BROOKS EMP 3 ENG 2 UP TO $100M
ADV PG 152

DATATRON INC 1562 REYNOLDS AVE SANTA ANA
CAL 92705 TWX 910 595-1589........714-540-9330
C DAVIS EMP 95 ENG 15 $2,500-$5,000M
Ala Currie Aerospace 2603 Artie St
Huntsville....................205-536-5650
Ariz Vinson Assoc 503 N Brown Scottsdale ..602 947-7371
Cal Dynamic Assoc 3235 Hancock St
San Diego....................714-291-1391
Cal Dynamic Assoc 2500 La Cienega Blvd
Los Angeles....................213-837-0123
Cal Dynamic Assoc 1011 Cadillac Way
Burlingame....................415-344-2521
Colo Vinson Assoc 3600 S Lincoln Englewood.303 789-2203
Fla Currie Aerospace 2907 McCoy Rd
Orlando....................305-855-0843
Ill Bard Assoc La Grange Ind Pk
La Grange....................312-354-0660
Ind Bard Assoc 4002 Meadows Dr Indpls ..317-849-2723
Md Data Time 12600 Viewside Dr
Gaithersburg....................301-948-7666
Mass Telemetry Systems Engrg Box 750
Andover....................617-475-4086
Mich Twin Region Elctn Sales 29563 Northwestern Hwy
Southfield....................313-353-4466
Minn Bard Assoc 7710 Morgan Ave S Mnpls .612-866-1700
Mo Bard Assoc 50 Crestwood Exec Ctr
Crestwood....................314-849-0080
NJ KLS Assoc 387 Passaic Ave Fairfield ..201-228-2525
NM Vinson Assoc Box 3295 Albuquerque ...505 298-7442
NY R P Kennedy Co Inc Box 56
Fayetteville....................315-637-9531
NY R P Kennedy Co Inc Green Tree Dr N
Hyde Park....................914-229-2269
NY R P Kennedy Co Inc 39 Saginaw Dr
Rochester....................716-271-6322
Ohio Twin Region Elctn Sales 21010 Center Ridge Rd
Cleveland....................216-331-7650
Ohio Twin Region Elctn Sales 3864 Kettering Blvd
Dayton....................513-434-8000
Ore Showalter-Judd 1445 N E Arrington
Hillsboro....................503-648-6372
Pa Twin Region Elctn Sales 201 Penn Ctr Blvd
Pittsburgh....................412-648-1120
Tex Arnold Barnes Co 3230 Mercer St
Houston....................713-622-3620
Tex Arnold Barnes Co 740 S Sherman St
Richardson....................214-235-4541
Tex Arnold Barnes Co D416 Petroleum Ctr
San Antonio....................512-828-1323
Wash Showalter-Judd 1806 S Bush Pl
Seattle....................206-324-7911

DATA VOX DIV DATA TECHNOLOGY CORP
1050 E MEADOW CIRCLE PALO ALTO
CAL 94303....................415-321-0551
R MURRAY EMP 15 ENG 3 $500-$1,000M

DATCON ELECTRONICS CORP 150 S TERRACE AVE
MT VERNON NY 10550..............914-664-2050
EMP 8 ENG 2 UP TO $100M

DA-TEL RESEARCH CO 930 N PARK AVE
MONTROSE COLO 81401..............303-249-6129
E GILBERT EMP 5 ENG 2 UP TO $100M
Wash B J Hudson Co 10210 N E 8th St
Bellevue....................206-455-0773

DATUM INC 170 E LIBERTY AVE ANAHEIM
CAL 92801....................714 879-3070
N DAWIRS EMP 50 ENG 10 $1,000-$2,500M
Ala Gentry Assoc 2109 W Clinton Huntsville . 205 534-9771
Ariz Barnhill Assoc 4900 E Indian School Rd
Phoenix....................602-959-2115
Cal Product Data Co 3760 Orange Ave
Long Beach....................213-595-1777
Colo Barnhill Assoc 1170 S Sheridan Blvd
Denver....................303-934-5505
Fla Gentry Assoc 550 N Bumby Ave
Orlando....................305-841-7740
Ga Gentry Assoc Box 13513, Sta K
Atlanta....................404-874-4661
Md Ron Davies Assoc 11215 Oak Leaf Dr
Silver Spring....................301 593-4900

Mass Hobart Assoc 223 Crescent St
Waltham....................617-889-6230
NM Barnhill Assoc 827 Pennsylvania NE
Albuquerque....................505-265-7766
NY Naco Elect Corp 119 Luther Ave
Liverpool....................315-474-7481
NY Krasner Assoc 33 Great Neck Rd
Great Neck....................516-487-0690
NC Gentry Assoc 116 E O'Neal Ave
Burlington....................919-227-2581
Pa Denco Inc 500A E Godfrey Ave
Philadelphia....................215-725-9000
Tex Barnhill Assoc 3810 Westheimer
Houston....................713-621-0040
Tex Barnhill Assoc 312 N Central Expwy
Richardson....................214-231-2573

DAUBERT CHEMICAL CO 709 ENTERPRISE DR
OAK BROOK ILL 60521..............312 LU 2-1000
W SPENCER EMP 270 OVER $10,000M

DAVEN DIV MCGRAW-EDISON CO
GRENIER FIELD, MUNICIPAL AIRP
MANCHESTER N H 03103
TWX 710-220-1747....................603 669-0940
D RICHARDS EMP 700 ENG 40 $5,000-$10,000M
Ariz Howe & Howe Sales Inc Box 10497
Phoenix....................602 264-7971
Cal Straube Assoc 483 Willow Rd Menlo Park ...323-2476
Cal Westrep 9519 Telegraph Rd Pico Rivera 949-2551
Colo Straube Assoc 2490-20 28th St Boulder ...443-8600
Fla Kirkwood Assoc Box 52 Winter Park ...305 645-2220
Ill John G Twist Co 5222 W Diversey Ave
Chicago....................312 777-2250
Ind Ryan Sales Co Box 2515 Ft Wayne....219-432-0897
Iowa Jerry Vrbik Co 2818 A Ave NE
Cedar Rapids....................EM 5-0461
Md Holden Eng Sales 1133 Gypsy La W
Towson....................VA 3-3763
Mass Stan Pierce Inc 24 Linden St Norwood 762-3164
Mich Ryan Sales Co Box 2515 Ft Wayne Ind . 219-432-0897
Minn R J Sales & Eng Co 7100 S France
Minneapolis....................922-1425
Mo R R Burton Sales 1016 Baltimore Ave
Kansas City....................471-2850
NY Tech-Mark, Inc 101 Jefferson Ave Endicott . 748-7473
NY H R C Assoc 390 Plandome Rd
Manhasset....................516 627-4644
NY Thomson Electric Co 50 Rockefeller Plaza
New York....................212 245-3900
NC P J Nahser Co 2709 Amherst Ave
Burlington....................919 226-8053
Ohio Allen Nace Co Inc Box 156 Brecksville .216-526-4323
Ore N R Schultz Co 2080 SW Cherry Hill Dr
Beaverton....................503-646-1345
Pa Victor S Malta 801 Preston Rd Phila......VE 6-5122
Pa Allen Nace Co, Inc 1725 Washington Rd
Pittsburgh....................561-3544
Tex Robt E Nesbitt Co 2930 Merrell Rd
Dallas....................214 357-4601
Wash N R Schultz Co 305 112th Ave NE
Bellevue....................206 454-5224
Can Abbey Electronics Ltd 1 Daybar Ave
Rexdale, Ont....................416 249-8431
Fr Thompson Electric Co 50 Rockefeller Plaza
NY, NY....................212 245-3900
GB Ultra Electronics Ltd 419 Bridgeport Rd
Greenford, Mdsx

DAVIDSON ELECTRONIC DEVELOPMENT CO
2211 PENINSULA DR ERIE PA 16506 ...814 833-9818
A DAVIDSON EMP 15 ENG 2 $250-$500M
Mich Technitron, Inc 13657 Grand River Ave
Detroit....................838-7324
Ohio Technitron Inc 23203 Lorain Rd Cleveland ..734-0960
Ohio Technitron, Inc 1250 W Dorothy La Dayton .298-9964
Pa Technitron Inc 114 Spring Grove Rd
Pittsburgh....................371-1231

DAVIDSON OPTRONICS INC 2223 RAMONA BLVD
WEST COVINA CAL 91790..............213 962-5181
R LOVELL EMP 170 ENG 4 $2,500-$5,000M
NJ S Bailey 441 William St Bound Brook ..201 469-4433
Pa J Noll 404 Anawande Ave Pittsburgh ...412 531-8071

DAVIES MOLDING CO, HARRY
4920 W BLOOMINGDALE AVE CHICAGO
ILL 60639....................312 622-8966
R APPLEBY EMP 160 ENG 3 $1,000-$2,500M
Cal Littrell Western Sales 2121 E 12th St
Los Angeles....................AN 1-0164
Colo Fred A Pease & Co Box 646 Aurora 364-9391
Conn Paul R Sturgeon Co Inc 189 Broad St
Milford....................TR 4-6080
Fla W Chester Smith 2000 NE 26th Dr
Ft Lauderdale....................LO 4-1477
Ill D M Maytnier Corp 2510 Gross Point Rd
Evanston....................GR 5-4334
Ind L T Clower Co 3526 W Morris St
Indianapolis....................244-6197
Iowa Clancey Co 4612 40th St Des Moines .....CR 9-9102
Mass P R Sturgeon Co Inc 1330 Boylston St
Chestnut Hill....................734-7710
Mich Gitre Co Inc 12909 W 8 Mile Rd Detroit....DI 1-9270
Mo Clancey Co 3527 Broadway Kansas City...WE 1-3090
NY Rywel Sales Inc 100 N Village Ave
Rockville Centre....................RO 4-2666
Ohio Foley & Beilstein Co 26612 Center Ridge Rd
Westlake....................TR 1-8830
Pa W G Walker Box 935 Paoli ....MA 7-8146
Tenn C E Hall & Assoc Box 22335 Memphis ....EV 6-0198
Tex A & A Supply Wycliff & Vantage Dallas ...ME 1-8170
Wash Northwest Plastics Ind 1220 E Cherry
Seattle....................PA 3-0441
Wis Clague Sales Corp 759 N Milwaukee St
Milwaukee....................BR 2-1951
Can Atlas Radio Corp Ltd 50 Wingold Toronto ..RU 1-6174

DAVIS ELECTRIC CO 230 N SPRING
CAPE GIRARDEAU MO 63701..........314 ED 5-5547
B DAVIS EMP 85 ENG 1 $500-$1,000M
Cal E B Schwerin 4922 La Gama Way
Santa Barbara....................967-7317
Fla W J Reasor & Assoc Box 12601
Palm Beach Gardens....................848-0203
Ill Gianaras Sales Co 7051 W Wilson Ave
Norridge....................SP 4-4600
Mass NEAR Inc 99 Highland Ave Somerville .....PR 6-2262
Miss Herron Assoc Box 3008 Meridian 482-1878
Mo Automatic Gen Electn Sales Inc
6550-E troost Ave Kansas City........DE 3-8206
Mo H J Weisler & Assoc, Inc 2050 Woodson Rd
St Louis....................HA 8-3934
NY Lloyd Hart Assoc Inc 796 Hillside Ave
Rochester....................CH 4-3253
Ohio Components Inc 7461 N Linden La
Cleveland....................VI 2-2737
Ohio Components Inc 11820 Knollsprings
Cincinnati....................721-2997
Pa W H Cordray Sales Co 1 Radnor Sta
Radnor....................TR 8-3737
Tenn Herron Assoc Box 1521 Chattanooga 698-4188
Tex R F Kimball Co 5531 Dyer St Dallas......EM 3-5431

DAVIS & HEMPHILL INC 2000 FURNACE AVE
ELKRIDGE MD 21227....................301 796-2290
M DAVIS, JR ENG 5
Md J A Maguire & Co 5716 York Rd Baltimore .ID 3-2613
NJ J A Maguire & Co 726 Cooper St Camden .WO 6-3118
NY K George Keenan & Co 1 Broadway
New York....................DI 4-2566

DAWE INSTRUMENTS LTD
CONCORD RD WESTERN AVE LONDON W3
ENGLAND....................01 992-6751
A LETTS EMP 300

DAYLEN CO BOX 527 SOUTH GATE
CAL 90280....................213-589-1310
J LAWRENCE EMP 17 ENG 10 $250-$500M

DAYMARC CORP 42 BEAR HILL WALTHAM
MASS 02154 TWX 710-324-6469......617 894-2105
N CEDRONE EMP 70 ENG 7 $1,000-$2,500M
Ariz Western Sys & Equip Inc Box 1305
Scottsdale....................945-2667
Cal Instrument Specialists, Inc 2870 Los Feliz Pl
Los Angeles....................665-5181
DC Sonco 4720 Montgomery La Washington ...654-5226
Ill Cozzens & Cudahy, Inc 9501 W Devon Ave
Rosemont....................825-1144
Ind Cozzens & Cudahy, Inc 44 Kirk Dr
Indianapolis....................244-2456
Mich Cozzens & Cudahy 127 Edmund St
Royal Oak....................313 585-5179
Minn Cozzens & Cudahy, Inc 7710 Computer Ave
Minneapolis....................920-1022
Mo Cozzens & Cudahy 10534 Natl Bridge Rd
Edmundson....................314 423-1234
NJ Sonco Crystal Brook Prof Bldg Eatontown ..542-1441
NY Crane & Egert Corp 146 Meacham St
Elmont....................516 488-2100
Ohio Cozzens & Cudahy 735 S Court St
Medina....................216 725-5660
Pa Sonco 107 Town Ctr Rd King of Prussia . 215 265-3250
Tex Blackter Co 777 S Central Expwy
Richardson....................214 231-1718
Wash Instrument Specialists 5950 6th Ave S
Seattle....................206 767-4260
Fr A Wakeling 8 Ave Gourgand Paris.........425-8437
Ger Kulicke & Soffa Sales AG Rhiengutstr 7
775 Konstanz....................07531-2666
GB D Newth 12 Swallow St London W 1 ....01 437-0737
Neth Z J Voorendt Laan 1954 nr 27 DeMeern ...3406.2215
Ital La Commissionaria Mercantile 1, via U Foscolo
Milano....................808297
Swed Erik Ferner AB Box 56 Bromma ...252870 Stockholm
Swit Kulicke & Soffa Sales AG Gubelstr 19 Zug 48033

DAYTON AIRCRAFT PRODUCTS INC 812 NW 1ST ST
FORT LAUDERDALE FLA 33310........305 523-5451
M MCCAUGHEY EMP 500 ENG 6

DAYTON ELECTRONICS PRODUCTS CO
117 E HELENA ST DAYTON OHIO 45404 .513 461-4951
G BURDICK EMP 125 ENG 21

DAYTRONIC CORP 2875 CULVER AVE DAYTON
OHIO 45429....................513 298-7542
M MOORHEAD JR EMP 28 ENG 4 $500-$1,000M
Ala Vesco Sahara Office Pk Huntsville 881-8830
Cal Research Data Corp 110 S Euclid Ave
Pasadena....................681-3451
Fla Vesco 106 Dixie La Cocoa Beach
Mass Addelco Corp 56 Pickering St Needham 444-4754
Mich S Sterling Co 21250 W 10 1/2 Mile Rd
Southfield....................357-3700
Mo S Sterling Co 11734 Lackland Ind Dr
St Louis....................647-4350
Mo Harris-Hanson Co 7916 Paseo Kansas City ..444-9494
NJ Tek-Sel Inc 440 N Midland Ave
Saddle Brook....................791-5545
NY J D Ryerson & Assoc 111 Kinne Rd
Syracuse....................446-1771
Ohio S Sterling Co 5827 Mayfield Cleveland 442-8080
Ore Arva Inc 2035 SW 58th Ave Portland 222-7339
Pa Roberts Engrg Sales Co 2 Radnor Sta Bldg
Radnor....................688-6525
Wash Arva Inc 1320 Prospect Seattle..........998-0733
Can B H McGregor Box 156, Sta H Toronto 699-5521

DAYTRON INC 634 NATIONAL AVE
MOUNTAIN VIEW CAL 94041..........415 961-1241
J GLORIA EMP 20 ENG 3 $100-$250M

DAZOR MFG CORP 4455-99 DUNCAN AVE ST LOUIS
MO 63110....................314 OL 2-2400
P READ $2,500-$5,000M

Ark Wm F Byrd 305 N Plaza Dr Little Rock .501 663-9256
Colo J Ellertson 6388 Clearview Rd Boulder . .303 443-9489
Ga James C Hearn Assoc 1131 Logan Cir NW
Atlanta 404 355-3751
Ill Wm Johnson 309 S Bennett La
Des Plaines 312 437-3838
Mass M Bardin 45 Cottage St Brookline 617 731-2626
Mich Wm E Hawkins 20731 Lee Ct
Grosse Pointe Woods 313 885-5500
Mo Norman W Kathrinus 2427 Brentwood Blvd
St Louis 314 962-5627
NY T Thorsen 52 Whippoorwill Rd Armonk . .914 273-8545
Ohio I Treusch 326 Alexis Ct Glenview Ill 312-724-0358
Pa D A Hirsh 188 Windmill Rd
Willow Grove 215 659-4349
Tex Tom Harrison Co Box 9 Richardson 214 363-4535
For Roldan Products Corp 111 S Bemiston Ave
Clayton, Mo 314 726-6911

DBM RESEARCH CORP BOX 521 COCOA BEACH
FLA 32931 ....305 783-2438
C MATTOX EMP 8 ENG 4 $100-$250M
Fla Dbm Research Corp 14-16 N Atlantic Ave
Cocoa Beach 783-2438

DB PRODUCTS INC 253 N VINEDO AVE PASADENA
CAL 91107 ....213 449-3790
D BOYKO EMP 30 ENG 2 $250-$500M

D-CEMCO INC 3200 N SAN FERNANDO BLVD
BURBANK CAL 91504 ....213 849-6341
F CRISWELL EMP 12 ENG 2
Ariz Ar/Tec Inc Box 727 Scottsdale 947-6304
Cal John E Striker Co 1319 Howard Ave
Burlingame 342-1425
Colo Electronic Component Sales 2340 W Main St
Littleton 798-8481
Fla Engstrom Assoc 1816 Maywood Rd
Winter Park 671-8944
Md Be-Mar Assoc 120 Derwood Cir Rockville ...762-8880
Mass Entis Assoc 11 Babcock St Brookline .....CO 7-2322
NJ Be-Mar Assoc 7217 Rising Sun Ave
Philadelphia 728-6333
NM Electronic Component Sales Box 3087
Albuquerque........................344-3987
NY Andrews & Andrews 140 E Main St
Huntington 692-8686
Ohio Midwest Sales Co 3219 W 117th St
Cleveland ....WI 1-2700
Okla T J Ray Box 45191 Tulsa..............NA 7-1515
Ore Van Voorhees Assoc Box 4383 Portland 287-6633
Pa Be-Mar Assoc 7217 Rising Sun Ave
Philadelphia 728-6333
Tex Stevens Sales Box 34493 Dallas ....CH 1-3645
Utah Elcom Box 2066 Salt Lake 278-6044
Can Nortech Electronics Ltd 1335 Lawrence Ave, E
Don Mills, Ont 447-6471

DCMT MACHINERY DIV AVNET INC
91 COMMERCIAL ST PLAINVIEW
N Y 11803 ....516 WE 5-8780
S LEVINE EMP 10 ENG 3
Cal Metalworking Mach 2026 S Sante Fe Ave
Los Angeles.........................LU 3-1627
Colo Mine & Smelter Supply Co 3800 Race St
Denver 244-4353
Ill Standard Machy Co 6145 N Cambell Ave
Chicago 312-405-0100
Mass C Carswell Box 219 Springfield.......413-736-3437
Mich Thos J O'Brien Co 14111 St Mary's Ave
Detroit ....VE 6-4618
Minn Chas W Stone Co 1914 LaSalle Ave
Minneapolis 339-0611
NY Hahn Tool & Mach Co 1735 Seneca St
Buffalo........................716-826-1094
Ohio Richard D Imbry Assoc 4818 Gleeten Rd
Cleveland 382-2282
RI H Leach Machinery Co 45-75 Corliss St
Providence 331-0695
Can A C Hamilton & Co 3216 Lenworth Dr
Cooksville Ont 416 625-2965

DEANS CO, W S 8512 E GARDENDALE DOWNEY
CAL 90242 ....213 TO 2-8345
W DEANS EMP 4 ENG 1 UP TO $100M

DEA PRODUCTS INC 945 W 23RD ST TEMPE
ARIZ 85281 602-967-8818
S EVERETT EMP 50 ENG 3
Cal Ramyr Mfg Co 6750 Caballero Blvd
Buena Park 213-627-0594
Colo Ramyr Mfg Co 3115 E 40th Ave
Denver 303-388-4223
Ill Autoroll West 101 Oakwood La Roselle
Ind Hoosier Photo Supply 5330 N Tacoma
Indianapolis
Mass Autoroll Machine Corp 110 Proctor St Salem
Mich Treck Photographic Inc 3140 Grand River Detroit
Mo TreckPhotographic Inc 1515 Broadway
Kansas City
NY Kressilk Prods Inc 420 Saw Mill River Rd
Elmsford 914-592-5010
Ohio Precision Industries Inc 13410 Enterprise Ave
Portland.......................503-234-9272
Ore Ramyr Mfg Co 1919 S E Belmont St
Portland.......................503-234-9272
Utah Treck Photographic Inc 2220 S Main St
Salt Lake City
Wash Image Control Sys Inc 221 9th Ave N
Seattle........................206-624-2646
Wis Treck Photographic Inc 1661 N Farwell Ave
Milwaukee
Neth Eurolectron Soestdijkseweg 328 Bilthoven
Ital Amlico Electronics 131 Via Palmanova Milan
Jap Muromachi Kagaku Kogyo Kaisha Ltd
3 4 Chome Muromachi Tokyo 213-8581
Swit E Harlacher Gartenstr 7 8902 Urdorf Zurich

DEARBORN ELECTRONICS INC SUB SPRAGUE ELEC
CO BOX 530 ORLANDO FLA 32802
TWX 56-4456........................305 838-3011
C LITTLE EMP 240 ENG 7 $1,000-$2,500M
Ariz Sprague Electric Co 3550 N Central Ave
Phoenix 279-5435
Cal Sprague Electric Co 12870 Panama St
Los Angeles 870-0161
Colo Sprague Electric Co 5670 E Evans Ave
Denver 756-3611
DC Sprague Electric Co 3900 Wisconsin Ave N W
Washington 244-6006
Fla W Ben Wimberly Co 532 S Fort Harrison
Clearwater..........................446-7072
Ill sprague Electric Co 9950 W Lawrence Ave
Schiller Park 678-2262
Ind Sprague electric Co 2511 E 46th St
Indianapolis 546-4911
Md Rothenheber & Co Inc 14211 Chesterfield Rd
Rockville 929-3388
Mass Tom Crawford & Son Box 264 Norwood 762-6878
Mich Sprague Electric Co 259 Collingwood
Ann Arbor 761-4080
Minn HMR, Inc 9 E 22nd St Minneapolis........335-7734
Mo Sprague Electric Co 500 Northwest Plaza
St Ann..............................291-2500
NJ Clarfield-Stollmack Assoc 175 Westwood Ave
Westwood 666-8989
NM C T Carlberg & Assoc Box 3177, Sta D
Albuquerque.........................265-1579
NC Sprague Electric Co 928 Burke St
Winston-Salem 722-5151
Ohio Sprague Electric Co 224 Leo St Dayton 223-9187
Pa Rothenheber & Co Inc 53 Cricket Ave
Ardmore 642-6911
Tex Delzell & Evans Assoc Box 35093 Dallas....351-1839
Wash Sprague Electric Co 4601 Aurora Ave N
Seattle 632-7761
Can A Deskin Sales Corp 1565 Louvain St W
Montreal 384-1420
Can A Deskin Sales Corp 27 Claremont Ave
Winnipeg 453-1877
Can A Deskin Sales Corp 78 Six Point Rd
Toronto 239-4329
For Sprague World Trade Corp
North Adams Mass 413-664-4411
BC A Deskin Sales Corp 1641 Venables St
Vancouver 253-6396

DEARBORN WIRE & CABLE CO 3333 W OHIO ST
CHICAGO ILL 60624 ....312 638-6711
B GREENE EMP 50 ENG 4 $5,000-$10,000M
ADV PGS 74,717
Ind Keiter Electrical Insul Co 18694 Bershire Dr
South Bend 219-264-5212

DECATUR ELECTRONICS INC 989 W KING ST
DECATUR ILL 62522 217-428-4315
M FLEMING EMP 45 UP TO $100M

DECIBEL PRODUCTS INC 3184 QUEBEC ST DALLAS
TEX 75247 ....214 631-0311
K PARSONS EMP 40 ENG 4
BC Westronic Engrg Sales Ltd 1641 W 2nd Ave
Vancouver 9

DECITEK INC 15 SAGAMORE RD WORCESTER
MASS 01605 617-757-4577
H O'DONOGHUE EMP 32 ENG 8
Ill UFC 1400 Hicks Rd Rolling Meadows ..312-394-1515

DECITRON COMMUNICATION SYSTEMS INC
567 E 105TH ST BROOKLYN N Y 11236 .212-649-8110
B FERNAN EMP 35 ENG 15

DECITRON ELECTRONICS CORP 841 ESSEX ST
BROOKLYN N Y 11208 ....212 NI 98110
H STARKAND EMP 215 ENG 20 $5,000-$10,000M

DECKER CORP 45 MONUMENT RD BALA CYNWYD
PA 19004..........................215 MO 46700
T SPIRITO EMP 35 ENG 4 $1,000-$2,500M
Ala Vaughn Electrosources Co Box 1369
Huntsville..........................881-8830
Cal Premmco-Welco 1502 W 166th St Gardena .532-6010
Colo Electro-Rep, Inc 1051 So Platte River Dr
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Wash	Westec Electronics box 66521 Burien Br Seattle	243-7070
Can	B H McGregor Box 156 Sta H Toronto, Ont	OX 9-5521
Den	Engel Galtung Rosengt 12B TR Sundyberg	
Fr	J P B Sarl 11 Rue Marius Franay 92 Saint-Cloud	825-95-58
GB	Coutant Electronics Ltd 3 Trafford Rd Reading Berks	

DERINGER METALLURGICAL CORP
1250 TOWN LINE RD MUNDELEIN ILL 60060
TWX 910-685-4321 .... 312 566-4100
P LOEFFLER EMP 210 ENG 7 $5,000-$10,000M

Cal	Nat Nesbitt 730 N Euclid Ave Anaheim	535-2814
NY	Robert Fowler 3700 East Ave Rochester	LU 6-0468

DERO RESEARCH & DEVEL CORP
BROADWAY & PARK AVE HUNTINGTON
N Y 11743
F CYLVICK

DESCO MFG CO 1530 FLOWER ST GLENDALE
CAL 91201 .... 213 241-9560
K MACDONALD EMP 6 ENG 1 UP TO $100M

DESIGN AUTOMATION INC
809 MASSACHUSETTS AVE LEXINGTON
MASS 02173 .... 617 862-8998
N SOKAL EMP 7 ENG 5 $100-$250M

DESIGN PRODUCTS CORP 1925 W MAPLE RD TROY
MICH 48084 .... 313 647-1770
R JOSS EMP 10 ENG 3 $100-$250M

Ill	Electrol Specialties Co 441 Clark South Beloit	815 389-2291
NY	Swedelco Inc 65 Court St White Plains	914 946-1122
Ohio	E-C-P Corp 4725 Superior Ave Cleveland	216 391-0444
Ohio	S & S Control Co 3300 Bishop St Toledo	419 244-9506
Pa	C A Briggs Co 110 Keswick Glenside	215 885-2244

DESOTO ELECTRICAL PRODUCTS BOX 239 DESOTO
MO 63020 .... 314 586-3381
G SOLOMON EMP 2 ENG 1 UP TO $100M

DESPATCH OVEN CO BOX 1320 MINNEAPOLIS
MINN 55440 TWX 029-688 .... 612 331-1873
C HANSON EMP 300 ENG 50

Ala	Naughton Equip Co 100 Crestwood Dr Birmingham	205 328-1618
Cal	Matheson-Doherty Co 181 Beacon St San Francisco	415 761-2904
Colo	T C Jarrett Co 15 Hillside Dr Denver	303 233-2333
Conn	Etter Engineering Co Box 5126 Hamden	203 288-3575
Fla	D A Thomas 1342 Yulee Dr Clearwater	813 531-4255
Ga	Dilcher Engineering Co 3376 Peachtree Rd, N E Atlanta	404 261-1678
Ill	W E Swanson & Assoc 6135 N Elston Ave Chicago	312 774-8575
Ind	Wright Engineering Co 414 Stanley Ave Evansville	812 425-7069
La	Davies Assoc 806 Perdido St New Orleans	504 522-9026
Mass	Etter Engineering Co Inc Box 47 Waltham	617 893-8658
Mich	Hartmann-Schaffer Engrg Co 9125 Livernois Ave Detroit	313-933-8866
Minn	Whirl-Air-Flow Equip & Supply 650 25th Ave SE Minneapolis	612-331-8400
Mo	Beaco Equipment Co 1304 Christine Ave St Louis	314 965-8600
Neb	Abart Sales Agency 7062 Maple Omaha	402 558-2881
NJ	Gerald B Duff & Co 2165 Morris Ave Union	201 686-1747
NY	Nickles Engineering Co 830 Linden Ave Rochester	716 586-4988
Ohio	Wagner-Green Co 12808 Drexmore Rd Cleveland	216 561-4670
Okla	Bishop Engineering Co Box 7031 Tulsa	918 742-2471
Pa	Day Engineering Co 1032 S Park Ave Audubon	215 666-7700
Tenn	Combustion & Controls Co 824 E Crump Blvd Memphis	901 525-7402
Tex	Haylett O'Neill & Son 3410 Mercer St Houston	713 622-4938
Va	A C Cavedo 35 Malvern Ave Richmond	703-358-3174
Wash	H E Hartley Co 223 Terminal Bldg Boeing Fld Seattle	206 767-3600
Wis	W E Swanson & Assoc 2336 N 124th St Milwaukee	414 771-5820
Can	Letchford Industries Ltd 875 Notre Dame Ave Winnipeg, Man	204 786-5491
Can	Scarborough & Grant 12 Le Page Ct Downsview, Ont	416 633-4130
Can	Industrial Combustion & Equip Ltd 123 Labrosse Ave Pte Claire Que	514 697-7710

DE-STA-CO DIV DOVER CORP 350 MIDLAND AVE
DETROIT MICH 48203
TWX 810 243 6440 .... 313 868-5080
R RILLSTON EMP 200 ENG 8

DESTRON CO 25914 CHALMETTE LN
ROLLING HILLS ESTATE CAL 90274 ... 213 FR 8-3450
EMP 1 ENG 1 UP TO $100M

DE-TEC-TRONIC CORP 2512 N HALSTED ST
CHICAGO ILL 60614 .... 312 327-3962
E MANDERSON EMP 17 ENG 4 $250-$500M

Ind	Electro Engr & Sales Inc 6909 E 32nd St Indianapolis	317 547-5273
Mass	Adcour One Summer St Sharon	617-784-3996
Mich	McAuliffe Sales 18444 W Ten Mile Rd Southfield	313-352-4066
NY	Tower Sales Engr Co 550 Fifth Ave New York	212 246-7611
Ore	Ramic Corp Box 1389 Medford	503 772-6189
Pa	Technicraft Co 7028 Ridge Ave Philadephia	215 483-4700

DETORONICS CORP 10660 E RUSH ST S EL MONTE
CAL 91733 .... 213 443-3014
W HOWELL EMP 50 ENG 3 $500-$1,000M

Ariz	Fryco 403 N Old Scottsdale Rd Scottsdale	WH 5-3281
Ind	Del Steffen & Assoc 737 N La Fontaine St Huntington	
Ohio	Del Steffen & Assoc 904 E 222 St Cleveland	216 261-5055

DETROIT DIESEL ENGINE DIV 13400 W OUTER DR
DETROIT MICH 48228 .... 313 531-7100
R PRUSSING EMP 7500 ENG 500 OVER $10,000M

Cal	Detroit Diesel Eng Div 1777 Murchison Dr Burlingame	697-2744
DC	Detroit Diesel Eng Div 1625 Eye St NW Washington	659-5040
Ga	Detroit Diesel Eng Div 359 E Paces Ferry Rd NE Atlanta	237-8666
Ill	Detroit Diesel Eng Div 9501 Devon Ave Rosemont	825-8826
Mich	Detroit Diesel Eng Div 19855 W Outer Dr Dearborn	531-7100

NY	Detroit Diesel Eng Div 767 5th Ave New York	486-5000
Tex	Detroit Diesel Eng Div 805 Frito-Lay Bldg Dallas	358-2551

DEUTSCH CO, ELECTRONIC COMPONENTS DIV
MUNICIPAL AIRPORT BANNING CAL 92220
TWX 714-841-7210 ... 714 849-6701
H COMEAU EMP 1500 ENG 75 OVER $10,000M

Ala	Deutsch Box 1066 Huntsville	205 536-0109
Ariz	Deutsch Co 901 W McDowell Rd Phoenix	253-0714
Cal	Deutsch Co Box 580 Cupertino	CY 3-4050
Cal	Deutsch Co 7001 W Imperial Hwy Los Angeles	673-5080
Cal	Deutsch San Diego	714 232-2213
Colo	Deutsch 70 W 6th Ave Denver	303 255-6860
Conn	Deutsch Co 75 Jackson Ave E Hartford	289-5653
DC	Deutsch Co 1629 K St, NW Washington	296-8242
Fla	Deutsch Co 2308 E Robinson Ave Orlando	305 841-2293
Ill	Deutsch 9420 W Foster St Chicago	312 992-0836
Mass	Deutsch 93 Winfield St Norwood	617 762-6464
Mo	Deutsch 6108 Madison Ave St Louis	314 524-0655
NJ	Deutsch 15 Potter Ave Haddonfield	609 428-2678
NY	Deutsch Co Fulton St Farmingdale	694-4640
NY	Deutsch 891 Monroe Ave Rochester	716 271-4480
Ohio	Deutsch Co 3605 N Dixie Dr Dayton	228-6731
Tex	Deutsch Co 414 Irving Bank Tower Irving	BL 3-7846
Tex	Deutsch Co Box 2863 Houston	CA 7-8880
Wash	Deutsch Co 208 Carlson Bldg Bellevue	GL 4-3747
Can	Deutsch P O Box 67 Postal Station S Toronto Ont	416 781-5111
For	Hellermann Deutsch E Grinstead, Sussex England	
Fr	Cie Deutsch 8 Rue Henri Regnault St Cloud	

DEUTSCH FILTORS RELAY DIV 65 DALY RD
EAST NORTHPORT N Y 11731
TWX 510-226-0233 ... 516 AN 6-1600
P MULLAHY EMP 500 ENG 60 OVER $10,000M

Ariz	Deutsch Filtors Relay Div 5542 N 12th Ave Phoenix	602-253-6260
Cal	Deutsch Filtors Relay Div 7001 W Imperial Hwy Los Angeles	673-5080
Fla	Deutsch Filtors Relay Div 1000 Woodcock Rd Orlando	305-424-6222
Mass	Deutsch Filtors Relay Div 16 Rockvale Cir Jamaica Plains	524-0258
Mo	Deutsch Filtors Relay Div 6108 Madison St St Louis	524-0655
Ohio	D Desantis 3605 N Dixie Dr Dayton	278-0181
Pa	Deutsch Filtors Relay Div 950 E Russell St Philadelphia	215-657-1044
Wash	Deutsch Filtors Relay Div 208 Carlson Bldg Bellevue	206-454-3747
Can	Canadian Micronics 323 Bank St Ottawa Ont	613-233-5129
Fr	Compagnie Diutsch 8 Rue Henri Regnault Saint Cloud S & O	408-64-76
GB	Hellermann Deutsch Ltd East Grinstead Sussex	21231

DEUTSCHE VITROHM GMBH & CO KG
SIEMENSSTR 7-9 208 PINNEBERG GERMANY
TWX 02 189-130 ... 04101/26131
W SIEMSEN EMP 500 ENG 10 $5,000-$10,000M

Den	Vitrohm A/S Linde Allee 40-42 Copenhagen-Vanlse	744511
Fr	Sonel - Rohe Rue de l'Eglise 56 Paris 15	53229-99
Neth	Amroh-Kauderer NV Muiden	1341
Ital	Infin Prodotti Neohm Via Avellino 6 Torino	482-222
Belg	L de Greef S R R L Ave Everard 53 Bruxelles 19	441933

DEVCO ENGINEERING INC PIER LANE WEST
FAIRFIELD (CALDWELL) N J 07006 ... 201 CA 8-0321
R WEST EMP 56 ENG 8 $2,500-$5,000M

DEVCON CORP ENDICOTT ST DANVERS
MASS 01923 ... 617 774-1990

DEVELCO, INC 8 VAN TASSELL CT NORWALK
CONN 06851 ... 203 847-7720
R SEIDMAN EMP 8 ENG 1 OVER $10,000M

Conn	NPM Assoc 522 E Putman Ave Greenwich	869-4955
Fla	Davies Assoc Box 50224 New Orleans	522-9027
Ill	Bauman & Bluzat Box 364, Northtown Chicago	486-6809
Md	Naudain Assoc Box 1 Lutherville-Timonium	252-5378
Mich	Tiby Co 380 Hilton Rd Ferndale	547-3550
NC	Naudain Assoc Box 2186 Raleigh	832-3230
Ohio	Tiby Co 2245 Warrensville Ctr Rd Cleveland	371-5335
Ohio	Tiby Co 1960 N Main St Dayton	277-3822
Pa	Naudain Assoc 1032 Sub Sta Bldg Philadelphia	564-3194
For	Lindor Intl 10 E 40th St New York	MA 5-6740

DEVELOPMENT ASSOCIATES CONTROLS
725 REDDICK AVE SANTA BARBARA
CAL 93103 ... 805 963-3708
E VERNON EMP 7 ENG 2 $100-$250M

Fla	H R Gross & Co 314 S Missouri Ave Clearwater	446-6649
Ill	John Plosnich & Assoc 7161 N Cicero Ave Chicago	679-0231
Md	Berkley Fuller Co 11657 Lockwood Dr Silver Spring	593-6986
Mass	EPE Corp 345 Highland St Weston	617 899-0678
Minn	T K Gray Inc 1812 S 6th St Minneapolis	332-0536
Mo	W J White Co 514 Parkwood Ave Kirkwood	965-1115
NM	Crown Engineering 2125 San Mateo, NE Albuquerque	265-1020
NY	Herbert Shprentz Co 126 Deertrack La Irvington	591-7970
Ohio	Electro Enterprises Inc 2621 Mardon Dr Dayton	426-6071
Tex	Sivright Co 6434 Maple Ave Dallas	357-6681
Can	Robert Neill Co 5200 A Yonge St Willowdale	225-5200
For	B Freudenberg, Inc 50 Rockefeller Plaza N Y, N Y	757-9130
Jap	Kan Electronics Co Ltd 1-17 Yahara 2 Chome Nerima-Ku Tokyo	

DEVICE DEVELOPMENT CORP 241 CRESENT ST
WALTHAM MASS 02154 ... 617 893-0330
R GOODWIN EMP 50 ENG 5 $250-$500M

DEVICE SEALS INC 11684 TUXFORD ST
SUN VALLEY CAL 91352
TWX 213-765-5495 ... 213 877-0751
G FOLEY EMP 88 ENG 6 $1,000-$2,500M

Cal	Pritchard & Haney Co Box 102 Los Altos	
NY	O F Masin Co 140 Boston Post Rd Larchmont	

DE VILBISS CO 300 PHILLIPS AVE, BOX 913
TOLEDO OHIO 43601
TWX 810-442-1610 ... 419 474-5411
D BOHON EMP 1900 ENG 70 OVER $10,000M

Ala	Charles A Walker 2717 Millbrook Rd Birmingham	252-5151
Ark	J R Herring 3524 Loch La N Little Rock	753-1611
Cal	DeVilbiss Co 6811 E Slauson Ave Los Angeles	723-6307
Colo	Lewis C Weaver Jr 1367 S Chase St Denver	255-3889
Conn	A C George Box 167 Tolland	875-2187
Fla	E W Gribbins 2361 N E 135th Terr N Miami Beach	945-6593
Ga	DeVilbiss Co 1100 Northside Dr Atlanta	875-0554
Ill	DeVilbiss Co 1280 W Washington Blvd Chicago	226-6847
Ind	DeVilbiss Co 3969 Meadows Dr Indianapolis	545-8963
Iowa	W L Maher 4 Rodeo Ct Davenport	391-5690
Kan	G M Hunt 1290 Wood Wichita	265-8355
La	O J Charbonnet 9533 W Coronado Baton Rouge	523-6829
Md	DeVilbiss Co 9301 Georgia Ave Silver Spring	587-6808
Mass	Norris-Wiener Inc 35 Dummer St Brookline	232-8480
Mich	DeVilbiss Co 137 Victor Detroit	869-3800
Minn	Kenneth E DeRosier 2550 Aldine St St Paul	645-2414
Mo	DeVilbiss Co 1561 Fairview Ave St Louis	429-1920
Neb	D J Smith 5212 N 84th St Omaha	391-3580
NJ	DeVilbiss Co 10 Stern Ave Springfield	376-7900
NY	W A Crandall 220 Valley Dr Syracuse	478-1933
NC	J S McNamara 1448 Devon Dr Charlotte	376-1804
Ohio	DeVilbiss Co 4008 E 89th St Cleveland	271-6065
Okla	W B Reed Rt 3, Box 423 Choctaw	525-2301
Pa	DeVilbiss Co 450 Lawrence Pk Broomall	356-4400
Tenn	J W Anderson 7207 Deerfield Rd Memphis	386-6914
Tex	DeVilbiss Co 2506 Irving Blvd Dallas	631-4030
Wash	Star Machy Co 241 Lander St Seattle	623-0760
Wis	D S Vanduzee 11060 W Forest Home Ave Hales Corners	933-2466
Can	DeVilbiss (Canada) Ltd Box 3000 Barrie, Ont	
GB	DeVilbiss Co, Ltd Ringwood Rd W Howe Bournemouth Hants	
Braz	DeVilbiss, SA Caixa Postal 8344 Sao Paulo	

DEWEY CORP, G C 331 E 38TH ST NEW YORK
N Y 10016 ... 212 MU 2-7369
M KEMPLE EMP 200 ENG 30 $2,500-$5,000M

DC	G C Dewey Corp 1121 Arlington Blvd Arlington, Va	527-3882
Pa	G C Dewey Corp 1 Bala Ave Bala Cynwyd	835-2160

DI-ACRO DIV, HOUDAILLE INDUSTRIES INC
533 EIGHTH AVE LAKE CITY MINN 55041
TWX 910 578-2300 ... 612 345-3331
A KNIGHT JR EMP 275 ENG 5 $5,000-$10,000M

Cal	R Roberson 5403 Persimmon Ave Temple City	443-0862
Ga	Gordon Bone 4795 High Point Rd Atlanta	255-1595
Ill	R D McAdaragh 10718 S Wallace Ave Chicago	312 264-0933
Mass	B E Hughes 38 Elmwood Pk East Braintree	617 848-3035
NJ	Joe Burns 440 Dorchester Rd Ridgewood	201 GI 4-6343
NY	D Zazycki 799 Oliver St No Tonawanda	716 854-3456
Tex	A Pinnell 2128 Willowdale Irving	214 253-5869

DIALIGHT CORP 60 STEWART AVE BROOKLYN
N Y 11237 TWX 212-366-5420 ... 212 497-7600
H GOODMAN EMP 300 ENG 12 $5,000-$10,000M

Ala	Cartwright & Bean 2506 Aspen Ave Huntsville	852-4911
Ariz	Jack Berman Co 2101 W Shangri La Rd Phoenix	944-3361
Cal	Jack Berman Co 8295 S LaCienega Blvd Inglewood	678-1281
Colo	Hyde Electronics Co 888 S Lipan St Denver	936-3456
Fla	Cartwright & Bean 609 E Colonial Dr Orlando	425-8284
Ga	Cartwright & Bean 3223 Cain's Hill Pl, NW Atlanta	237-2273
Ill	Hill-Gray Assocs 821 Garfield Oak Park	ES 8-7050
Ind	Southern Sales Co 105 Lakeshore Dr Angola	665-3961
Ky	Southern Sales Co 212 Republic Bldg Louisville	583-6902
La	Cartwright & Bean 1812 Bullard Ave Metarie	887-0482
Md	L D Lowery Inc 6200 Annapolis Rd Hyattsville	773-4977
Mass	Charles Segel Co 799 Washington St Newtonville	969-6900
Mich	R C Merchant & Co, Inc 18411 W McNichols Detroit	535-6000
Minn	R G Ragon Inc 1136 W Larpenteur Ave St Paul	488-6634
Mo	K & M Sales Co 1627 Main St Kansas City	GR 1-1355
NJ	Robert Horne Assocs 235 Wanaque Ave Pompton Lakes	835-7400
NM	Hyde Electronics Co 5206 Constitution Ave NE Albuquerque	265-8895
NY	Arthur Perkins Co, Inc Kinloch Plaza Manlius	682-5005
NC	Cartwright & Bean 625 Harwyn Dr Charlotte	333-6457
Ore	Almac/Stroum Electronics 8888 S W Canyon Rd Portland	292-3534
Pa	L D Lowery Inc 2801 W Chester Pike Broomall	EL 6-5300
Tenn	Cartwright & Bean 560 S Cooper Memphis	901-4442
Tex	Campion Sales Co Box 396 Addison	239-9196
Wash	ALMAC/Stroum Elctns 5811 6th Ave S Seattle	763-2300
Can	Lake Engineering Co Ltd 123 Manville Rd Scarborough, Ont	751-5980

DIALTRON CORP 203 HARRISON PL BROOKLYN
N Y 11237 TWX 212-366-5420 ... 212 497-7600
J WEIL EMP 50 ENG 4

Ala	Cartwright & Bean 2506 Aspen Ave Huntsville	852-4911
Ariz	Jack Berman Co 2101 W Shangri La Rd Phoenix	944-3361
Cal	Jack Berman Co 8295 S LaCienega Blvd Inglewood	678-1281
Colo	R G Bowen Co 1440 S Santa Fe Denver	722-4641
Fla	Cartwright & Bean 20100 NE 25th Ct North Miami	945-2962
Ga	Cartwright & Bean 3223 Cain's Hill Pl NW Atlanta	237-2273
Ill	Hill-Gray Assocs 821 Garfield Oak Park	ES 8-7050
Ind	Southern Sales Co 105 Lakeshore Dr Angola	665-3961
Ky	Southern Sales Co 212 Republic Bldg Louisville	583-6902
La	Cartwright & Bean 1812 Bullard Ave Metarie	887-0482
Md	L D Lowery Inc 6200 Annapolis Rd Hyattsville	773-4977
Mass	Charles Segel Co 799 Washington St Newtonville	969-6900
Mich	R C Merchant & Co, Inc 18411 W McNichols Detroit	535-6000
Minn	R G Ragon Inc 1136 W Larpenteur Ave St Paul	488-6634
Mo	K & M Sales Co 1627 Main St Kansas City	GR 1-1355
NJ	Robert Horne Assocs 235 Wanaque Ave Pompton Lakes	835-7400
NM	Lee Davis Co 1415 Richmond Dr N E Albuquerque	256-1749
NY	Dialight Corp 60 Stewart Ave Brooklyn	HY 7-7600
NC	Cartwright & Bean 625 Harwyn Drive Charlotte	333-6457
Ore	Almac/Stroum Electronics 8888 S W Canyon Rd Portland	292-3534
Pa	L D Lowery Inc 2801 W Chester Pike Broomall	EL 6-5300
Tenn	Cartwright & Bean 560 S Cooper Memphis	901-4442
Tex	Campion Sales Co Box 396 Addison	239-9196
Wash	ALMAC/Stroum Elctns 5811 6th Ave S Seattle	763-2300
Can	Lake Engineering Co Ltd 123 Manville Rd Scarborough, Ont	751-5980
For	Roburn Agencies Inc 431 Greenwich St New York, NY	WO 6-2130

DIAMOND ANTENNA & MICROWAVE CORP
35 RIVER ST WINCHESTER MASS 01890
TWX 710-348-1066 ... 617 729-5500
D KAIDY EMP 40 ENG 5 $1,000-$2,500M

Cal	Wright Engineering Co 180 E California Blvd Pasadena	213-681-2651
Fla	Truex Assoc 3165 McCrory Pl Orlando	841-8931
Ill	Berndt & Assoc 6414 W Belmont Ave Chicago	283-0713
Ind	Tri-State Mktg Inc 3220 Broadway Fort Wayne	332-1517
Mass	Russell Engrg Services Co 181 West St Waltham	617-899-6618
NJ	Dolan-McCloskey Assoc 16 Spring St Red Bank	201-747-3270
NY	Tesco Assoc 2002 Teall Ave Syracuse	463-4566
Ohio	Tri-State Electronics, Inc 1717 Section Rd Cincinnati	631-5060
Va	Dyna Rep Tech Services 5070 Lee Hwy Arlington Va	703-536-5088
Wash	James J Backer Co 221 W Galer St Seattle	283-6470

DIAMOND COILS INC 540 39TH ST UNION CITY
N J 07087 ... 201-867-6797
S LORELLI EMP 20 ENG 2

Mass	Conti & Younger Assoc 195 West St Waltham	891-4582

DIAMOND ELECTRONICS UNIT, BABCOCK &
WILCOX BOX 415 LANCASTER
OHIO 43130 ... 614 653-6540
R RENKO EMP 575 ENG 106 $1,000-$2,500M

Cal	Campbell Engrg Co 814 E 14th St Oakland	451-5130
Colo	Ross Equipment Co Box 200 Wheat Ridge	422-1845
Conn	Equipment Sls Co Inc 3013 Dixwell Ave Hamden	24885581
Ga	Lewis M Crowe Co Box 12288 Atlanta	255-2700
Ind	Indiana Electronics 815 E Penna St South Bend	289-4849
La	Interstate School Supply Co, Inc 1564 Convention St Baton Rouge	343-6688
Mich	Hermes-Bantle Assoc 1900 E Jefferson Ave Detroit	LO 7-8100
Minn	Photosound, Inc 4444 W 76th St Minneapolis	920-3020
Mo	Impala, Inc 47 Village Sq Shop Cen Hazelwood	JA 2-1600
NY	Diamond Power Specialty Corp 666 3rd Ave New York	682-7080
NC	Brown & Morrison Box 4307, 1900 E Seventh St Charlotte	333-0774
Ohio	Process-Power Box 727 Cleveland	752-4700
Okla	Myers-Aubrey Co Box 5436 Tulsa	WE 2-3234
Pa	P F Sherman Co 250 Mt Lebanon Blvd Pittsburgh	561-8218
Tex	Taft Broadcasting Co 4801 San Felipe Houson	NA 2-1010
Utah	Ross Equipment Co 1547 Delaware La Salt Lake City	
Wis	Photoart Visual Ser 840 N Plankinton Ave Milwaukee	271-2252
Isrl	Aravah A T I Ltd Box 14051 Tel-Aviv	

DIAMOND POWER SUB BABCOCK & WILCOX
BOX 415 LANCASTER OHIO 43130
TWX 614-654-4008 .... 614 653-6540
H KRAPF EMP 575 ENG 106
Ala Lewis M Crowe Co Box 58013 Birmingham
Cal Campbell Engrg Co Box 395 Pleasant Hill 415 685-1031
Colo Ross Equipment Co 7015 W 38th Ave Wheat Ridge 303-422-3438
Conn Equipment Sales Co 3013 Dixwell Ave Hamden 203-248-5581
DC Shrader Sound Co 1815 Wisconsin Ave NW Washington 202-965-1300
Ga Lewis M Crowe Co 174 W Wieuca Rd NE Atlanta 404-255-2700
Ill Diamond Power 105 W Adams St Chicago
Ind Delta Sales Inc 1407 N Illinois St Indpls .... 317 ME 1-4136
Iowa Communications Engrg Co 1100 27 Ave SW Cedar Rapids
Ky Barney Miller Co 232 E Main St Lexington 606-252-2216
La Interstate School Supply Co Inc 1564 Convention St Baton Rouge 504 343-6688
Mass Lake Systems Corp 55 Chapel St Newton 617-244-6881
Mich Hermes-Bantle Assoc 1900 E Jefferson Ave Detroit .... 313 LO 7-8100
Minn Photosound Inc 4444 W 76th St Minneapolis 612 920-3020
Mo Impala Inc 47 Vlg Sq Shop Ctr Hazelwood 314-831-5454
NY Visual Electronics Corp 356 W 40th St New York 212 736-5840
NC Brown & Morrison 1900 E 7th St Charlotte 704-333-0774
Ohio Process-Power Co 23300 Chagrin Blvd Cleveland 216-464-8300
Okla Myers-Aubrey Co 1624 S Harvard St Tulsa 918 939-4481
Pa P F Sherman Co 300 Mt Lebanon Blvd Pittsburgh 412-561-8218
Tenn W & W Distributing Co 644 Madison Ave Memphis
Tex Taft Broadcasting Co 4801 San Felipe Houston .... 713 NA 2-1010
Utah Ross Equipment Co 1781 Meadow Downs Way Salt Lake City 801-277-0330
WVa Electronics Specialty Co Delaware Ave at Randolph Charleston . 304 343-5656
Wis Photoart Visual Ser 840 N Plankinton Ave Milwaukee 414 271-2252
Isrl Aravah A T I Ltd 40 Nachmani St Tel-Aviv

DIAMOND REPEATER CO 55 MAIN ST MADISON
N J 07940 TWX 710-986-8501 .... 201 377-8880
B DIAMOND EMP 7 ENG 2 $500-$1,000M

DIAMONDS UNLIMITED INC BOX 123 ROCHESTER
NY 14601 .... 716 482-3200
N LEACH EMP 197 ENG 13 $5,000-$10,000M

DIAMOND TOOL & HORSESHOE CO
4702 GRAND AVE DULUTH MINN 55807 . 218 624-4858
G CLARKE
Cal J Steele Lewis 14604 E Flomar Dr Whittier 213 696-8893
Cal J Robinson Box 133 Walnut Creek 415 832-3143
Colo J Pitts Box 5021 Term Annex Broomfield 303-466-0502
Fla E L Beaton Jr 10333 Briarcliff Rd E Jacksonville 904 765-3763
Ill E Lueder 5339 madison St Skokie 312 673-8782
Md A Bobbett 3900 Deepwood Rd Baltimore 301-235-6400
Mass J Wrigley 4 Chester St Taunton 617 822-6010
Minn H Tait 3141 W 85th St Bloomington ... 612 888-6615
Mo L Branscom 1334 Baker Dr Independence 816 833-3072
Ohio R Reid 119 Canterbury Dr Elyria 216 365-5724
Tenn F Thomas 3003 Atmore Memphis 901 363-1359
Tex L Nowlain Box 427 Lewisville 214 539-3681
Tex B Rutherford 219 Beryl Dr San Antonio 512-341-1991
Wash T McCloskey Box 575 Kenmore 206 486-2681
Can G Pederson 580 Front St Toronto Ont .. 416 364-1605

DIAMONITE PRODUCTS MFG CO SHREVE
OHIO 44676 .... 216 567-4211
K ALEXANDER EMP 200 ENG 5
Ariz William Corlett 15920 Temecula St Pacific Palisades 213-454-4313
Cal Wadsworth-Pacific Mfg Assoc 71 Parker Ave Atherton 415 321-3619
Conn Henry Lavin Assoc Inc Box 921 Meriden .... 203 BE 7-5527
Ga V Avis McCorvey 2187 Briarcliff Rd N E Atlanta 404 636-2502
Ill American Specialty Sales 1112 Marshall Dr Des Planes 312-372-8520
Ind H G Lake 1521 N Main St Dayton Ohio . 513-277-8181
Mich Scanlon-Cotter Co 32500 Grand River Ave Farmington 313 477-9080
Minn Preferred Mfrs Reps 4506-71st Ave N Minneapolis 612 781-6525
Mo A V Doran Co Box 379 Clayton PO St Louis 314-PA 5-3377
NJ W S Mills 2 Wilburtha Rd Trenton 609-882-4111
NY Wadsworth Mfg Assoc Inc 181 Buckley Rd Liverpool 315-652-2865
Ohio F A Gold 6000 Nob Hill Dr Chagrin Falls 216 247-8855
Pa W F Satterthwaite Box 191 Lansdowne 215-MA 3-5100
Tex Manufacturers Mktg Service Box 20263 Dallas 214 357-6893

DI/AN CONTROLS INC 944 DORCHESTER AVE
BOSTON MASS 02125
TWX 710-333-0174 .... 617 288-7700
J KALIN EMP 200 ENG 18 $1,000-$2,500M

Minn Pat Lind Electronics Co 10104 Sunset Rd Circle Pines 781-6568

DICE CO, J W 16 HIGHWOOD AVE ENGLEWOOD
N J 07631 .... 201 569-0471
M STRAIN EMP 6 ENG 4 $100-$250M
Ill Sherertz-Henderson 5707 W Lake St Chicago .... CO 1-1032

DICEON ELECTRONICS INC 18522 VON KARMAN
IRVINE CAL 92664 714-833-0870
B HODSON EMP 200 ENG 5 $250-$500M
Ill Edw Schmeichel Co Inc 5968 W Chicago Ave Chicago
Md Wm M Jones Co Inc 1107 Echo Court N Towson
Ohio Mike Roth Sales Co 678 S Green Rd Cleveland
Tex Ed Coale Sale Co 324 N Central Expwy Richardson
Wash Bill Waddell Co 10211 NE 31st Pl Bellevue
For Diceon Elctns Inc Naguabo PR

DICKSON ELECTRONICS CORP BOX 1390
SCOTTSDALE ARIZ 85252
TWX 910-950-1292 .... 602 947-2231
S KARLIK EMP 1000 ENG 30 $5,000-$10,000M
Ala Bostwick & Assocs Box 4165 Huntsville 881-3677
Cal Jack Logan & Assoc 801 Mahler Rd Burlingame 697-6100
Cal Dickson Electronics Corp 16661 Ventura Blvd Encino 981-4830
Colo Hyer Electronics Co 7895 E Prentice Ave Englewood 771-5285
Fla Perrott Assocs 1607 Forsyth Rd Orlando ... 275-1132
Ga Bostick & Assoc Box 28378 Atlanta 252-1958
Ill Gassner & Clark Co 6644 N Western Ave Chicago 764-6121
Kan Florence & Meyer, Inc 2900 Woodland Wichita 838-7226
Mass K C A Components Inc 1656 Massachusetts Ave Lexington 861-9024
Mich Greiner Assocs 15318 Mack Ave Detroit 882-7570
Minn Branger Electronic Sales 3604 33rd Ave NE Mnpls 781-2948
Mo Florence & Meyer, Inc 6050 Brown Rd Berkeley 521-6800
Mo Florence & Meyer, Inc 406 W 34th St Kansas City 561-7282
NJ Thomas Assoc, Inc 138 Haddon Ave Haddonfield 854-3011
NY Advanced Components Corp 119 Luther Ave Liverpool 472-7886
NY P A L Components 1295 Northern Blvd. Manhasset 365-9100
Ohio Gibson Elctns Mktg Co 5335 Far Hills Ave Dayton 434-7860
Ohio Gibson Electronics Mktg Co 2643 Streetsboro Rd Hudson 653-2900
Tex William Reese Assocs Box 24410 Dallas 339-4280
Wash Ray Johnston Co 1011 NE 69th St Seattle .. 524-5170
Can Aero Sales Div Garrett 4 Racine Rd Rexdale, Ont 249-9139

DIEBEL MFG CO 6505 W OAKTON ST
MORTON GROVE ILL 60053 .... 312 IN 33100
R MILLAR EMP 325 ENG 6 $5,000-$10,000M
Ala Southern Dynamics Inc Box 5983 Homewood Br Birmingham 205 879-8764
Ariz Robbins & Assoc 2652 N 20th Ave Phoenix
Colo Robbins & Assoc 700 Poplar St Denver . 303-399-6618
Conn Schutter-Young Corp 32 Lydall Rd Newington 203-666-2630
Fla Southern Dynamics Inc Box 13317 Orlando 305 855-5122
Ill Metal Parts & Equip Co 5909 W Montrose Chicago .... AU 2-5353
Ind Industrial Components Corp 3748 Lafayette Rd Indianapolis 317-293-6355
Kan Midwest Sales Engrg Co Box 373 Pittsburg 316-AD 1-9218
Md Glasser-Miller Co Box 216 Timonium ... 301 252-0932
Mass Schutter Young Corp 22 Franklin Pl Beverly 617-WA 2-6121
Minn Dale Merrick & Assoc 1500 E 79th St Minneapolis 612-861-4144
Mo R Klorer 7500 Natural Bridge St Louis 314-EV 1-6530
NJ C D Williams 20 Church St Montclair .. 201-PL 6-3535
NY Williams Components Corp 4237 Susan Dr Williamsville .... NF 3-5585
Ohio Davis Hawley Sales Inc 3725 Lee Rd Shaker Hts 216-283-6600
Pa Glaser-Miller Co Box 632 Bryn Mawr .. 215-525-8050
Tex Metal Parts & Equip Co 2525 Ridgmar Blvd Fort Worth 817-738-7624
Wis Kent Krumm & Assoc 6212 W Greenfield West Allis 414 774-6080

DIELECTRIC MATERIALS CO
1811 W BRYN MAWR AVE CHICAGO
ILL 60626 .... 312 561-6891
O MUENZER EMP 50 ENG 2 $1,000-$2,500M

DIETZ CO INC, HENRY G 14-26 28TH AVE
LONG ISLAND CITY N Y 11102 .... 212 RA 6-3347
M PHEASEY EMP 20 ENG 2 $250-$500M
For Minthorne Intl Co 64-14 Woodside Ave Woodside NY

DIETZ DESIGN INC 100 ELECTRONICS PKWY
BELTON MO 64012 TWX 910-777-7058 . 816 345-4911
EMP 75 ENG 4 $500-$1,000M
DC Arco Engineering 1000 16th St NW Washington 202 393-5991
Ill Ropek & Cahill, Inc 5439 W Div Chicago .... 312 AV 7-7292
Md Barnhill & Assoc 1931 Greenspring Dr Timonium 301 252-5610
NJ Barnhill & Assoc Box 296 Collingswood . 609 854-5858
Va Barnhill & Assoc Box 1104 Lynchburg .. 703 384-2063

DIETZGEN CO, EUGENE 2425 N SHEFFIELD AVE
CHICAGO ILL 60614 .... 312 549-3300
F STEPHEN EMP 900 ENG 10

DIGIAC CORP AMES CT ENGRS HILL PLAINVIEW
N Y 11803 .... 516-GE3-7800
V RANDAZZO EMP 50 ENG 15 $500-$1,000M
Ariz Chapman Co 3314 E Thomas Phoenix 266-5609
Cal Videodata Inc 2409 Sepulveda Blvd Manhattan Beach 376-0988
Colo AAV Elec Div of CCM 2301 Blake St Denver . 534-3111
Fla D C Jaeger Corp 999 Woodcock Rd Orlando . 841-1511
Ga J Goodwin 3145 N Druid Hills Rd Decatur ... 881-8494
Idah Chapman Co Box 1113 Twin Falls RE3-3052
Ill Aidex Corp 725 Euclid Ave Glen Ellyn 469-5352
Ky Responsive Electronics Co 6615 Hollow Tree Rd Louisville 239-0616
Mass R McManus 2 Pontiac Rd Peabody 595-6351
Mich J Close 144-96 Robinwood Plymouth 453-7531
NY Auto-Mated Teaching Ctr 14 Northern Blvd Greenvale MA1-2377
Ohio Freeman Supply Co 1152 E Broadway Toledo 691-4624
SC Technical Assoc Box 5583 Spartanburg 585-3864
Utah Chapman Co 150 W 1400 S Salt Lake City . 486-9207
Va Mark-Lund Assoc 205 Park Ave Falls Church 534-9460
Wash Buckner-Weatherby Co 5931 4th Ave S Seattle R07-3620
Can Eico Canada 20 Millwick Dr Weston Ont 749-4520

DIGI-DATA CORP 4315 BALTIMORE AVE
BLADENSBURG MD 20710 .... 301 277-9378
G EAKINS EMP 20 ENG 4 UP TO $100M
Ala W A Brown & Assoc, Inc 1314 Buford St NW Huntsville 536-8393
Cal Digi-Data Corp 1105 Daveric Dr Pasadena .. 684-2155
Colo PLS Assoc 7895 E Prentice Ave Englewood . 771-0140
Fla W A Brown & Assoc, Inc 222 Weber Ave Orlando 425-5505
Ga W A Brown & Assoc, Inc 1590 Cooledge Rd, NW Tucker 939-1674
Ill Scientific Sales Corp 7132 N Harlem Ave Chicago 775-7594
Ind Scientific Sales Corp 5555 N Tacoma Ave Indpls 253-4606
Md R Davies Assoc 11215 Oak Leaf Dr Silver Spring 593-4900
Mass Wild & Assoc 570 Hillside Ave Needham 444-2366
Minn Scientific Sales Corp 5100 Edina Ind Blvd Mnpls 941-2215
Mo Scientific Sales Corp 1760 S Brentwood Blvd St Louis 968-1133
NJ Wild & Assoc Box 300 Ramsey 327-4244
NM PLS Assoc 4200 B Silver Ave S E Albuquerque 255-0120
NY A & D Devices Inc 830 Linden Ave Rochester 586-8033
NC W A Brown & Assoc 1108 Burke N W Winston-Salem 725-5384
Okla Data Engrg Corp 4580 E 50th St Tulsa 622-3753
Pa Wild & Assoc 80 2nd St Pike Southampton .. 357-6645
Tex Data Engrg Corp 777 S Central Expwy Richardson 231-4846
Wash Brennan Assoc 208 Carlson Bldg Bellevue ... 454-9332
Can Electronetic Systems, Ltd 62 Alness St Downsview, Ont 636-3673
Can Electronetic Systems, Ltd 6420 Victoria Ave Montreal, Que 737-2744
Fr Aeromaritime Electronique 57 Avenue D'Lena Paris 16E 553-6700
GB Scientific Furnishings Ltd Terminus Rd Chichester, Sussex 86641
Swit Maurice Barbier 9 Rue De La Fontaine 1211 Geneve 3 24-80-32

DIGILIN INC 6533 SAN FERNANDO RD GLENDALE
CAL 91201 213-246-8161
E KOCH EMP 25 ENG 5

DIGILOG ELECTRONICS CORP 701 THIRD AVE N
SEATTLE WASH 98109
TWX 910-444-1665 .... 206 284-6811
L KRUG EMP 30 ENG 5 $100-$250M
Alas Ron Merritt Co Box 171 Anchorage 272-5231
Ariz Dorton Enterprises, Inc Box 1297 Scottsdale 946-6213
Cal Daniels-Padgett Assoc 2620 Bayshore Frontage Rd Mountain View 969-1700
Cal Richard Capell Co Box 723 Tarzana 987-2233
Colo Daniels-Padgett Assoc 2785 N Speer Blvd Denver 433-7181
Ind McDonald Sales Co 227 S Cornell Cir Fort Wayne 745-9214
Mass Bordewieck Engrg Sales Co 221 Grove St Braintree 843-0845
NY W A Franklin Sales 21 Winhurst Dr Rochester
NY W A Franklin Sales 2 Standish Terr Syracuse 446-1120
NY Friedman-Smith Electronic Sales 519 S 5th Ave Mount Vernon 664-4866
NY W A Franklin Sales 80 W North St Ilion 894-2227
Ohio Phillips Co Box 2205 Dayton 293-7940
Ore Ron Merritt Co 2035 SW 58th Ave Portland . 292-8762
Va Tom Davis Marketers 4210 Daniels Ave Annandale 941-2313
Wash Ron Merritt Co 1320 Prospect Seattle 682-7337
Can Lake Engineering Co Ltd 123 Manville Rd Scarborough, Ont 757-3253
Can Lake Engrg Co Ltd 3380 Toupin Montreal Que 331-4884

DIGITAL AUTOMATION CO 68 HWY 31 PENNINGTON
N J 08534 609-737-0300
F FEELEY EMP 11 ENG 3
Cal Robt Thompson 4135 El Camino Way Palo Alto 415-321-6383
DC Scientific Sys Sales Corp 7705 Georgia Ave N W Washington 202-726-4161

Ill Contempory Science Box 205 Mt Prospect 312-255-3793
Mass Moody Carlson 23 Harvard St Brookline 617-267-0161
NY Scientific Sys Sales Corp 376 Great Neck Rd Great Neck 516-466-0053
Ohio Contemporary Science 105 Fairdale Ave Westerville 614-882-6908
Tex A R E 406 S Yale Garland 214-272-2502
Wash Cane Topp Co Inc Box 250 Bellevue 206-SH6-5750

DIGITAL BLENDING SYSTEMS INC BOX 1355
PROVIDENCE R I 02901 ....401 434-3440
E PICKERING EMP 25 ENG 7 $250-$500M
Cal Charles P Crowley Co 5430 Jillson St Los Angeles 723-6555
Cal Thos J Campbell Co 1415 Rollins Rd Burlingame 342-7007
Ga M L Ball Co 2075 Imperial Dr,N E Atlanta 633-1266
Haw Dillingham Bros Ltd 125 Puuhale St Honolulu 810-951
Ill Smith-McDonald Corp 2980 Archer Ave Chicago 312-927-4142
Kan Coffman Industries 1317 Central Ave Kansas City 913-342-0059
La Bailey Engineering Co 126 Industrial Ave New Orleans 835-5479
Mich William A Dalee Inc 9190 Roselawn Ave Detroit 933-4430
Minn Northwestern Power Equip Co Inc 1951 University Ave St Paul 646-9675
Mo M H Strickland 335 Baker Ave St Louis 962-7852
NY Jos T Drumm & Assoc 350 5th Ave New York 21-279-8600
Ohio H R Bowers Co 1585 W 117th St Cleveland 221-8442
Ohio H T Porter Co, Inc Box 15246 Cincinnati 761-2500
Okla Bagwell-Hambrick-Jones 1637 S Harvard Tulsa 939-5473
Tex C J Wolfer Co Box 6771 Houston 526-1335
Wash Instrument Lab Inc Box 4098 Seattle 283-5850
Can Control & Metering Ltd 305 Kipling Ave S Toronto 259-8411
Can T C Chown, Ltd 164 Metcalfe Ave Montreal 6, Que 937-2881
For Centec C A Aptdo 6091 El Parai Caracas, Ven
Neth Oranjeberg N V Stationsweg 78, The Hague Netherlands
Ital Sogis Via Antonio Da Recanate 4 Milan
BC John Black Ltd 2182 W 12th Ave Vancouver 738-3101
Mex Dorr-Oliver De Mexico, S A Dr. Damuel Ramos 9-A Mexico 12, D V
Aust H P Gregory & Co,Ltd 96 Belmore Road N Sydney

DIGITAL DEVELOPMENT CORP
5575 KEARNY VILLA RD SAN DIEGO CAL 92123
TWX 69-54-30 ....714 278-9920
R TATE EMP 157 ENG 14 $2,500-$5,000M
NJ A Francois 21 Rockwood Rd Florham Park 201-377-6965
Tex F Yates 201 St Lukes Dr Richardson 214-235-3488

DIGITAL EQUIPMENT CORP 146 MAIN ST
MAYNARD MASS 01754
TWX 710-347-0212 617-897-5111
T JOHNSON EMP 3200 ENG 500 OVER $10,000M
Ala Digital Equipment Corp 3322 Memorial Pkwy, SW Huntsville 881-7730
Cal Digital Equipment Corp 560 San Antonio Rd Palo Alto 326-5640
Cal Digital Equipment Corp 801 E Ball Rd Anaheim 776-6932
Cal Digital Equipment Corp 2002 Cotner Ave Los Angeles 479-3791
Colo Digital Equipment Corp 2505 S Colorado Blvd Denver 757-3332
Conn Digital Equipment Corp 129 College St New Haven 777-5796
Fla Digital Equipment Corp 412 High Point Dr Cocoa 632-9283
Ga Digital Equipment Corp 1700 Commerce Dr NW Atlanta 351-2822
Ill Digital Equipment Corp 69 N Broadway Des Plaines 299-0144
Md Digital Equipment Corp 7100 Baltimore Blvd College Park 779-1100
Mass Digital Equipment Corp 899 Main St Cambridge 491-6130
Mich Digital Equipment Corp 3853 Research Pk Dr Ann Arbor 761-1150
Minn Digital Equipment Corp 15016 Minnetonka Ind Rd Minnetonka 935-1744
Mo Digital Equipment Corp 115 Progress Pkwy Maryland Heights 872-7520
NJ Digital Equipment Corp 1259 Rt 46 Parsippany 335-3300
NJ Digital Equipment Corp 71 Grand Ave Palisades Park 941-2016
NJ Digital Equipment Corp Rte 1 Emmons Dr Princeton 452-2940
NM Digital Equipment Corp 6303 Indian School Rd NE Albuquerque 296-5411
NY Digital Equipment Corp 480 Clinton Ave S Rochester 454-2000
NY Digital Equipment Corp 1919 Middle Country Rd Centereach 585-5410
Ohio Digital Equipment Corp 3101 Kettering Blvd Dayton 299-7377
Ohio Digital Equipment Corp 35104 Euclid Ave Willoughby 946-8484
Pa Digital Equipment Corp 400 Penn Centre Blvd Pittsburgh 243-8500
Pa Digital Equipment Corp 1100 W Valley Rd Wayne 687-1405
Tenn Digital Equipment Corp 5731 Lyons View Pike SW Knoxville 588-6571
Tex Digital Equip Corp 3417 Milam St Houston 524-2961
Tex Digital Equipment Corp 1625 W Mockingbird La Dallas 638-4880
Utah Digital Equipment Corp 431 S 3rd St E Salt Lake City 328-9838
Wash Digital Equip Corp 1521 130th St NE Bellevue 454-4058
Can Digital Equipment Corp 120 Holland St Ottawa 725-2193
Can Digital Equip of Can Ltd 230 Lakeshore Rd E Toronto-Port Credit 278-6111
Can Digital Equip of Can Ltd 640 Cathcart St Montreal,Que 861-6394
Can Digital Equip Can Ltd 5531-103 St Edmonton,Alb 434-9333
Fr Equipment Digital 233 Rue Du Charenton Paris 344-7607
Ger Digital Equip Corp GmbH Leonrodstra Be 58 Munich 0811-516-30-54
Ger Digital Equipment GmbH Neue Weyerstr 10 5 Koeln 23-55-01
GB Digital Equip Corp (UK) 3 Arkwright Rd Reading, Berks 85131
GB Digital Equip Corp Ltd 13-15 Upper Precinct Walkden,Worsley,Man 790-4591
GB Digital Equip Corp (UK) Ltd Uxbridge Rd Ealing London WF
Neth Digital Equipment NV Coninginnegracht 65 The Hague Netherlands 635960
Ital Digital Equipment SPA Via Castelfidardo 11 Milano 666454
Jap Digital Equip Corp 2-6 Roppongi 2-Chome Minato Rd Minato-Ku Tokyo 591-5246
Nor H Meltzer & Co Ltd Bygdo Alle 23 Oslo 564040
Swed Digital Equipment Corp Birger Jarlsgatan 110 Stockholm 322598
Aust Digital Equip Aust Pty Ltd 75 Alexander St Crows Nest NSW 439-2566
Aust Digital Equip Aust Pty Ltd 643 Murray St West Perth 21-4993
Aust Digital Equip Aust Pty Ltd 60 Park St So Melborne Victoria 696142
Aust Digital Equip Aust Pty Ltd 139 Merivale St So Brisbane Queensland 44047

DIGITAL INSTRUMENTS CO INC
5441 MERRIAM LANE SHAWNEE-MISSION
KANS 66203 913-236-8717
R RUSH EMP 23 ENG 5 $250-$500M
Cal E V Roberts & Assoc 9601 W Jefferson Blvd Culver City 213-870-9561
Cal Recht Assoc 900 N San Antonio Rd Los Altos 415-941-0336
Colo A L S Electronics 1932 14th St Boulder 303-447-2436
Conn Hathaway Electronics Inc Ducillo Bldg Canaan 203-824-7215
Fla Winfield Electronic Sales 666 N E 125th St North Miami 305-751-5566
Ga Winfield/Southeast 22910 N Druid Hills Rd NE Atlanta 404-636-3023
Ill Compar/Midwest 315 Laura Dr Addison 312-543-8833
Iowa Thomas & Modrcin Assoc 890 17th St Marion 319-377-6261
Kan Thomas & Modrcin Assoc Box 189 Shawnee-Mission 913-432-2131
Ky Scott Electronics Inc 334 Francis Bldg Louisville 502-583-3220
La Gordon V Peck Co 4771 Spain St New Orleans 504-282-1553
Md Tek Rep Inc 12000 Old Georgetown Rd Rockville 301-762-7777
Mass Hathaway Electronics Inc 7-11 Mystic St Arlington 617-646-1380
Minn Clark R Gibb Co 1311 W 25th St Minneapolis 612-377-1200
Mo Thomas & Modrcin Assoc Box 545 Hazelwood 314-838-6446
NJ Denco 500a L Godfrey Ave Phila Pa 215-725-9000
NJ J A Rudy & Assoc 409 Grand Ave Englewood 201-567-5880
NM A L S Electronics Box 11626 Albuquerque 505-268-9600
NY J A Rudy & Assoc 409 Grand Ave Englewood NJ 201-567-5880
NY A & D Devices 830 Linden Avenue Rochester 716-586-8033
NC Winfield/Southeast 4909 Carteret Dr Raleigh
Ohio Scott Electronics Inc 1836 Euclid Ave Cleveland 216-861-2626
Okla Gordon V Peck Co 709 W 5th St Tulsa 918-585-5853
Pa Denco 500a E GodfreyAve Philadelphia 215-725-9000
Tex Gordon V Peck Co 210 Casa Linda Plaza Dallas 214-328-3511
Utah A L S Electronics Inc 3385 S 2770 E Salt Lake City

DIGITAL PRODUCTS 335 W 7TH ST BOX 1351
SAN PEDRO CAL 90733
TWX 910-345-9676 ....213 831-0351
D RANSOM EMP 25 ENG 4 $250-$500M

DIGITAL PRODUCTS CORP 4030 N E 6TH AVE
FORT LAUDERDALE FLA 33308 305-565-5527
R BLOUNT EMP 15 ENG 6 $250-$500M
Fla Reynolds & Assoc Box 1043 Eau Gallie 305-727-3205
Mich Carter McCormick & Peirce Inc 16239 Wyoming Detroit 313-863-4600
NM Digital Products Corp 1111 New York Ave Alamagardo 505-437-2770
Tex IBL Engrg & Sales Inc 219 Preston Royal Ctr Dallas 214-EM3-2921
Va Adkins & Huminik 117 N Fairfax St Alexandria 703-549-1012

DIGITAL SENSORS INC 4127 N FIGUEROA ST
LOS ANGELES CAL 90065
TWX 910-321-3938 213-223-2331
M MUSSELMAN EMP 110 ENG 8
$2,500-$5,000M
Ala Space Eng Sales Inc Box 5208 Huntsville 205-837-6060
Cal T F Murray & Assoc 4421 Riverside Dr Burbank 213-849-6497
Cal Western Sales Assoc Box 96 Mountain View 415-967-5913
Conn John E Boeing Co Inc Box 151 Branford 203-488-8301
Fla Space Eng Sales Inc 999 Woodcock Rd Orlando 305-841-2771
Mo W J White Co Box 3873 Kirkwood 314-965-1115

DIGITAL SYSTEMS INC 1078 E EDNA PL COVINA
CAL 91722 TWX 910-584-1844 ....213 966-8631
L HARDINGE EMP 150 ENG 20 $2,500-$5,000M

DIGITECH INC 22 GROVE ST RIDGEFIELD
CONN 06877 TWX 96923 ....203 438-3731
W ANDREWS EMP 100 ENG 10 $2,500-$5,000M
Can Instronics Techno-Prods Ltd Box 100 Stittsville, Ont 828-1253

DIGITRAN CO 855 S ARROYO PKWY PASADENA
CAL 91105 TWX 910-588-3794 ....213 449-3110
R ALEXANDER EMP 160 ENG 9 $2,500-$5,000M
ADV PG 613
Ala Beacon Electronic Assoc Box 3127 Huntsville 536-5065
Ariz BFA 4710 N 16th St Phoenix 264-6536
Cal Shannon Assoc 1 First St Los Altos 941-2217
Colo BFA 1309 S Inca St Denver 744-3301
Fla Beacon Electronic Assoc Box 1278 Maitland 647-3498
Ga Beacon Electronic Assoc 2285 Peachtree Rd NE Atlanta 351-3654
Ill Scientific Sales Corp 7132 N Harlem Ave Chicago 775-7594
Ind Robert O Whitesell & Assoc 6691 E Washington Indianapolis 359-5374
Iowa H R Brown Sales Co 3400 Indian Rd SE Cedar Rapids 366-0635
Ky Robt O Whitesell & Assoc 3620 Lexington Rd Louisville 893-7303
Md Biechler Assoc Inc 202 W Penna Ave Towson 825-8222
Mass Digitran Co Box 78 2120 Commonwealth Ave Auburndale 969-8806
Mich Robt O Whitesell & Assoc 25100 Evergreen Rd Southfield 358-2020
Mich Robert O Whitesell & Assoc 303 Fidelity Bldg Benton Harbor 927-2041
Minn Scientific Sales Corp 6121 Excelsior Blvd Minneapolis 929-6115
Mo Buse Sales Co 212 N 2nd St St Charles 724-6667
NM BFA 1238 Ortiz SE Albuquerque 268-4387
NY Telesco Assoc 395 Cleveland Dr Buffalo 834-1026
NC Beacon Elctns Assoc 305 Greenway St Jamestown 454-1010
Ohio Robert O Whitesell & Assoc 21139 Lorain Ave Cleveland 333-2585
Ore Arneson Assoc 200 NE Canyon Rd Beaverton 646-3416
Pa Biechler Assoc Box 414 Narberth 667-1827
Tex Allied Components Inc 42 Richmond Ave Houston 664-4203
Utah Brooks-Feeger Assoc Salt Lake City ....Zenith 761
Wash Arneson Assoc 5950 6th Ave S Seattle 762-7664
Can Brian Engineering Ltd 2445 Duncan St Montreal 735-1671

DIGITRONICS CORP ALBERTSON AVE ALBERTSON
N Y 11507 TWX 510-223-0607 ....516 HT 41000
G ENSSLIN EMP 500 ENG 50 OVER $10,000M
Ala L G White Southern Inc Box 2091 Huntsville 205-539-9601
Cal Component Sales Cal Inc 11484 Oxnard St North Hollywood 213-980-3400
Cal Digitronics Corp 14274 Wicks Blvd San Leandro 415-357-9490
Colo Computing Corp of Amer 3385 S Bannock St Englewood 303-781-6638
Fla W A Brown & Assoc 222 Weber Ave Orlando 305-425-5505
Ill Loren F Green & Assoc 5218 W Diversey Ave Chicago 312-286-6824
Ill Digitronics Corp 23 W North Ave Northlake 312-562-0332
Kan IBL Eng & Sales Inc 6630 Dearborn Dr Shawnee Mission 913-262-1374
Md Digitronics Corp 8555 16th St Silver Spring 301-587-4240
Md L G White & Co Inc 1110 Fidler La Silver Spring 301-585-3141
Mass Components Sales Corp 789 Mass Ave Lexington 617-862-1633
Mass Digitronics Corp 26 Fox Rd Waltham 617-899-2380
Mich S Sterling Co 21250 10 1/2 Mile Rd Southfield 313-357-3700
Minn Loren F Green & Assoc 6225 University Ave NE Minneapolis 612-781-1611
NM Computing Corp of Amer 3202 Canderlaria NE Albuquerque 505-344-7510
NY Components Sales Corp 221 E Hartsdale Ave Hartsdale 914-SC-5-1050
NY A & D Devices 830 Linden Ave Rochester 716-586-8033
NC L G White & Co Inc 1020 Brookstown Ave Winston-Salem 919-PA-5-3612
Ohio S Sterling Co 5827 Mayfield Rd Cleveland 216-442-8080
Okla IBL Eng & Sales Inc 5149 E 31st St Tulsa 918-WE-6-6305
Pa L G White & Co 100 Essex Ave Narberth 215-MO-4-6506
Pa S Sterling Co 2 Parkway Ctr Pittsburgh 412-922-5720
Pa Digitronics Corp 302 3rd St Carnegie 412-279-3334
Tex IBL Eng & Sales Inc 219 Preston Royal Ctr Dallas 214-EM-3-2921
Tex IBL Eng & Sales Inc 3403 Audubon Houston 713-JA-3-8360

Wis Loren F Green & Assoc 830 Plateau
Waukesha 414-786-3678
Den F Henriques Poppelgaardvej 13
Soborg, Copenhagen
Fr Technique et Produits Cle Des Bruyeres
Rue Carle Vernet 92-Seures 626-02-35
Ger F F Henriques Sophien Str 44 Frankfurt 70 80 14
GB BFI Electronics Ltd The Avenue, West Ealing
London W13 .... ALP 2113
Ital Bfielettronica SPA Via Francesco Feruccia 6
Milan 316716
Jap Nissho Co,Ltd 10,Nihonbashi-Edobashi 1-Chome
Chuo-Ku,Tokyo 273-5111
SAfr David Pollock (Pty) Ltd 17 Melle St Braamfontein
Johannesburg 724-8274
Swed Teleinstrument AB Harjedalsgatan 21, Box 14
Stockholm-Vallingby 870-345
Belg N V Philips Computer Indus Box 245 Apeldoorn
The Netherlands
Isrl Telsys Ltd Engineering Co Box 10034 Tel-Aviv
Aust Ronald J T Payne Pty Ltd
385 Bridge Rd Richmond Victoria 42-1416

DILECTRIX CORP 69 ALLEN BLVD FARMINGDALE
N Y 11735 .... 516 249-7800
M LATORRA EMP 80 ENG 6
Cal C D LaMoree 2433 Birkdale St Los Angeles . 225-5666
Colo Thorson Co 300 E Hampden Ave Englewood . 789-1841
Mass C MacAuley 2 Snug Harbor Dr South Yarmouth
NY J F Rizzo Co Empire State Bldg New York . . PE 6-0398
Ohio Electrolock, Inc Box 368 Chagrin Falls .... CH 7-4245
Pa Insulation Systems 5006 Penn Ave
Pittsburgh 661-1140

DILECTRON DIV, BESTRAN CORP
2669 S MYRTLE AVE MONROVIA CAL 91016
TWX 910-582-3210 .... 213 446-6195
A NEUHAUSER EMP 500 ENG 8 $5,000-$10,000M
Ariz W Bert Knight Co Box 11394 Phoenix 264-3578
Cal Dresco Industries 9601 Wilshire Blvd
Beverly Hills .... CR 5-0108
Ill Woodward Schmacher 1725 W North Ave
Chicago 384-6060
Kan R R Burton Sales Co 1016 Baltamore Ave
Kansas City 471-2850
Mass Herb Mandell Co Box 24 Revere 289-3787
NJ Martin Klein & Assoc Box 92 Hillsdale 664-8711
NY Carl D Truax Box 11 Fulton 592-7184
Ohio Thomas Shelby & Co 17 S Walnut St
New Bremen 629-6511
Pa Wm K Metz Box 309 Ardmore 649-3966
Wash Ray Johnston Co 1011 N E 69th St Seattle . LA4-5170

DILLON & CO INC, W C 14620-ER KESWICK ST
VAN NUYS CAL 91407
TWX 910-495-1807 213-785-3168
G DILLON EMP 85 ENG 4 $1,000-$2,500M

DILL PRODUCTS INC 800 W WASHINGTON ST
NORRISTOWN PA 19404 .... 215 272-6850
W TAYLOR EMP 200 ENG 4 $1,000-$2,500M
NY Robert Hoff 1 Merton St Rochester

DIMCO-GRAY CO 207 E 6TH ST DAYTON
OHIO 45402 .... 513 224-1913
C DEARTH EMP 150 ENG 4
ADV PG 249
Cal Corbett-Smith Co 7340 E Florence Ave
Downey 213-927-2677
Ill Lincoln-Hodges & Assoc 5875 N Lincoln Ave
Chicago 312-561-8440
Mich Barribeau-Dulude Co 199 W Brown St
Birmingham 313-646-7800
Minn Christian-Richards Co 8117 Pleasant Ave S
Minneapolis 612-888-9226
NJ Feralite Metals Corp Box 129
Fanwood 201-757-4656
NY Walter Stevenson 39 Saginaw Dr
Rochester 716-271-2200
NC Mack White Co,Inc Box 3222
Charlotte 704-375-2994
Ohio A C Wahl & Assoc Inc 135 Williams Ave
Cincinnati 513-821-3270
Pa Sanford & Co 221 Benson E
Jenkintown 215-887-8780
Tex Edmar Technical Sales Co Box 818
Hurst 817-282-5561

DIMENSIONS INC 95 MADISON AVE HEMPSTEAD
N Y 11550 .... 516 IV 3-3636
M RUDERFER

DINION COIL CO INC 5 DINION CIRCLE CALEDONIA
N Y 14423 .... 716-KE 8-2810
A ROSATI JR EMP 20 ENG 1 $1,000-$2,500M
Pa Shelmar Electronics Box 254 glenside 885-0800

DINSMORE INSTRUMENT CO BOX 345 FLINT
MICH 48501 .... 313 234-1605
R DINSMORE EMP 25 ENG 2 $250-$500M

DIPLOHMATIC DIV HARRY LEVINSON CO
1211 E DENNY SEATTLE WASH 98112
TWX 910-444-2154 .... 206 323-5100
G WALLACE EMP 7
Cal Corcoran Assoc Box 45897
Los Angeles 213-823-2425
Ill SARGE Inc 1915 N Harlem Ave
Chicago 312-237-9525
Mass L Roffer Co 12 Nancy La Framingham . 617-877-4900
Pa Martin Friedman Assoc 7 Heather Rd
Bala-Cynwyd 215-839-3450

DISC INSTRUMENTS INC 2701 S HALLADAY ST
SANTA ANA CAL 92705
TWX 546-0434-714 .... 714 549-0345
J MCDOWELL EMP 60 ENG 6 $1,000-$2,500M
Mich Carter, McCormic & Peirce Inc
23995 Freeway Pk Dr Farmington 862-0017
NY Good Counting Instruments 17 High Park Blvd
Buffalo 834-3333
Ohio Carter, McCormic & Peirce Inc 3691 Lee Rd
Cleveland 921-1360
Ohio Carter, McCormic & Peirce Inc 3406 N Main St
Dayton 278-5873
Ger Instruments Gmbh 8000 Munich 50
Dachauerstr 511
GB Disc Instruments Ltd
Ebberns Rd, Hemel Hempstead Herts
Jap .Machinery Co Ltd Box 1451 Cpo Tokyo

DISCON CORP 1150 NW 70TH ST FORT LAUDERDALE
FLA 33309 305-933-441
N CHRISTIAN EMP 50 ENG 12
ADV PG 236
Cal Techni Sales Co 3820 E Colorado Blvd
Pasadena 213 792-5111
Cal Morse Assoc 1721 Chestnut St
San Francisco 415 567-6871
Conn Astro Tek Assoc 18 Diane Terr
Waterbury 203-753-4129
DC Samuel A Jeffries Inc 1029 Vermont Ave NW
Washington .... RE 7-7733
Fla Orbe, Inc 4110 Central Ave
St Petersburg 813-894-0687
Ga Grady Duckett Sales Co Box 29067
Atlanta 404-451-3529
Ill Olson Engr & Sales Corp 1921 N Harlem Ave
Chicago 312-622-9777
Kan Palatine Engr Sales Inc 7520 W 63rd St
Overland Park 913-262-5643
Md Samuel A Jeffries Inc 500 Overcrest Rd
Baltimore 301-825-8913
Mass Astro Tek Assoc 4 Percy Rd Lexington . 617-862-6424
Mich Electro-Mation Assoc 1137 Cole St
Birmingham 313-MI 7-2480
Mich J C Hofstetter Co 700 Maple St
Birmingham 313-642-0590
Minn Olson Engr & Sales Corp 5533 Warden Ave
Minneapolis 612-921-1833
Mo Palatine Engrg Sales 8622 St Charles Rock Rd
St Louis 314 426-7055
NY Salsbury Assoc, Inc 331 W John St
Hicksville 516-938-1080
NY Advanced Components Corp 119 Luther Ave
Liverpool 315-472-7886
NY Advanced Components Corp 119 Luther Ave
Liverpool 315-472-7886
NC Grady Duckett Sales Co Box 22002
Greensboro 919-273-4617
Ohio J C Hofstetter Co 5168 Valley View Dr
Medina 216-241-4880
Pa Samuel A Jeffries Inc 105 Forrest Ave
Narberth 215-664-8500
Tex Rob R Thomas Co 8616 NW Plaza Dr
Dallas 214 363-8591
Wash Al Smith Co 405 166 SE Bellevue 206-745-6770
Can Deskin Sales Co 1565 Louvain St W
Montreal 514-384-1420
Den Technitron 24 Klosterstraede Copenhagen K . PAL 2632
Fr Technitron 20 rue de Boulainuilliers
Paris 16e 527-49 65
Ger Technitron Sonnenstr 14 Munich 15
GB F W Hopwood Developments Ltd
Trent Wks 8 Felton Rd The Meadows Nott . 81126/7
Neth Technitron Bldg 64, Schipol Airport
Amsterdam 020-72-78-23
Ital Technitron Via Flaminia 4431A Rome 305838
Jap Kyokuto Boeki Kaisha, Ltd
4 2-Chome Otemachi Chiyoda-Ka Tokyo
Swed Technitron Box 170 53 510462
Stockholm 08 84 84 75
Isrl M M I Ltd 23 Helsinki St Tel-Aviv 250484

DISPLAY DEVICES INC 2928 NEBRASKA AVE
SANTA MONICA CAL 90404
R ROSS JR
Ariz Circle Sales Co Box 2626 Phoenix 602 967-1044
Cal Nova-Tronix 1659 Scott Blvd
Santa Clara 408 243-9530
Cal Cutlass Electronics 8921 S Sepulveda Blvd
Los Angeles 213-776-6476
Conn Wm McCoy Co 892 Main St Branford . . 203 488-2012
Fla Scott & Assoc Inc Box 20341 Orlando . . 305 841-4840
Ill Repwood Inc 260 Sunset Ave Glen Ellyn . 312 469-2344
Md Kraft Elctn Sales Inc 510 Woodbine Ave
Towson 301 828-5838
Mass Wm McCoy Co 55 Prospect St Holliston . 617 429-2369
Mich Romarc Box 257 Plymouth 313 455-0300
Minn Northport Engineering Inc 2027 Grand Ave
St Paul 612-698-3841
Mo Aerotronics Inc Box 6326 Lambert Fld
St Louis 314 426-4060
NY George J Gay Inc 2 Main St Brockport . 716 637-3776
NY E R A Inc 330 Great Neck Rd
Great Neck 516 482-9320
NC Dula Assoc Inc Box 5316
Winston-Salem 919 723-4205
Pa W Henry Cordray Sales Co 1 Radnor Sta
Radnor 215 687-1366
Tex Carey & Assoc Inc 725 Preston Forest Shop Ctr
Dallas 214 361-6234
Tex Carey & Assoc Inc 3315 W 12th St
Houston 713 869-3623
Can Dart Electronics Ltd 11 Flaxman Rd
Weston Ont 416 248-4181

DIT-MCO INTERNATIONAL 5612 BRIGHTON TERR
KANSAS CITY MO 64130 TWX 42-6149 . 816 363-6288
H TEAGUE EMP 250 ENG 30 $5,000-$10,000M
Cal Cameron G Pierce South Pasadena 749-1166
Fla Jim Hillman Orlando 295-9780
Mass John V Hanlon Boston 734-5400
Mo L D Hoyt Kansas City 363-6288
NY John Fitzsimmons New York MU-2-5844
Wash William Edmondson Seattle .... ME 3-3160
GB A L Holtz 9 Dartnell Park Rd
W Byfleet Surrey .... BY 4-5904

DITRAN DIV CLIFTON/LITTON IND 25 ADAMS ST
BURLINGTON MASS 01803
TWX 710-335-6668 617-272-6210
EMP 80 ENG 20 $1,000-$2,500M

DIVENTCO INC 30 WEST ST NEW MILFORD
CONN 06776 .... 203 354-3958
J ELPI EMP 40 ENG 2 $1,000-$2,500M
Fla Aerodyne Engineering Box 17057
Orlando 305-295-4440
Pa Danco Corp Fairview Village 215-275-2600

DIVERSIFIED ELECTRONICS INC BOX 6231
EVANSVILLE IND 47712 812-424-2288
R DREIER EMP 10 ENG 3 $100-$250M

DIVISION LEAD CO 7762 W 61ST PL SUMMIT
ILL 60501 .... 312 RE 5-8600
D HIBBELER EMP 100 ENG 2 UP TO $100M

DIXIE DIAMOND TOOL CO INC 6875 SW 81ST ST
MIAMI FLA 33143 .... 305 665-1121
E MARCUS EMP 25 ENG 3 $250-$500M
Cal Ross-Szerlip Assoc 5007 Lankershim Blvd
N Hollywood 415 369-6726
Colo Nelson Co Inc 1294 S Bannock Denver . 303 733-5528
Fla Winfield Elctn Sales Co 666 NE 125th St
N Miami .... 305 PL 1-5566
Ga Paul Hayden Assoc Box 331
East Point .... 404 PO 6-0261
Ill M Zindell 6434 N Washtenaw Ave
Chicago .... 312 BR 4-7175
Ind Chas Scheffler Co 1133 Navajo Trail
Indianapolis .... 317 CL 3-6337
Mass A N Reinherz 59 Hamilton Rd Belmont . . 617 484-7784
Minn John E Anderson & Co 5231 Humboldt Ave S
Minneapolis
Mo Suor Sales Corp 8115 Troost Kansas City
NY Maury Farber Assoc 220 Delaware Ave
Buffalo .... 716 TL 6-3543
Ohio Perry Lohse & Co 529 Richmond Rd Cleveland
Pa John Mustico Co 206 Bewley Rd
Havertown .... 215 HI 6-1961
Tex Texport Co 2411 Farrington St
Dallas .... 717 ME 1-6270
Wash W K Wood Inc 5908 Calif Ave SW Seattle

DIXON CORP METACOM AVE BRISTOL
R I 02809 .... 401 253-7500
J FEELEY EMP 150 ENG 11
Ala Industrial Sales Engrg Corp Drawer 7485-A
Birmingham
Cal K W Lockwood Co 15450 Cabrito Rd Van Nuys
Colo Plasticrafts,Inc 2800 N Speer Blvd Denver
Ill Harlan Davis 1201 Lawnmeadow La
Naperville 355-1177
Ind George M Hoster 1627 W 75th Pl Indnpls . . . 251-2566
Mich R Grey Firth 2021 Monroe Blvd Dearborn
Minn Benjamin Swenson 2815 Wayzata Blvd
Minneapolis 377-3921
Mo H & R Sales & Engineering Co 3942 W Pine St
St Louis 652-5540
NJ Thurman McDaniel 606 Graisbury Ave
Haddonfield 428-5531
NY Patrick Hoade 66 Elder Dr Commack 368-2523
NC Spencer M Clarke Co 2044 Sherwood Ave
Charlotte 376-8262
Ohio A R Geldhof & Co 220 Sterncrest Dr Chagrin Falls
Pa Alexander D Thomas Box 10654 Pittsburgh . 242-2220
Tex Benson Engineering Co 2516 W Mockingbird La
Dallas 352-7541
Utah Sherman Nabaum & Co 4777 S 13th E
Salt Lake City 277-0459
Wis Barry H Fisher Box 571 Oconomowoc 567-3531
GB H Crossley Packings Ltd Box 7, Hill Mill, Astley Br
Bolton

DIXSON INC ELECTRONIC INSTR DIV BOX 1449
GRAND JUNCTION COLO 81501 303-242-8863
W NOLET EMP 310 ENG 12 $2,500-$5,000M

DIXSON INC METER DIV BOX 1449
GRAND JUNCTION COLO 81501 .... 303 242-8863
K ROGERS EMP 310 ENG 12 $2,500-$5,000M
Ariz Engineering Sales Assoc Box 544
Scottsdale 945-5781
Cal Straube Assoc 483 Willow Rd Menlo Park . . DA 3-2476
Cal Kirk-Anderson Sales Co 666 E Ocean Blvd
Long Beach 436-9756
Colo Straube Assoc Box 1649 Boulder 443-8600
Ill Ed Flaxman Co 9202 Waukegan Rd
Morton Grove 965-3988
Mass Conti-Younger Assoc 181 West St Waltham . 891-4582
Mich E G Debandt 6244 Indianwood Trail
Birmingham 626-6416
Mo L R Harry & Assoc,Inc Box 588 Grandview . . 763-3634
NY David Sonkin Assoc 10 Fiske Pl
Mount Vernon 668-9809
NY Louis G Marchese Assoc 999 Ridge Rd E
Rochester 342-7664
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 752-5444
Tex Ruby Sales Corp Box 9894 Dallas 827-6630
Wash Wm R Lanphear Co, Inc 4031 Stoneway Ave, N
Seattle 633-4900

D M RESEARCH CORP 13703 MADISON AVE
LAKEWOOD OHIO 44107
L DORAZIO EMP 3 ENG 3 UP TO $100M

DOALL CO 254 N LAUREL AVE DES PLAINES
ILL 60016 TWX 910 233-3503 312-824-1122
L ROTHENBERGER EMP 200 ENG 10
OVER $10,000M
Ala DoAll Gulf Co 108 S 41st St Birmingham . . . 595-3726
Cal DoAll San Fran Co 1688 Gilbreth Rd
Burlingame 697-7620
Cal DoAll Western Co 2801 E Olympic Blvd
Los Angeles 263-7313

Cal DoAll San Diego Co 3265 India St San Diego 291-4600
Cal DoAll Pacific Co 1392 McGaw Ave Santa Ana 540-6530
Colo DoAll Denver Co 5 S Kalamath St Denver ...255-0413
Conn DoAll Hartford Co 221-225 Locust St Hartford 249-0654
Fla DoAll Florida Co 3316 S Westshore Blvd Tampa 839-3341
Ga DoAll S Atlanta Co 308 Decatur St,SE Atlanta 521-1267
Haw Pell Co Inc 330 Cooke St Honolulu
Ill DoAll Rockford Co 6th St & 3rd Ave Rockford 964-7848
Ill DoAll Midwest 4650 W Fullerton Chicago ...252-5300
Ill DoAll Northern Ill Co 1586 Des Plaines Ave Des Plaines 824-8191
Ind DoAll South Bend 2637 W Sample St South Bend 288-4747
Ind DoAll Central Co Inc 1850 W 16th St Indpls .635-6496
Iowa DoAll Iowa Co 2016 E River St Davenport ..324-9115
Ky DoAll Louisville Co 214 E Burnett Ave Louisville 636-2803
Md DoAll Baltimore Co 5621 York Rd Baltimore .433-3993
Mass DoAll Boston Co 32 Needham St Newton Highlands 969-6350
Mich DoAll Gr Rapids Co 1211 Burton St SE Grand Rapids 245-2191
Mich DoAll Detroit Co 15010 Plymouth Rd Detroit 273-4141
Minn DoAll Twin Cities Co 2327 E Franklin Ave Mnpls 339-9721
Mo DoAll Mtn States Co 2029 Holmes St Kansas City 421-5857
Mo DoAll Southern Co 8007 St Charles Rock Rd St Louis 429-1700
NJ DoAll N J Co Inc 2720 US Hwy 22 Union ...687-5100
NY DoAll Syracuse Co Inc 107 Baker St Syracuse 463-8549
NY DoAll Buffalo Co 1840 Kenmore Ave Kenmore 875-3424
NY DoAll Eastern Co 36-06 48th Ave Long Island City 392-4595
NC DoAll Carolina Co 3157 Cullman Ave Charlotte 334-5397
Ohio DoAll Cincinnati Co 2840 Colerain Ave Cincinnati 681-1131
Ohio DoAll Cleveland Co 4705 Brookpark Rd Cleveland 749-2626
Ohio DoAll Toledo Co 730 Phillips Ave Toledo 479-5349
Ohio DoAll Dayton Co 603 Leo St Dayton 461-5460
Okla DoAll Tulsa Co 804 S Sheridan Tulsa 835-6944
Pa DoAll Phila Co 2053 E Glenwood Ave Phila ..288-7400
Pa DoAll Pittsburgh Co 905 Lincoln Hwy E McKeesport 271-8559
Pa Doall Reading Co 4850 Phila Pike Reading ..779-0577
RI DoAll Providence Co 302 Smith St Providence 331-3460
Tenn DoAll Tenn Co 501 3rd Ave Nashville 242-5519
Tex DoAll Dallas Co 2014 Industrial Blvd Dallas .741-4536
Tex DoAll Texas Co 5512 Gulf Frwy Houston 928-3486
Va DoAll Virginia Co 1210 W Main St Richmond 359-2479
Wis DoAll Wisc Co 2725 W Oklahoma Milwaukee .645-3810
Can DoAll Canada Ltd 10 Meridian Rd Rexdale, Ont 677-2553
Can DoAll Eastern Can Ltd 330 Port Royal W Montreal, Que 387-6458
Can DoAll Canada Ltd 1107 Fife St Winnipeg, Man 589-8336
Ger DoAll Co GmbH Sonnenstr 17 4 Dusseldorf 0211 771025
Neth DoAll Nederland NV Stationsplein 210 Leiden 01710 26844
BC DoAll Western Can Ltd 330 Drake St Vancouver 682-4601

DODGE INDUSTRIES SUB OAK ELECTRO/NETICS CORP MCCAFFREY ST HOOSICK FALLS N Y 12090 TWX 710-965-9723 ....518 686-7301
R DUBOIS EMP 300 ENG 6 $5,000-$10,000M
Cal Lockwood Industries 15450 Cabrito Rd Van Nuys 213-873-7766
Colo Inland Assoc 1136 Pearl St Boulder ...303-442-1336
Conn Hildreth Assoc Box 442 Old Saybrook ..203-388-3296
Fla David J Cisan 530 Eldron Dr Miami Springs 305-888-1934
Haw M J Hanley Box 1093 Honolulu 808-503-912
Ill J Edwards 621 Dawes Ave Libertyville ..312 362-4446
Kan Inland Assoc 6047 Howe Dr Mission ...913-362-2366
Mass Hart Nininger & Campbell Box 370 Woodbury 203-263-4321
Minn E S Dygert Co 990 N W Bank Bldg Mnpls 612-333-0600
Mo Inland Assoc 453 N Lindberg Creve Coeur 314-993-0301
NJ M B Olbeter 89 Powell Rd Allendale 201-327-3509
NY Norb P Thomas Corp Box 366 North Syracuse 315-455-5501
NC Spencer M Clark Co 4100 Beresford Rd Charlotte 704-376-8262
Ohio E Connors 59 Central Ave Dayton 513-228-9644
Pa B E Gibson Co 201 Penn Center Blvd Pittsburgh 412-823-8310
Tex Sowden Sales Co 3000 Turtle Creek Plaza Dallas 214-526-0441
Wash H J Sales Co 500 Wall St Seattle 206-623-4810
Den L Levy Montergade Copenhagen
Fr R E Judeles 181, rue Philippe-Triaire Nanterre
Ger E Pk vonder Bruggen Weifzenburgstr 78 Koln
GB L Stevens Littleborough Lancashire
Ital Angst & Pfister SpA Via Ferrante Aporti 14 Milano
Jap Dodge Fibers Co of Japan, Ltd 17, Akefune-Cho, Nishikubo Shiba Tokyo
SAfr R N Scott Box 280 Durban
Swed B Hammerskiold Box 152 Malmo
Swit M Schwarzmann Stampfenbachstr 144 Zurich

DOERR ELECTRIC CORP 1213 S DOERR RD CEDARBURG WIS 53012 414-377-0500
J PARK EMP 325 ENG 7 OVER $10,000M
Ariz E W Daley 8222 Windsor Ave Scottsdale 602-946-2374
Cal Engineering Sales Co 1775 Timothy Dr San Leandro 415-352-1700
Colo J H Dorough Co Box 297 Arvada 303-422-1487
Fla L W Shaw & Assoc Box 273 Clearwater 813-584-3175
Ga James H Chambers Co 3177 Peachtree Rd N E Atlanta 404-237-6851
Ill Dave Halliday & Assoc 5483 N Northwest Hwy Chicago 312-775-5747
Ind J G Richmond Box 341 Valparaiso 219-462-5310
Iowa Power Equip Co 1630 State St Bettendorf 319-355-5623
Kan Edw L Martin Co Box 175 Shawnee Mission 913-648-4746
La Mid-South Sales Co 4414 Calliope St New Orleans 504-822-3030
Mass A R Booth & Co 360 First Ave Needham 617-444-4880
Mich Robt W Reed Box 27 Marshall 616-781-7287
Minn Geo C May Co Inc 1500 E 79th St Mnpls 612-866-3473
Mo Terry & Hodges Inc 10726 Manchester Rd St Louis 314-965-0746
NJ R A Potter Assoc 64 Woodland Ave Summit 201-277-0220
NY A F Zissler 3700 East Ave Rochester ..716-586-6226
NC Electro-Motion Corp 2318 Arty Ave Charlotte 704-334-5557
Ohio H W Applegate Box 35 Westlake 216-871-3316
Okla Components Inc Box 50277 Tulsa 918-583-9149
Ore W G Ballantyne Co 123 SW Pine St Portland 503-222-7004
SC Electro-Motion Corp Box 8935 Greenville 803-277-0110
Tex Lynn Elliott Co 701 N Dooley Rd Addison 214-239-8533
Wis Hydro-Electro Equip Co Box 231 Butler 414-781-3015

DOHRMANN INSTRUMENTS CO 1062 LINDA VISTA AVE MOUNTAIN VIEW CAL 94040 ....415 968-9710
L HOPPE EMP 35 ENG 8 $500-$1,000M
Cal Sales Engineers, Ltd 15408 Cornet Ave Santa Fe Springs 213 868-0076
Colo Charles W Fowler Co 1345 Spruce St Boulder
Ga C H Cloer & Assoc 3272 Peachtree Rd, NE Atlanta 404-231-4625
Ill Utopia Instrument Co 1107 W Jefferson Joliet 815-727-5431
Mass Clifford Assoc Box 636 Newton Lower Falls 617-237-0618
Minn Wm M Ruva Co 3553 46th Ave,S Minneapolis 612-724-1744
Mo Jay Instr & Specialty Co 1760 S Brentwood Blvd St Louis 314-961-1909
NJ C H Ribble Co 31 DiÇarolis Ct Hackensack 201-342-2602
NM Charles W Fowler Co 9000 Menual Blvd NE Albuqerque 505-299-7676
NY Unbehaun Assoc 75 College Ave Rochester 716-244-2450
Ohio Robt R Stone & Assoc Box 47 Mentor ..216-946-6766
Okla James E Dyer Co Box 1226 Tulsa 918-742-8832
Pa Weiss Instrument 6 Barton Dr Pittsburgh 412-371-3020
Tex Antek Instruments,Inc Box 16158 Houston 713-443-1292
Va Dynamation, Inc Box 3191 Bon Air 703-272-5001
Wash Charles W Fowler Co 845-106th Ave NE Bellevue 216-454-8600
Can Electrodesign Ltd 9124 S Lawrence Blvd Montreal 514-389-5914
Can Electrodesign Ltd 3433 Bathurst St Toronto 416-787-0991
Can Canadian Lab Supplies Ltd 10989 - 124 St Edmonton
Can Canadian Lab Supplies Ltd 1004 Main St Saskatoon
Can Canadian Lab Supplies Ltd 535 Marjorie St St James,Winni
For Chemical Supply Co 112 Chakrapetch Rd Bangkok
For Cooperative C L Enterprise Co 17,Lane 53,Sec 2,Han-Kow St Box 1742 Taipei
Den Buch & Holm A/S Solvgade 34-36 Copenhagen K ....BYen 8208
Fr Techmation 113, Rue Lamarck Paris 18 627-4779
Ger Techmation GmbH 12 Bilkerstr 4 Dusseldorf 10741
GB Techmation Ltd 58 Edgware Way Edgware,Mdsx 01-958-5636
Neth Techmation N V Keizersgracht 522 Amsterdam 22-47-85
Jap Columbia Import & Exp Co Ltd 3-1 Chome, Kanda-Sarugakucho, Chiyoda-Ku Tokyo 291 0641-8
SAfr Optical Instruments Pty Ltd Box 1561 Johannesburg 834-4541
Swed Bo Philip Instr AB Jamtlandsgatan 108 Stockholm-Vallingby 08/372880
Swit Kontron Technik AG Hardstr 235 8031 Zurich 5 ....051-44 56 90
BC Canadian Lab Supplies Ltd 1449 Hornby St Vancouver 604-682-4291
Belg Techmation P.V.B.A 189-191 Rue de La Victoire Brussels
Ind Neotronics Corp Dadasaheb Phalke Rd Dadar,Bombay-14
Aust Astronic Imports 622 Nicholson St No Fitzroy, 3068,Vict 489-1911

DOLAN JENNER INDUSTRIES INC 10 INGALLS CT MELROSE MASS 02176 617-662-8200
B DOLAN EMP 50 ENG 10 OVER $10,000M
Cal Duncan Engineering Sales Co 1800 N Highland St Hollywood 462-5880
Colo Kelley Enterprises 336 E 4th St Loveland ...667-1376
Ill Automation Equip Co,Inc 6645 N Oliphant Ave Chicago 631-9673
Ind Bernard L Michaelson Co Box 217 Xenia 513-372-5496
Kan Wells-White Co 1200 Whitney Rd Independence CI7-2091
La Hahn Sales Co Box 52795 Baton Rouge 356-2596
Md Scientific Mktg Assoc 8817 Hunting La Laurel 776-5130
Mass Gibson Engrg Co 90 Broadway Norwood 769-3600
Mich Electro-Mation Assoc 1137 Cole St Birmingham 564-6517
Minn William M Ruva Co 3553 46th Ave S Mnpls .533-9033
Mo Wells-White Co 7607 Page Blvd St Louis ...726-2511
NJ Winn Engineering Box 177 Glenville Sta Greenwich Conn 203-531-8927
NY Alan E DeCew Agency Inc Box F Sodus 483-3261
NC Associated Agents Box 11444 Greensboro ..292-6508
Ohio J L Finnicum & Assoc 1495 Warren Rd Cleveland 226-7076
Pa Howard A Deevers & Co 3960 Northern Pike Monroeville 372-7900
Tex Production Engrg Sales Box 30393 Dallas ..369-3181
Wash Far West Agencies Div Box 805 Bellevue ...747-1515
WVa W F Keegan & Co Inc Box 687 Havertown Pa 215-JA8-6640
Wis Automation Engineering 12740 N River Rd 43 W Mequon 242-1520
Can Power Service Products Box 184 Islington,Ont 239-2977

DOLINKO & WILKENS INC 1901-7 SUMMIT AVE UNION CITY N J 07087 ....201 867-6630
L DOLINKO EMP 22 ENG 2 $250-$500M
ADV PG 94
Cal Wallace & Wallace 1206 Maple Ave Los Angeles 747-0401
Ill Edward Schmeichel Co 5968 W Chicago Ave Chicago 378-2070
Ohio P E Montplaisir 5021 Rockland Dr Dayton ..277-8939
For Minthorne Intl Co 64-14 Woodside Ave Woodside, NY 899-8888

DOLPH CO, JOHN C NEW RD MONMOUTH JUNCTION N J 08852 201-329-2333
J MAYES
Ala Brownell Inc 63 Sidney Phillips Dr Mobile ...471-2541
Cal Advance Electrical Sales 850 Montgomery La San Carlos 591-9651
Colo Ward Electric Supply Co 1909 Blake St Denver
Fla Brownell Inc 307 27th St Orlando ....GA 4-5634
Ga Brownell Inc 3026 Commerce Way Hapeville .767-9301
Ill Complete Reading Elec Co 100 S Jefferson St Chicago 236-5390
La Complete Reading Elect Co 1021 St Ferdinand St New Orleans 944-5561
Md Earl B Beach Co 2003 Greenspring Dr Timonium 252-5260
Mass Earl B Beach Co 15 Crane Ct Woburn ..617-935-3150
Mich Complete Reading Elec Co Box68 15606 Woodrow Wilson Detroit ...883-0660
Minn D A Schultz Co 801 SE 8th St Minneapolis .FE 9-7701
Mo Coron Corp 2260 Grissom Maryland Heights 314-432-3444
NY Brownell Inc 85 Tenth Ave New York City ..WA 4-6000
NC Brownell Inc 3109 Cullman Rd Charlotte 333-8426
Ohio Earl B Beach Co 5618 Hamlet Cleveland 341-4300
Okla Butts Electric Supply Co 420 N Penna Oklahoma City ....CE 6-5411
Ore Western States Wire 4505 SE Belmont St Portland 503-234-0756
Pa Earl B Beach Co 546 Penn St Yeadon 622-2210
Tenn Brownell Inc 217 Cumberland St Memphis ..323-7693
Tex Complete Reading Electric Co 903 Sampson St Houston ....CA 4-5731
Utah Electric Parts & Insulation Co 246 W 13th St Salt Lake City 486-0773
WVa West Virginia Armature Co Bluefield Bluefield ....DA 7-8164
Wis R J Wittenburg Co 4805 W Center St Milwaukee ....HI 5-8487

DON MAR PRODUCTS INC BOX 10125 DENVER COLO 80210 ....303 935-4676
R KOCH EMP 15 ENG 3 $100-$250M

DONNELLY MFG CO 580 WINTER ST WALTHAM MASS 02154 ....617 893-5700
A MCMANMON EMP 250 ENG 3 $1,000-$2,500M

DORAN MFG CO 1033 BADER ST CINCINNATI OHIO 45225 ....513 681-5424
Q GINDELE EMP 30 ENG 3

DORCO ELECTRONICS INC 109 E ELM ST COMPTON CAL 90220 ....213 636-5552
R PACK EMP 12 ENG 3 $100-$250M

DORIC SCIENTIFIC CORP 7969 ENGINEER RD SAN DIEGO CAL 92111 ....714 277-8421
A FROWISS EMP 20 ENG 5 $500-$1,000M
Cal Jay Stone & Assoc 330 Second St Los Altos 415 948-4563
Cal Product Data Co 3760 Orange Ave Long Beach 213-595-1777
Colo Hilleary Assoc 2552 Ridge Rd Littleton ..303 794-4279
Conn Applied Msmts Inc 2531 Whitney Ave Hamden 203-288-5288
DC Powell-Pendergraph Inc 7979 Old Georgetown Rd Washington 301-656-4535
Ill Megatek Inc 1915 N Harlem Ave Chicago 312-889-1277
Ind Megatek Inc Route 1 Freetown 317-988-7002
Mass Applied Msmts Inc 86 Hayward Rd Acton 617-263-2766
Mich Anderson Electronics 30785 Grand River Ave Farmington 313-476-9161

NJ Hansen Assoc Box 339 Ridgewood.....201-652-7055
NM Hilleary Assoc 311 Washington SE
Albuquerque....................505 265-7631
Ohio Instrumentation Systems Inc 3841 Office Park Dr
Dayton.......................513-293-8095
Pa Diversified Devices Box 241
King Of Prussia................215-265-7925
Tex O'Rourke Assoc Box 36844 Houston...713-782-6837
Wash Brett Assoc 2705 California Ave SW
Seattle.......................206-935-8054
Fr Soc Europeenne D'Electronique
39-41 Rue de l'Est 92 Boulogne-Billancourt
Ger Micro Epsilon Messtechnik
GMBH & Co KG 3 Hanover Hausmannstr 12
Aust Kenelec Imports 142 Highbury Road
Burwood Vic 3125

DO-RITE MFG CO 379 MARKET ST EAST PATERSON
N J 07407.........................201-796-1902
R LOCKEY EMP 30 ENG 2 $500-$1,000M

DORMEYER INDUSTRIES 3418 N MILWAUKEE AVE
CHICAGO ILL 60641.................312 AV 3-4000
G PFEIFFER EMP 600 ENG 19 $5,000-$10,000M
Cal Weaver & Assoc 4350 W Broadway
Hawthorne......................213-679-3355
Conn Ray Perron & Co 36 Louis St Trumbull....AM 8-9631
Ind Menze Sales 6010 Lower Huntington Rd
Fort Wayne.....................219-747-5616
Iowa Reid & Assoc 526 MNB Bldg Cedar Rapids..362-6302
Mass Ray Perron & Co 159 Morse St Norwood...762-8114
Mich Mid Continent Sales Co Box 735
Royal Oak......................313-398-4247
Mo M-C Sales Co 615 Wyandotte
Kansas City....................816-842-4640
NH Ray Perron & Co 1 Elm St Dover.....603-742-2321
NJ Varrelman-Gorman Co Box 206
Livingston.....................201-992-2505
NY H C Johnson Agencies Box 215 Fayetteville. NE 7-9383
NC Wm J Suk Assoc 1409 E Blvd
Charlotte......................704-332-6191
Ohio E B Kaercher 2893 Chatham Rd Cleveland. TE 1-8098
Pa B & A Assoc 237 Lancaster Rd Devon....MU 8-5173
Tex Techno Assoc 2324 Shore Crest Dr Dallas
Wash West Coast Agencies 16715 52nd W Unit E
Edmonds........................206-743-5100
Wis Fred H Mann 1220 Sixth Ave Oshkosh....BE 1-3534

DORSETT ELECTRONICS INC
1143 S 71ST EAST AVE TULSA
OKLA 74101........................918 TE 65501
H DALY EMP 350 ENG 18 $2,500-$5,000M
Cal Robert Cameron Assoc 777 N First St
San Jose.......................295-5611
Fla Perrott Assoc, Inc 501 Park Ave N
Winter Park....................647-5290
Mass Forsberg Sales 125 Perkins Ave Brockton...583-0034
NY Rocke International Corp 13 E 40th St
New York.......................689-0200
Ohio E C Greuling & Assoc 424 Grants Trail
Dayton.........................298-7801

DOUGLAS DIV SCOTT & FETZER CO
141 RAILROAD ST BRONSON
MICH 49028........................517 369-2315
EMP 510 ENG 5 OVER $10,000M

DOUGLAS ELECTRONICS INC 718 MARINA BLVD
SAN LEANDRO CAL 94577.............415 483-8770
EMP 15 ENG 2 $250-$500M

DOUGLAS INSTRUMENT LAB 176 NORFOLK AVE
BOSTON MASS 02119.................617 445-4836

DOUGLAS MICROWAVE CO DIV STRUTHERS
ELECTRONICS CORP RAILROAD PL
MAMARONECK N Y 10543..............914 OW 8-3000
W CLAYTON EMP 95 ENG 14 $1,000-$2,500M
Cal Crown Electronics Box 4741
North Hollywood................213-877-3550
NJ Barrett Border Co 121 Oak St Tenafly. 201-568-2354
Can Whittaker Electronics Ltd 42 Howden Ave
Ottawa 5 Ont...................613-224-1221
For B Freudenberg Inc 50 Rockefeller Plaza
New York, N Y..................PL 7-9130
Fr Cerel 14-16 Rue des Lilas Paris 19

DOUGLAS RANDALL INC 477 PAWCATUCK AVE
WESTERLY R I 02891................203-599-1750
E GOEHRING EMP 450 ENG 5
Ala Powertronics Assoc Box 3384
Huntsville.....................205-852-6347
Cal Interstate Mktg Assoc 22030 Ventura Blvd
Woodland Hills.................213-883-7606
Cal Parsons Co 1 First St Los Altos......415-941-4745
Fla Lynch Gentry Assoc 6446 Central Ave
St Petersburg..................813-347-5131
Ill Ropek-Cahill Inc 5439 Division St
Chicago........................312-287-7292
Kan J C Mankus Assoc Box 6264
Overland Park..................910-749-6473
Md Barnhill & Assoc 1931 Greensprings Dr
Timonium.......................301-252-5610
Mass R F Duffy Assoc 49 Century Rd
So Weymouth....................617-335-7724
Mich Reichold Assoc 1655 House St Belmont. 616-866-0626
Minn Lloyd Murphy Assoc 730 Chicago Ave
Minneapolis....................612-333-4511
Mo J C Mankus Assoc 400 Brooks La
Hazelwood......................314-731-4334
NY Frank Tylinski Co 338 Northern Blvd
Great Neck.....................516-466-9070
NY Milton Matthews Co Box 612
Rochester......................716-271-2143
NC Powertronics Assoc 2454 Medway Dr
Raleigh........................919-834-6947
Ohio Milton Matthews Co 6917 RegencyDr
Parma..........................216-843-6649
Pa Elcom Inc 130 S Easton Rd Glenside...215-885-1325

Tex Wm Reese Assoc 3543 Rio Grande Circle
Dallas.........................214-339-4280
Tex Wm Reese Assoc 2400 West Loop S
Houston........................713-621-3134
Va Barnhill & Assoc Box 1104 Lynchburg. 703-384-2062
Can Frank Taylor Ltd 12 Howard Dr
Willowdale Ont.................416-222-6924

DOWA TRADING CO LTD
60 NANIWA-CHO, IKUTA-KU KOBE
JAPAN.............................(39) 5384-6
T IKEUCHI EMP 10 ENG 4 $1,000-$2,500M

DOW CHEMICAL CO MIDLAND
MICH 48640........................517-636-1000
F QUIGLEY EMP 36000 OVER $10,000M
Cal Dow Chemical Co 2600 Wilshire Blvd
Los Angeles....................382-8131
Ga Dow Chemical Co 618 Fulton Natl Bank
Atlanta........................688-3085
Ill Dow Chemical Co 6000 W Touhy Ave
Chicago........................774-6000
Ind Dow Chemical Co 3909 N Meridian St
Indnpls........................926-3441
La Dow Chemical Co 1100 Commerce Bldg
New Orleans....................524-0206
Mass Dow Chemical Co 1330 Boylston St Boston..734-7920
Mich Dow Chemical Co 600 Northland Towers
Detroit........................444-1000
Minn Dow Chemical Co 4901 W 77th St Mnpls...920-4040
Mo Dow Chemical Co 10 S Brentwood Blvd
St Louis.......................726-5000
NJ Dow Chemical Co 400 Market St Camden...966-4150
NY Dow Chemical Co 45 Rockefeller Plaza
New York.......................757-8300
NC Dow Chemical Co 200 S Tryon St Charlotte. 334-0851
Ohio Dow Chemical Co 55 Public Sq Cleveland...861-5825
Pa Dow Chemical Co 4 Gateway Ctr Pittsburgh. 281-3030
Tex Dow Chemical Co 1401 Elm St Dallas......742-8691
Wash Dow Chemical Co 307 Broad St Seattle....624-6488

DOW CORNING CORP MIDLAND
MICH 48640........................517 TE 6-8000
L TEICHTHESEN EMP 3000 OVER $10,000M
Cal Dow Corning Corp 3033 West Mission Rd
Alhambra.......................289-5186
Ill T A Preston 3525 W Peterson Rd Chicago..539-8200
Md D J Myers 8555 16th St Silver Spring.....588-3222
Mass R J Dilger 886 Washington St Dedham.....326-8750
Minn Dow Corning Corp 4716 Overlook Dr Bloomington
NJ Dow Corning Corp 401 Sylvan Ave
Englewood Cliffs...............567-4960
Tex Dow Corning Corp 6778 Greenville Ave
Dallas.........................368-1301

DOW-KEY CO 2260 INDUSTRIAL LA BROOMFIELD
COLO 80020 TWX 4-5890.............303-466-7303
B WASHISKO EMP 65 ENG 1 $500-$1,000M
Cal Lee Grant Snyder Co 1418 N Highland Ave
Hollywood......................213-469-6278
Colo Action Sales 70 W 6th Ave Denver....303-222-6056
Ga V Avis McCorvey Co 2187 Briarcliff Rd N E
Atlanta........................404-636-2502
Ill Gassner & Clark Co 6644 N Western Ave
Chicago........................312-764-6121
Iowa Snider Sales Co 2042 Franklin Ave N E
Cedar Rapids...................319-362-4410
Md Barnhill & Assc 1931 Greenspring Dr
Timonium.......................301-252-5610
Mass John Q Neenan Assoc Box 203
Sudbury........................617-893-0914
Mo H A Roes & Co 2601 Cherry St
Kansas City....................816-221-0866
NJ Given Assoc Box 183 Riverton........609-829-7249
NY George G Scott Co 6 W Stuart Dr
Glen Cove......................516-676-2088
Ohio Components Inc 7461 N Linden La
Cleveland......................216-842-2737
Tex Wm Reese Assoc Box 24410 Dallas....214-339-4280
Wash WilliamR Lanphear Co 4031 Stone Way N
Seattle........................206-633-4900
Can Kaytronics Engrg 5800 Monkland Ave S
Montreal.......................514-487-3434
For Teknis Plainville Mass...............617-695-3591

DRAKE CO, R L 540 RICHARD ST MIAMISBURG
OHIO 45342........................513 866-2421
J DELANEY EMP 100 ENG 10

DRAKE MFG CO 4626 N OLCOTT AVE
HARWOOD HEIGHTS ILL 60656
TWX 910-221-0236..................312 867-7227
J KRUTEK EMP 140 ENG 3 $1,000-$2,500M
Cal Penwarden Assoc 14547 Titus St Van Nuys. 782-4920
Colo Straube Assoc Box 1649 Boulder.........443-8600
Conn Comp-Rep Assoc 14 Bowling Green Ave
North Haven....................239-9762
Fla Winfield Electronic Sales Co 666 NE 125th St
N Miami........................751-5566
Ga Winfield/Southeast Co
2991-D N Druid Hills Rd,NE Atlanta. 404 636-3023
Ill G McL Cole Co 6514 W Higgins Rd Chicago..774-3535
Ind W W Bieberich Co 801 Leesburg Rd
Fort Wayne.....................432-2537
Kan Koenig-Myers Assoc 5500 Buena Vista Dr
Shawnee Mission................432-8300
Md Kaufholz Assoc Box 6232 Baltimore......488-6561
Mass Comp Rep Assoc 1116 Great Plains Ave
Needham........................444-2484
Mich Whitesell & Assoc 25100 Evergreen Rd
Southfield.....................358-2020
Minn Chas E Bohlig Co Box 16095
Minneapolis....................612 922-7011
Mo Koenig-Myers Assoc 2721 Beloit Dr
Bridgeton......................739-1655
NY B H Tollefson Assoc Inc 110 Allens Creek Rd
Rochester......................271-4141
NC Winfield/Southeast Co 4909 Carteret Dr
Raleigh........................787-2841
Ohio Goory Sales Co 19555 Henry Rd Cleveland..331-2055

Pa Kaufholz Assoc Box 227 Newtown Square..356-5000
Tex Techno Assoc 2324 Shorecrest Dr Dallas...357-9213
Wash Fred H Haight Co 3212 Eastlake Ave
Seattle........................322-1818
Wis G McL Cole Co 150 S Marquette Madison..244-1623
Can Atlas Radio Corp 50 Wingold Ave Toronto...781-6174
For E D Magnus & Assoc 5715 N Lincoln Ave
Chicago Ill....................334-1503
Mex Gimbel Mexicana,SA Sonora 170 Mexico...14-65-58

DRANETZ ENGINEERING LABS INC 1233 NORTH AVE
PLAINFIELD N J 07062..............201 755-7080
A DRANETZ EMP 40 ENG 8 $500-$1,000M
ADV PGS 64,150,191,286,359,366,710
Ala Reynolds & Assoc 904 Bob Wallace Ave
Huntsville.....................205-536-1941
Cal Measurements Assoc 789 E ElCamino Real
Sunnyvale......................408-739-7785
Cal Crown Electronics Box 2573 Van Nuys.....873-1266
Cal Measurements Assoc 789 E El Camino Real
Sunnyvale......................408-739-7785
Fla Reynolds & Assoc Box 1043 Eau Gallie. 305-727-3205
Ga Reynolds & Assoc 175 W Wieuca Rd NE
Atlanta........................404-252-5360
Ill Megatek Inc 1915 N Harlem Ave
Chicago........................312-889-1277
Ind Megatek Inc Rte 1 Freetown........317-988-7002
Mass Electronic Sales of NE Box 276
Attleboro......................617-222-4078
Minn Megatek Inc 6810 Irving Ave
S Minneapolis..................612-866-9769
NJ Data-Rep Assoc Box 645 Ridgewood...201-447-0660
NY Data-Rep Assoc Box 164
Huntington Sta.................516-423-7677
NC Reynolds & Assoc 412 W Market St
Greensboro.....................919-275-3725
Ohio Electro Sales Assoc Box 143 Dabel Sta
Dayton.........................426-5551
Pa Electro Sales Assoc 201 Penn Center Blvd
Pittsburgh.....................371-9449
Pa Data Rep Assoc Box 349 Norristown...215-279-8210
Tex Roger Martin Assoc Box 1002 Bellaire
Va Gans-Fryling Inc 2030 16th St N Arlington..527-3262
Wash Paratech 2208 NW Market St Seattle. 206-783-3900

DRESSEN-BARNES ELECTRONICS CORP
250 N VINEDO AVE PASADENA CAL 91107
TWX 910-588-3780..................213 795-7731
H WOODWARD EMP 125 ENG 4
ADV PG 447
Ariz Williams-Assoc 1110 E McDowell Rd Phoenix
Cal Vistronics 4440 Rainer Ave San Diego
Colo Williams Assoc 4971 Jackson St Denver
Fla Reynolds & Assoc 325 5 Ave Eau Gallie
Ga Reynolds & Assoc 175 West Wieuca Rd NE
Atlanta
Kan Impala,Inc 5424 N 95th St Overland Park
Md Eastronics 11200 Lockwood Dr Silver Spring
Mass Dan Greene ORG 1 Hayden La Bedford
Mich Technitron Inc 13657 Grand River Ave Detroit
Mo Impala Inc 47 Vlg Sq Shop Ctr Hazelwood
NM Williams Assoc 420 Washington SE Albuquerque
NY HAF Spectrum 221 E Hartsdale Ave Hartsdale
NY A & D Devices Box 365 Lyons Falls
Pa Victor S Malta Co Box 4007 Philadelphia
Tex Stevens Sales Co 2415 Valley View Rd Dallas
Utah Williams-Assoc 2469 S Main St Salt Lake City
Can Aeromotive Eng Ltd 1700 Montee De Liesse
Montreal Que
Can Aeromotive Eng Ltd 1912 Avenue Rd Toronto Ont

DRESSER CONTROLS 10201 WESTHEIMER RD
HOUSTON TEXAS 77001...............713 SU 1-1911
C ELLIS, JR EMP 300 ENG 50 $5,000-$10,000M
Ala James L Highsmith & Co 3322 S Memorial Pkwy
Huntsville.....................205-881-3294
Ariz Luscombe Engineering Co 222 Osborn Rd
Phoenix........................602-274-1542
Ark Curtis H Stout Inc 220 Cantrell Rd
Little Rock....................501-FR4-8201
Cal Luscombe Engineering Co 610 So Arroyo Pkwy
Pasadena.......................213 684-2000
Colo Cliff Beabout Co 666 Sherman St
Denver.........................303 244-3151
Fla James L Highsmith & Co 2543 Industrial Blvd
Orlando........................305-293-5202
Ill Carlson Snyder & Assoc Box 23
Arlington Hts..................312-392-5550
Ky C A Riggs Co 64 Orchard Hill Rd
Ft Thomas......................513-241-3700
La Curtis H Stout Inc 3901 Ulloa St
New Orleans....................504-861-4531
Mass C W Gamble 23 Otis St Bedford......617-275-0974
Mich Geo R Peters Assoc 2399 Coolidge Hwy
Berkley........................313 564-6325
Minn Pinkney & Assoc 957 Winnetka Ave N
Mnpls..........................612-544-3628
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis.......................314 647-4350
NJ L H Walke Co 19 Dunbarton Rd
CherryHill.....................609-424-3766
NY Canavan-Scanlon Assoc Box 39
Fishers........................716-924-3266
Ohio C A Riggs Co 2728 Braidwood Dr
Columbus.......................614-876-7522
Okla Kennedy Engineering Co 1312 S Peoria
Tulsa..........................918-LU2-7178
Ore Tarbell Communications, Inc 1100 S W 6th Ave
Portland.......................503 228-4111
Pa Muller,Harper & Assoc Box 11147
Pittsburgh.....................412-931-6460
Tenn Curtis H Stout Inc 3506 Tchulahoma Rd
Memphis........................901-JA6-7601
Tex Kennedy Engineering Co 116 Phillips Rd
Borger.........................806-273-2871
Utah Control Systems Inc Box 2204
Salt Lake City.................EM4-6425
Can D T Shaw Co Ltd 1966 Graham Blvd
Montreal Que...................514-735-1541

BC Albar Industries Ltd 1698 W 3rd Ave
Vancouver 604-736-9413

DRESSER, CRANE, HOIST & TOWER DIV
875 MICHIGAN AVE COLUMBUS
OHIO 43215.........................614 AX 9-2123
Cal Dresser, Crane, Hoist & Tower Div
2314 Redondo Beach Blvd Gardena .....FA 1-9850

DRESSER SYSTEMS, INC 10201 WESTHEIMER RD
HOUSTON TEX 77001
TWX 910 881-3755..................713 SU 2-2000
C CALDWELL EMP 550 ENG 30 $5,000-$10,000M
Ala Ridge Instruments Inc 7220 Governors Dr
Huntsvlle 837-3211
Fla Ridge Instru Inc 2227 Seely Dr Orlando 293-4711
Ga Ridge Instru Inc 3094 McCully Dr Atlanta...939-1554
Tenn Ridge Instru Co, Inc 110 Inn La Oak Ridge ..483-1311
Tex Geo Weinnich & Assoc 11554 E Northwest Hwy
Dallas DA-1-2800

DREXELBROOK ENGINEERING CO 600 BROOKE RD
GLENSIDE PA 19038 ....215 885-2344
R LIGHTSTONE $250-$500M

DRIVER, WILBUR B DIV SYLVANIA ELEC PRODS
INC 1875 MCCARTER HWY NEWARK
N J 07104 201-481-3100
R MACDONALD EMP 1300 ENG 40
OVER $10,000M
Cal Wilbur B Driver Co 2324 Cotner Ave
Los Angeles.......................213 478-4021
Conn Wilbur B Driver Co 50 Harvest La Box 17-2307
W Hartford.......................203 233-4047
Ill Wilbur B Driver Co 5666 N Northwest Hwy
Chicago 312 763-6200
Ohio Wilbur B Driver Co 13701 Enterprise Ave
Cleveland 216-267-6090
Can Canadian Wilbur B Driver Co Ltd 50 Ronson Dr
Rexdale Ont 416 247-7185

DRIVER-HARRIS CO 201 MIDDLESEX ST HARRISON
N J 07029 TWX 710-995-4563 ....201 483-4800
P HOLAHAN EMP 600 ENG 16 OVER $10,000M
Cal Driver-Harris Co 4081 Glencoe Ave
Los Angeles 391-8283
Ill Driver-Harris Co 5561 N Milton Pkwy
Rosemont..............................678-0524
Ohio Driver-Harris Co 2305 Far Hills Ave
Dayton........................513-299-5503
Wash Western Factors 2833 4th Ave S Seattle ...662-3414
Can Driver-Harris Co 207 Queens Quay W
Toronto 368-3271
Den Metalgaarden St Kongensgade 72 Kobenhavn
Fr Ets Driver-Harris Co Boite-Postale 62
Mantes-la-Jolie
GB British Driver-Harris Co Cheadle Heath
Stockport, Cheshire
Ital Driver-Harris Italiana Terrazzano Di Rho Milan
Spn Driver-Harris Iberica, SA Apartado 9079 Madrid

DRUSCH & CO 138 RUE GALLIENI
92 RUEIL MALMAISON FRANCE 967-86-20
M BERTAUX EMP 30 ENG 4 $500-$1,000M
Neth Berg et Burg Merdwedeweg 5 Breukelen
Swit S A P E G 7 Av Krieg 1208 Geneve
Belg Electronic Instruments 21 ave Paul Hymans
Bruxelles

DRYOMATIC DIV LOGETRONICS INC
6628 ELECTRONIC DR SPRINGFIELD
VA 22151 703-354-4500
H PUTTBACH EMP 35 ENG 5

DRY SCREEN PROCESS INC 1106 REEDSDALE ST
PITTSBURGH PA 15233 ....412 321-5255
J ABT EMP 60 ENG 2 $250-$500M
Ill R L Hanna Box 202 Palatine 312 358-3940
Mich Photo Reproduction Matls 19166 Glendale Ave
Detroit 313 272-4550
Mo E Ershen 7701 Forsyth Clayton 314-727-2240
NY E T Newland 567 3rd Ave Troy 518-235-0539
Pa M Wolfson 201 Penn Ctr Blvd
Pittsburgh 412-823-8400

DU-CO CERAMICS CO BOX 278 SAXONBURG
PA 16056 TWX 855-5350..............412 352-1511
J DUKE EMP 280 ENG 5 $2,500-$5,000M

DUCOM INC 22 PORTER ST SALEM
MASS 01970 ....617 745-3487
H PLOURDE EMP 50 ENG 2 $100-$250M

DUDEK & BOCK SPRING MFG CO
4014 W GRAND AVE CHICAGO
ILL 60651 ....312 DI 2-1020
S WITTEK EMP 200 ENG 4 $1,000-$2,500M
Ind Buck-Hilkert Inc 124 5th St Logansport 2555
Mich M & S Sales Co 20820 Greenfield Rd
Detroit............................547-7575
Minn R & L Assoc 3696 N Milton St Paul 484-1073
Mo O'Brien & Reynolds Inc 115 Hanley Ind Ct
St Louis ....MI 5-3665
NY Robt W Neill, Inc 524 Sibley Tower Bldg
Rochester 454-1420
Pa Riley & Aleshire Inc 306 Leedom St
Jenkintown ....TU 4-1708
Tenn Industrial Hard Goods Co 809 Market St
Chattanooga 267-0907
Tex Gulf Metal Products Co 901 Vickery St
Fort Worth.........................ED 2-1749
Wis Frank W Ladky Assoc 4604 N Wilson Dr
Milwaukee ....WO 2-2942

DUKANE CORP 103 ELEVENTH AVE ST CHARLES
ILL 60174...........................312 584-2300
H JAFFE EMP 570 ENG 80 OVER $10,000M
Cal J E Morrison 16710 Lahey St Granada Hills .360-6313
Del L Kendall 20 Glenbarry Dr Wilmington ..302-994-2437
DC DuKane Corp 1025 Vermont NW
Washington 783-4666
Ga T Lehman 4260 Sandy Plains Rd
Marietta.......................404 993-4036
Ill L Klewin 3210 Huffman Blvd Rockford .815 TR 7-7993
Kan K Cooper 2216 N 64th St Kansas City .913 299-0859
Mich P Warner 3301 Lorraine Ann Arbor ...313-971-5388
NY W C Jansen 10 Stratford Rd Brooklyn ..212 287-9865
Ohio J E Hall 4779 Mc Greevey Dr Fairfield..513 893-6603
Tex D Anderson 10860 Colbert Way Dallas.214-DI-8-0967
Can W Smutts 18 Landigo Dr Weston Ont ..416 249-3751

DUMONT ELECTRON TUBES DIV FAIRCHILD CAM &
INST 750 BLOOMFIELD AVE CLIFTON
N J 07012 201-773-2000
G SWENARTON EMP 400 ENG 20
$5,000-$10,000M
Cal Galaxie Sales Intl 1930 Wilshire Blvd
Los Angeles 213-483-0910
Colo F Y Gates Co 1930 S Navajo Denver...303-761-0591
Ill Gassner & ClarkCo 6644 N Western Av
Chicago 312-764-6121
Mass New England Tech Sales 7 Cypress Dr
Burlington 617-272-0434
Mich Wkm Assoc 1474 E Outer Dr Detroit ..313-892-2500
Minn Stan Clothier Assoc 7400 Lyndale Av S
Mnpls...........................612-869-3231
NM F YGates Co 2631 Texas N E
Albuquerque 505-298-1875
Ohio Wkm Assoc 5335 Far Hills Av Dayton ..810-459-1687
Wash Bill Stuligs Co 608 W Crockett St
Seattle.........................206-282-7870
Can Future Electronics 4310 Girouard Ave
Montreal 260 Que 514-481-7701
Fr Ets Radiophon 148 Ave Malakoff Paris 16
Ger Nucletron VertriebGMBH Gartnerstr 60
8 Munich 54
Jap Rikei Trading Co Ltd
18-14 Nishi-Shimbashi 1-Chome
Minato-Ku Tokyo

DUMONT MOBILE COMMUN DIV HAMMARLUND
2415 S MANCHESTER AVE ANAHEIM
CAL 92802.........................714-639-3510
R CARPENTER EMP 70

DUMONT OSCILLOSCOPE LABS INC
40 FAIRFIELD PL WEST CALDWELL N J 07006
TWX 710-734-4308..................201-228-3665
P ZAGARIA EMP 70 ENG 7 $1,000-$2,500M
Ala Gentry Assoc 2109 W Clinton Ave
Huntsville 205-534-9771
Ariz Hyer Assoc 3300 S Mill Tempe 602-275-7524
Cal Chas W Fowler Co 9911 Inglewood Ave
Inglewood......................213-678-5211
Colo Hyer Assoc 8101 E Prentice Ave
Englewood 303-771-5424
Conn Applied Msmts Inc 2531 WhitneyAve
Hamden 203-288-5288
Fla Gentry Assoc 550 N Bumby Ave
Orlando 305-841-7740
Ga Gentry Assoc 960 Somerset Dr N W
Atlanta 404-874-4661
Ill Carter Elctns Inc 4919 W 63rd St
Chicago 312-585-5485
Ind Carter Elctns Inc 6333 Hollister Dr
Indpls..........................317-293-0696
Iowa Engineering Serv Co 1026 3rd Ave S E
Cedar Rapids 319-366-1591
Kan Engineering Serv Co 7924a State Line
Prairie Village..................913-649-4000
Md Ron Davies Assoc 11215 Oak Leaf Dr
Silver Spring 301-593-4900
Mass Applied Measurements Inc 86 Hayward Rd
Acton.............................617-263-2766
Mich WKM Assoc 1474 E Outer Dr Detroit ..313-892-2500
Minn Carter Elctns Inc 2401 W 66th St
Mnpls...........................612-869-3261
Mo Engineering Serv Co 6717 Vernon Ave
St Louis........................314-726-2233
NJ Sy Reider Assoc 1159 Erhardt St
Union 201-688-8807
NM Hyer Assoc 130 Alvarado N E
Albuquerque 505-265-5961
NY Naco Electronics 119 Luther Ave
Liverpool 315-474-7481
NC Gentry Assoc 116 E O Neal Ave
Burlington 919-227-2581
Ohio WKM Assoc 5335 Far Hills Ave Dayton .513-434-7500
Pa Sonco 107 Town Center Rd
King of Prussia 215-265-3250
Tex Scientific Devices Inc 312 N Central Expwy
Richardson 214-231-8106
Utah Hyer Assoc 1425 S 2nd W
Salt Lake City 801-487-7747
Wash Brennan Assoc 208 CarlsonBlvd
Bellevue 206-454-9332
Can BRH Assoc Ltd 6338 Victoria Ave
Montreal Que 514-733-5331
Den SemcoSemler & Co 1 Aebelogade
Copenhagen 01-290311
Fr Ets Radiophon Corp 418 Ave Malakoff
Paris 16..........................553-3250
Ger Nucletron Vertriebs Gmbh Gartnerstr 60
8 Munich 54.........................54-60-81
GB Aveley Elec Ltd S Ockendon Essex 3444
Neth Groenpol Indus Sales 13-15 Prinsengracht
Amsterdam 6-44-74
Ital Mario Vianello Via L Anelli 13 Milano 553-081
Nor Gustav A Ring A/S Sorkedalsvelen 33 Oslo 3 .46-68-90
Swed Firma Johan Lagercrantz KB Gardsvagen 10b
Solna 3 83-07-90
Swit Seyffer & Co Inc Badenerstr 265 Zurich......255411

DUNCAN ELECTRONICS INC 2865 FAIRVIEW RD
COSTA MESA CAL 92626
TWX 910 595-1128 ....714 545-8261
R DARRINGER EMP 150 ENG 15 $2,500-$5,000M
Ariz Southwest Engineering Co 8341 N 7th St
Phoenix 944-1521
Cal Jack Pyle Co 1611 Borel Pl San Mateo 349-1266
Colo Waugaman Assoc 2785 N Speer
Denver 303 255-5000
Conn Gerber Sales Co, Inc Box 2917
New Haven ....SPruce 7-6279
Fla Orbe Inc 300 31st St N St Petersburg 894-0687
Ga Grady Dockett Sales Co Box 29067 Allanta .451-3529
Ill Carlson Electronic Sales Co 7448 N Harlem Ave
Chicago ....SP 4-0277
Me Biechler Assoc Inc 822 Baltimore Rd
Rockville 301 762-6210
Md Biechler Assoc Inc 202 W Penna Towson....825-8222
Mass Gerber Sales Co, Inc 176 Second Ave
Waltham 891-8040
Mich Elko Sales Corp 3119 Midland Dr SE
Grand Rapids...................616 949-1451
Minn Carlson Elctn Sales Co 2500 39th Ave NE
Minneapolis 612 788-4111
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis..........................647-4350
NJ B B Taylor Corp 39 Bluefield Ave
Harrington Park 768-0969
NY B B Taylor Corp 2270 Grand Ave Baldwin ..BA 3-8000
Ohio Rockford Controls Ohio Inc 2077 Embury Park Rd
Dayton............................274-1911
Pa Biechler Assoc Inc Box 414 Narberth 667-1827
Tex Kemp Engrg Co 2618 Manana Dr Dallas....357-6663
Wash C Lyle Reeve Assoc Box 7087 Seattle......542-5889
Can Aero Sales Engrg Co 2695 Regina St
Ottawa Ont 613 828-8560
For Soc Comercial Romar Lda
Rua da Boavista 83-1 D Lisbon 672161
Fr Radio Television Francaise 93, Avenue de Neuilly
Neuilly-Sur-Seine 722-70-40
Ger Elektronik Bauelemente GMBH 46 Dortmund
Bruederweg 26 ....0231 529414
GB Walmore Electronics, Ltd
11-15 Betterton St, Drury La
London ....Temple Bar 0201-5
Neth Nijkerk's Handelsonderneming N V
Drentest 7-Buitenvel 020-428933
Ital Ingg S & Agostino Belotti Piazza Trento N 8
Milano 54 20 51
Jap Shoshin Shoji Kaisha, Ltd Box Nihonbashi-173
Tokyo 5921-6
Nor J M Feiring A/S Sandakerveien 46 b Oslo 4 ..21 82 12
Swed Allhabo Box 49044 Stockholm..............520030
Swit E Fenner Bachelacherstr 5
8128 Hinteregg.................051 86 02 51
Belg N V Nijkerk Rogier Ctr Brussels 1 Intl 02-176418
Isrl STG Intl Ltd 52 Nachlat Benyamin St Tel-Aviv..53459
NZ P H Rothschild & Co Ltd 83 Pretoria St
Lower Hutt 63-581
Spn REMA Leo Haag S.A. Gen Sanjurjo 18
Madrid 3 ....253 40 03
Aust Rutherford Elctns Pty Ltd Box 30
North Balwyn Vic 848-3033

DUNLEE CORP 1023 S CERNAN DR BELLWOOD
ILL 60104 ....312 CO 1-6931
J ERIKSEN EMP 125 ENG 10 $1,000-$2,500M
Cal M D McCauley Co 1814 W 8th St
Los Angeles 385-9288

DUNTON CO, M W 350 KINSLEY AVE PROVIDENCE
R I 02901 401-331-3600
J CARTER EMP 17 ENG 1 $500-$1,000M
Cal James A Riordan Co 1400 Santa Fe Ave
Los Angeles 627-6543
Colo Toole & Co of Colo 4775 Fox St Denver 623-6045
DC Barnett & Benner Box 6780 Washington
Fla Cochran & Co 6520 35th St N Pinellas Park .527-6651
Ga Cochran & Co 1270 Techwood Dr NW
Atlanta 876-6318
Ill Stephens & Gregg 9226 Richard St
Franklin Park.......................455-3356
Minn R H Sweeney Co 7724 Winpark Drive
Minneapolis 544-9591
Mo Lange-Hoffman 552 Hanley Ind Ct St Louis .647-2141
NY Kosstad Assoc 111 Mt Hope Ave Rochester .325-2550
NC James A Pleasants Co 2700 Martinsville Rd
Greensboro..........................288-1707
Pa Herman Lewis Co 1801 J F Kennedy Blvd
Phila ....LI 8-1281
Tenn Cochran-Prather Co 1239 Heistan Pl
Memphis 274-4018
Tex Pat O'Brien Assoc 1182 Quaker St Dallas ..637-2510
Va Taylor, Lipscomb & Appel 2009 Roane St
Richmond...........................648-4431
Wash Baxter-Rutherford 1954 1st ave S Seattle..623-1954
Swed Danielson Forssberg & Co Klarabergsgaten 33
Stockholm

DUOTONE CO INC 6875 SW 81ST ST MIAMI
FLA 33143 ....306 665-1121
S NESTER
Cal Bidwell Reder Ross & Fetting 17525 S Broadway
Gardena 213-770-0300
Colo Nelson Co Inc 1294 S Bannock Denver .303-733-5528
Fla J Dukes Box 9688 Riviera Bch
Ga Paul Hayden Assoc Box 90668
East Point 404-766-0261
Haw MaxKelly-Assoc 110 Fort St Honolulu 562-430
Ill M Zindell 6301 N Sheridan Rd Chicago .312-BR4-7175
Ind Charles Scheffler Co 1133 Navajo Trail
Indpls 317-CL3-6337
Mass Albert N Reinherz 59 Hamilton Rd
Belmont 617-484-7784
Mich Electronic Assoc 12711 Sterling Ct
Oak Park 313-544-2442
Mo Suor Sales Corp 8115 Troost
Kansas City 816-444-2871
NY Maury Farber Assoc 220 Delaware Ave
Buffalo 716-TL6-3543
Ohio Perry Lohse & Co 537 Richmond Rd
Cleveland 216-381-7788
Pa John Mustico Co 206 Bewley Rd
Havertown 215-HI6-1961
Tex Willoughby-Fowler Co Box 486
Richardson 214-235-7877

For Singer Products Co 95 Broad St
New York, NY 212-WH4-8700

DUPLATE CANADA LTD 50 ST CLAIR AVE W
TORONTO ONT 416-923-5441
A LITTLE EMP 50 ENG 5

DUPLICON CO INC TURNPIKE RD WESTBORO
MASS 01581 ....617 366-4445
R HAROCASTLE EMP 175 $2,500-$5,000M
Ga R W Adams Co Box 7266 Atlanta 404-355-7796
NY Zauderer Assoc, Inc Box 342
Mount Vernon 914-664-7385
NY Anscott Engineering Box 98 Pittsford ..716-381-3122
NC Duplicon Co Inc Box 7277 Greensboro ..919-299-6332
Pa B E Gibson Co 201 Penn Ctr Blvd
Pittsburg 412-823-8310
Pa Miller-Smith & Co Box 172 Wayne 215-687-6750

DU PONT DE NEMOURS & CO INC E I
1007 MARKET ST WILMINGTON
DEL 19898 ....302 774-2421
PRODUCT INFORMATION CTR EMP 100000
OVER $10,000M
Cal Product Information Ctr 3300 W Pacific Ave
Burbank 843-1038
DC Product Information Ctr Washington ......DU 7-0416
Ill Product Information Ctr 7 S Dearborn St
Chicago 222-5050
Md Product Information Ctr Baltimore ....PL 2-2506
NY Product Information Ctr 350 Fifth Ave
New York 971-4771
Pa Product Information Ctr Philadelphia .....WA 3-2493

DURAKOOL INC 1010 N MAIN ST ELKHART
IND 46514 ....219 CO 41116
K CONSIDINE EMP 50 ENG 4 $1,000-$2,500M
Cal R Meussdorffer & Assoc 13441 Ventura Blvd
Sherman Oaks 213 788-0771
Ga Austin Brown Assoc 1771 Tully Cir NE
Atlanta 404-636-9446
Mass W F Haines Appletree La
Newtonville Mass 518-785-9248
Minn B Brewers 11032 Terrace Rd NE
Minneapolis 612-757-3958
NY Durakool of NY 4747 Bronx Blvd
New York 212 324-8000
Pa Raymond H Barnes Box 1361
Lancaster 215 675-9227
Tex Carey & Assoc Inc 3315 W 12th St
Houston 713 869-3623
Wash Carmody Co 1731 First Ave S Seattle ..206 682-2330
Can Measurement Engrg Ltd 232 John St
Arnprior, Ont 623-4217

DURA MAGNETICS, INC 5356 WHITEFORD RD
SYLVANIA OHIO 43560 ....419 882-6223
D KUCHERS EMP 14 ENG 1

DURAMIC PRODUCTS INC, SUB KAWECKI
CHEMICAL CO 426 COMMERCIAL AVE
PALISADES PARK N J 07650..........201 947-0310
N FERN EMP 75 ENG 10 $1,000-$2,500M
Cal Kawecki Berylco Ind Inc 1500 Service Ave
W Covina 962-3568
Ga J Nickel Box 218 Decatur 378-8406
Ill Kawecki Berylco Ind Inc 3166 Des Plaines Ave
Des Plaines 299-3371
Mass J Letvinchuk 35 Burroughs St Danvers .617-774-4183
NY Kawecki Berylco Ind Inc 220 E 42nd St
New York 682-7143
Ohio Kawecki Berylco Ind Inc Box 391
Twinsburg 216-425-2980
Pa D Hennel 403 Berkley Rd Exton 215-363-9611
Tenn E Eslick Box 172 Greenfield 901-235-2917
Tex D C Herndon 3565 High Bluff Dr Dallas 247-1854
Wash A R Burkart Box 1105 Bellevue 206-747-6832
Can F E Hogg 56 Westland Dr
Montreal W 28 Que 514-HU 9-4829
Fr Mapren 8 Rue Bellini Paris 16me
Ger Deutsche Commerz GmbH
Bockenheimer Landstr 106 Frankfurt Am Main
GB Kawecki-Billiton (UK) Ltd South Pl London E.C.2
Neth Kawecki Billiton Westervoortsedijk 67d Arnhem
Ital Usivco Societa Ind Commerciale Via Gen Albricci 8
Milano
Swit Otto Kofmehl CH-4500 Solothurn Basel 20

DURANT DIGITAL INSTRUMENTS A C-H CO
612 N CASS ST MILWAUKEE WIS 53201
TWX 910-262-3307 ....414 271-9300
J MCGINLEY EMP 350 ENG 20 $5,000-$10,000M
Ala James Spader Co 2805 Crescent Ave
Birmingham 879-1366
Cal Durant Co 1710 N LaBrea Los Angeles 876-4000
Colo Vinson Assoc 3600 S Lincoln Englewood 789-2203
Conn Masten-Wright Corp 282 State St
New Haven ....AT 8-1638
Fla H R Gross & Co 314 S Missouri Clearwater ..446-6649
Ill Durant Co 6270 W North Ave Chicago 237-1222
Iowa Riekes Equip Co 1903 Hull Ave Des Moines ..265-1661
Kan Parker & Foster Box 1918 Wichita 262-8915
Md Durant Co 320 Hillen Rd Baltimore 825-6626
Mass Durant Co 544 Salem St Wakefield 361-0288
Mich Durant Co 26847 Grand River Rd Detroit ...535-3630
Minn Durant Digital Instr 4439 Hiawatha Ave
Mnpls 612-721-4247
Mo Edw W Mooney Co 7505 Delmar Blvd
University City 314-725-8875
Neb Riekes Equip Co 2910 Cuming St
Omaha 402-341-1181
NM Vinson Assoc Box 3295 Sta D Albuquerque ..298-7442
NY Durant Co 271 North Ave New Rochelle ...NE 3-6400
NC Durant Co 4200 Park Rd Charlotte 525-3149
Ohio Durant Co Roselawn Center Bldg Cincinnati ..531-5073
Okla Joe M Henry Co 6516 E Independence St
Tulsa 838-8898
Pa Durant Co 7 Heather Rd Bala-Cynwyd ....MO 4-0336
RI Durant Co 152 Warren Ave E Providence ...434-8556

Tenn Robbins & Boher 138 N Market St
Chattanooga 267-6696
Tex Durant Co 3303 Louisiana Houston........528-7864
Wash N R Schultz Co 305 112th Ave NE Bellevue .454-5224
Can Wainbee,Ltd 121 City View Dr Toronto Ont .248-5621
Fr Auxitrol 187 Blvd St Denis Courbevoie
Neth Durant Europa NV Industrieweg 13
Barneveld 03420-4341
Jap Japan Machinery Co Box 1451 Tokyo
SAfr Reid Bros (SA) Ltd 47 Section, Paarden Eiland
Cape Town
Swed Billman-Regulator AB Agency Dept Huddinge

DURA PLASTICS OF N Y INC
49 RICHMONDVILLE AVE WESTPORT
CONN 06880.........................212 661-3256
J LAYMAN EMP 50
Ala World Wide Prods Box 9212
Birmingham 205-595-7114
Cal C Watnick Box 5251 Sherman Oaks ...213-872-3640
Conn R G Kenny 94 Fenwood Dr
Old Saybrook 203-388-2058
Fla World Wide Prods Box 429
No Miami Beach 305-949-3457
Ga World Wide Prods Box 1106 Decateur .404-284-7500
Ill Robinson & Assoc 1721 W Division St
Chicago 252-3400
NY E J Dale 600 Oswego St Liverpool 315-457-6378
NC World Wide Prods Box 2493
Greensboro 919-274-0693
Va Tom Davis Marketers 4210 Daniels Ave
Annandale 703-941-2313

DUREZ DIV HOOKER CHEMICAL CORP
1921 WALCK RD NORTH TONAWANDA
N Y 14120 ....716 693-1860
H PUFF EMP 2000 ENG 100
Cal Durez Div 3075 Wilshire Blvd Los Angeles ...388-1374
Ill Durez Div 1 N LaSalle St Chicago.........372-8757
Mich Durez Div 2177 E Milwaukee Ave Detroit ...873-3700
NY Durez Div 277 Park Ave New York 922-2500
Ohio Durez Div 333 W First St Dayton 222-7436

DURRUM INSTRUMENT CORP 3950 FABIAN WAY
PALO ALTO CAL 94303

DUWAGEN INSTRUMENT CO 4 YARDLEY AVE
FALLSINGTON PA 19054 ....215 493-2400
E DUDA EMP 4 ENG 1 UP TO $100M
Pa Mickle-Milnor Engineering Co 3616 Chapel Rd
Newtown Square 353-2200

D-VEL RESEARCH LABS INC 555 BEDFORD RD
BEDFORD HILLS N Y 10507............914 666-3455
D VELZY EMP 3 ENG 1
Cal Development Assoc Controls 725 Reddick Ave
Santa Barbara 805 963-3708
Mass EPE 345 Highland St Weston 617 899-0678
NY Van Valkenburgh Assoc 611 Broadway
New York 212 254-3722
Pa Henry Mann Co Box 237
Cornwell Heights 215 639-6200

DX ANTENNA CO LTD 6, IRIE-DORI 5-CHOME
HYOGO-KU, KOBE JAPAN 68-1361
M OKAGAKI EMP 550 ENG 50 $2,500-$5,000M
ADV PG 43
Can Perfect Mfg & Supplies Corp 4980 Buchan St
Montreal 9
Fr Ets Marcel Portenseigne 86, Rue Victor-Hugo
Bagnolet

DYMO PRODUCTS CO BOX 1030 BERKELEY
CAL 94701 TWX 033-664..............415 654-7272
J SCHUTZMAN EMP 500 ENG 10 UP TO $100M
Cal L Klein 3344 Inverness Dr
Walnut Creek 415-893-2256
Ga H Ennis 1720 Peachtree Rd NW
Atlanta 404-876-1138
Ill J Schutzman 2530 Crawford Ave Evanston .869-6916
Kan G Hughes Box 71 Shawnee Mission 913-831-4861
Me E Cream 2 Water St Bridgewater 617-697-4564
Mich P H Eckert 416 Hurst St Troy 414-543-2027
NY L J Gross 280 Madison Ave New York ..212-685-2090
Ohio H S DiNenna 16560 Cypress Ave
Stronsville 216-781-6700
Pa J P Davis 1 Paoli Plaza Paoli.........215-647-1592
Tex T J Lewis Box 30506 Dallas 214-231-3505
Wash D Hamilton 1628 177th Ave NE
Bellevue 206-454-5411
Can Dymo of Canada, Ltd 36 Stoffel Dr
Rexdale, Ont 416 247-6237

DYNACO INC 3060 JEFFERSON ST PHILADELPHIA
PA 19121 ....215 232-8000
R TUCKER EMP 100 ENG 3 $2,500-$5,000M
Cal E W Brandt Co 199 Valley View Ave
San Rafael 415 454-0840
Cal R Mark Markman Co 4142 Lankershim Blvd
North Hollywood 213 877-3368
Colo Hyde Electronics Co 888 S Lipan St
Denver 303 936-3456
Ga Paul Hayden Assoc 1530 Nabell Ave
East Point......................404 766-0261
Ill Irving W Rose Assoc 4734 N Austin Ave
Chicago 312-282-6835
Ind Charles Scheffler Co 1133 Navajo Trail
Indianapolis ....317 CL 3-6337
Kan Arthur Elliott Co 2316 W 104th St Terr
Leawood ....913 MI 9-0654
Md A B & T Sales Corp 3311 Olney-Sandy Spring Rd
Olney 301 924-4976
Mass Willson Sales Co 6 Mohawk Rd
Marblehead.....................617 631-4016
Mich Riley & Petchell 16515 Schoolcraft Ave
Detroit ....313 VE 8-9100
Minn Clark R Gibb Co 1311 W 25th St
Minneapolis ....612 FR 7-1200
NY R W Mitscher Co 496 Ellicott Sq Bldg
Buffalo 716 854-2517

NY Leonard Zlowe Co 200 Ashford Ave
Dobbs Ferry ....914 OW 3-2922
Ohio Les A Morrow Co Inc 5100 W 164th St
Cleveland 216 267-2282
Tex W R Hays Co 777 S Central Expwy
Richardson.....................214 AD 1-1426
Wash Dave Champlin Co 12347 Lake City Way NE
Seattle ....206 EM 2-0401
Can E S Gould Sales Co Ltd 11 Louvain St W
Montreal 514 384-0453
Den Audiodyne A/S Humlum Struer

DYNACOOL MFG CO INC 1 RUSSELL ST
SAUGERTIES N Y 12477 ....914 246-4902
L GOULD EMP 30 ENG 2 $250-$500M
Cal E Koller Box 517 Westminster 714 893-2868
Colo Brad Marsh & Assoc 1842 Canyon Blvd No 103
Boulder 303-443-1749
Ill A G Erickson Assoc 571 Hill Ave
Glen Ellyn 312 469-1198
Mass E A Janse Assoc 892 Worcester St
Wellesley 617-235-1623
Minn R J Sales & Engrg 7100 S France Ave
Minneapolis 612-922-1425
Mo F Manczuk 1239 Victory Dr St Louis ..314-892-0384
NJ R J McCardle 40 Tanner St Haddonfield ...HA 9-8895
Ohio Stork & Assoc 613 Daniel St Dayton ...513 222-3232
Tex Carey & Assoc 3315 W 12th St
Houston.......................713 UN 9-3623

DYNAGE, INC 1331 BLUE HILLS AVE BLOOMFIELD
CONN 06002 TWX 710-425-6063........203 243-0315
P KLEIN EMP 80 ENG 8
ADV PG 445
Ariz Ed Landa Co Box 3109 Scottsdale........945-4925
Cal Jay Stone & Assoc 140 Main St
Los Altos 415-948-4563
Cal Ed Landa Co 2288 Westwood Blvd
Los Angeles 213-879-0770
Conn Electronics Prods Reps 281 Vera Rd
Bristol 203-584-2202
Ga E A Moore & Assoc 254 E Paces Ferry Rd
Atlanta 404-233-9494
Ill Torkelson Assoc 540 W Frontage Rd
Northfield......................312-446-8450
Ind Torkelson Assoc 3512 Rockville Rd
Indnpls 317-241-0725
Kan Palantine Eng 7520 W 63rd St
Overland Park..................913-262-5643
Md W A Brown Assoc VaDel Div Baltimore .301-727-1999
Mich Jack Thorpe 640 Hidden La Detroit ...313-884-4360
Minn Torkelson Assoc 4820 W 77th St
Mnpls 612-920-1046
Mo Palantine Eng 2050 Woodson Rd
St Louis 314-426-7055
NY R J C Assoc 219 Oakridge Terr
Liverpool 315-457-3220
NY H R C Assoc 390 Plandome Rd
Manhasset 516-627-6444
Pa Data Engrg Co 500A E Godfrey Ave
Philadelphia 215-725-9000
SC E A Moore & Assoc Box 871 Aiken 803-649-7100
Tex Merit Co 10044 Monroe Dallas ......214 FL 2-8040
Va W A Brown Assoc VaDel Div 325 First St
Alexandria 703-836-1800
Can Advance Tech Sales Box 307 Sta U
Toronto Ont 416-233-5535

DYNAIR ELECTRONICS INC 6360 FEDERAL BLVD
SAN DIEGO CAL 92114
TWX 910-335-2040 ....714 582-9211
D KELLER EMP 200 ENG 6 $2,500-$5,000M

DYNALECTRON CORP AEROSPACE PRODS DIV
440 HESTER ST SAN LEANDRO CAL 94577
TWX 910-366-7373 ....415 569-3019
E RINKER EMP 175 ENG 10 $2,500-$5,000M
DC Dynalectron Corp 2233 Wisconsin Ave NW
Washington 202 338-4600

DYNALOG CORP 4107 N E 6TH AVE
FORT LAUDERDALE FLA 33308 305-563-8461
B ROGERS EMP 10 ENG 3 $100-$250M
Fla Collison Instr Inc Box 328 Winter Park .305-644-5654
Ohio Technical Assoc 19500 Center Ridge Rd
Cleveland 216-333-0035
Wis Star Engrg Sales Co 7328 W Burdick Ave
Milwaukee 414-543-3469

DYNALOY, INC 7 GREAT MEADOW LA HANOVER
N J 07936 ....201 887-9270
S RINGEL EMP 50 ENG 5 $100-$250M
Ariz E J Foley & Assoc 3840 N Jokake Dr
Scottsdale 945-2665
Cal S Mosher 257 Castro Mountain View 969-9213
Ill John Shannon Co Box 115 Arlington Hts ...CL 3-3188
Ind Warner Kesler & Assoc Box 338
South Whitley...................219-723-5353
Mass Etchomatic Inc 151 Newton St Waltham ...893-2020
Minn International Sales Co 8703 Beard Rd
Minneapolis 881-6683
Mo Vulcan Sales Co 207 Westport Rd
Kansas Ciy 561-1566
Pa Henry Mann Co 977A Bristol Pike
Cornwells Hts 216-639-6200
Tex Max Daggett Jr & Assoc Box 30152 Dallas
For F E Dempsey & Sons Ltd 47 Davies Ave
Toronto, Can 461-9231
For F E Dempsey & Sons Ltd 407 McGill St
Montreal, Can 845-8613
For Southern Intl Sales Co Box 1896 San Juan
Ger Chemishe Produkte CH Baur Mauer Str 51
Dusseldorf
Jap A R Brown McFarlane & Co Ltd
3 Ginza 2-Chome Chuo-Ku Tokyo
Aust Royston Electric Pty Ltd 12 Churchill St
Mont Albert Vic

DYNAMCO LTD HANWORTH LA CHERTSEY SURREY
ENG TWX 263-387 ....CHE 2636
I APPLIN EMP 400 ENG 25 $1,000-$2,500M

DYNA METRIC INC 330 W HOLLEY ST PASADENA
CAL 91103 ....213 449-4300
R PERLEY EMP 100 ENG 30 $1,000-$2,500M

DYNAMIC AIR ENGINEERING INC 620 E DYER RD
SANTA ANA CAL 92705 ....714 540-1000
H LEVER EMP 75 ENG 7 $1,000-$2,500M
NJ George R Morrow 813 Beverly Ct Somerdale . 783-5499

DYNAMIC COMPONENTS CORP 1 FRANKLIN ST
HORNELL N Y 14843 ....607 324-2030
R HUTCHINS EMP 60 ENG 2 $250-$500M

DYNAMIC CONTROLS CORP 8 NUTMEG RD
SOUTH WINDSOR CONN 06074 ....203 289-6808
T FARKAS EMP 170 ENG 15 $2,500-$5,000M
Cal Ledbetter Assoc 16618 Ventura Blvd
Encino ....ST 9-8115
Tex Lane Engrg & Sales Co Box 844 Arlington . . 277-3214

DYNAMIC GEAR CO INC 175 DIXON AVE
AMITYVILLE N Y 11701
TWX 510-224-6693 ....516 AM 4-4788
A ANKUD EMP 100 ENG 3 $1,000-$2,500M
Ariz Earl Daley Box 242 Scottsdale 946-2374
Cal Nova Tronics 1659 Scott Blvd Santa Clara
Fla Wm M Jones Co Box 6004 B Orlando .....GA 4-6293
Ga Wm M Jones Co 2666 Reading Rd NE
Atlanta 404 261-8275
Ill Communications Engineers 7100 N Western Ave
Chicago ....RO 1-0548
Md Wm M Jones Co 1107 Echo Ct N Towson . . VA 3-5721
Mass Tech-Line Co Box 34 Needham 617 444-3880
Mo Harlan J Weisler Assoc 2050 Woodson Rd
St Louis ....HA 8-3934
NJ Jacques Edeline 75-29 141st Place
Kew Gdn's N Y ....BA 5-7600
NY G Ballsmith 243 Forbes Ave
Tonawanda 716 692-7569
Ohio John B Anderson Co Inc 59 E Spring St
Columbus 221-6385
Tex Lawrence Sales Co 921 Bowser St
Box 1038 ....Richardson
Can Aeromotive Engrs 887 Montee DeLiesse
Montreal Que

DYNAMIC PRECISION CONTROLS CORP
449 E MAIN ST HAGERSTOWN
IND 47346 ....317 489-4431
V VANDERBILT JR EMP 20 ENG 4
Ariz Research Data Corp 6660 N 23rd St
Phoenix 265-4666
Cal Research Data Corp 110 S Euclid Ave
Pasadena 681-3451
Mass Associated Electronics 45 Kirk St
Lowell 617 454-4206
Mich Carter McCormic & Peirce 16239 Wyoming Ave
Detroit 862-0017
Ohio Carter McCormic & Peirce 3406 N Main St
Dayton 278-5873
Pa Letronix 251 W DeKalb Pk
King of Prussia 215 265-1020
Wash A E Creek Co 10215 Main St La
Bellevue ....206 GL 4-7474
Ger K G Ern Motorenteile Corneliustra 65/67
Dusseldorf

DYNAMICS INSTRUMENTATION A MULTITECH CO
583 MONTEREY PASS RD MONTEREY PARK
CAL 91754 ....213 283-7773
R PHILLIPS EMP 100 ENG 30 $2,500-$5,000M
Cal D Cantrell 3977 Forestwood Dr
San Jose 415 961-5575
Colo D E Bond Assoc 2149 S Clermont St
Denver 303 756-1234
Ill Pat Lind Electronics Hwy 5483 N Northwest Hwy
Chicago 774-1246
Md K-G Electronics 11151 Veirs Mill
Wheaton 301-946-4055
Mass New England Marketing Assoc 55 Salem St
Lynnfield 617 245-9530
Mich Technitron Inc 13657 Grand River Ave
Detroit 313 838-7324
Minn Pat Lind Electronics 10104 Sunset Rd
Circle Pines 612 786-5770
NJ Hansen Assoc Box 339 Ridgewood 201 652-7055
NY A & D Devices, Inc 830 Linden Ave
Rochester ....LU 6-8033
NC Technical Mktg Assoc 5100 N Glen Dr
Raleigh 919-787-7244
Ohio Technitron, Inc 1250 Dorothy La Dayton . . . 298-9964
Pa Technitron, Inc 114 Spring Grove Rd
Pittsburgh 371-1231
Wash Cane-Jessup Co Inc Box 250 Bellevue 454-0691

DYNAMICS RESEARCH CORP 38 MONTVALE AVE
STONEHAM MASS 02180
TWX 710 348-0769 ....617 438-3900
D MURPHY EMP 280 ENG 80 $2,500-$5,000M
Ala Young & Lawrence Assoc
2901 Governors Dr, S W Huntsville . . . 305 539-6575
Cal Kittleson Co 416 N LaBrea Ave
Los Angeles 213 933-7371
Fla Young & Lawrence Assoc 601 N New York Ave
Winter Park 305 647-6929
Ill Ridgway Assoc, Inc 9420 Foster Ave
Chicago 312 992-2150
Md QED Electronics 880 Bonifant St
Silver Spring 301-588-8134
Mass R H Sturdy Co 204 Worcester St
Wellesley 617 235-2330
Minn Ridgway Assoc, Inc 4901 Garfield Ave S
Minneapolis 612 824-9059
NJ QED Electronics 2916 Federal St
Camden 215-925-8711
NC QED Electronics 500 Nuber Ave
Mt Vernon 914-664-0080
Ohio Ridgway East Inc Box 68 Loveland 513 683-4350
For Sylvan Ginsbury Ltd 72 W 45th St
New York 212 687-3213

DYNAMIC SYSTEM ELECTRONICS CORP
1040 W ALAMEDA DR TEMPE ARIZ 85281
TWX 910-950-1941 ....602 967-8644
W CARPENTER EMP 53 ENG 9 $500-$1,000M
Ala Technical Assoc Box 4088 Huntsville . . . 205-881-8494
Ariz Williams Assoc 1110 E McDowell Rd
Phoenix 602-254-6085
Cal King Engineering Co Inc 15720 Ventura Blvd
Encino 981-0161
Colo Williams Assoc 4971 Jackson St
Denver 303 388-4391
Conn Lindgren Assoc Box 61 Wilton 203-762-8114
Fla Technical Assoc 2319 E South St
Orlando 305-424-5681
Ill Pivan Engr 3535 W Peterson Ave
Chicago 312 539-4838
Ind Pivan Engr 8545 Northcrest Ct
Indianapolis 317 253-1681
Iowa Pivan Engr Box 1274 Cedar Rapids 319 365-6635
Kan Pivan Engrg Co 5920 Nall Ave Mission . 913-722-1030
Md Eastronics 11200 Lockwood Dr
Silver Spring 301-593-8100
Mass Broger Instr Sales 223 Crescent St
Waltham 617-891-8045
Mich Electro Sales Assoc 10745 Morang Dr
Detroit 886-2280
Minn Pivan Engr 3307 North Hwy 100 Mnpls . 612 537-4501
Mo Pivan Engrg Co 725 Old Ballas Rd
St Louis 314-872-8424
NM Williams Assoc 420 Washington SE
Albuquerque 505 255-1638
NY J D Ryerson Assoc 1672 Monroe Ave
Rochester 716-442-1900
Ohio Electro Sales Assoc 851 E 222nd St
Cleveland 216-261-5440
Pa Electro Sales Assoc 201 Penn Center Blvd
Pittsburgh 371-9449
Tex Kemco Inc Box 998 Irving 637-0163
Wash Paratech 2208 N W Market St
Seattle 206-783-3900
Wis Pivan Engr 3640 Mountain Dr
Brookfield 414-547-5131
Can Instronics Ltd Box 100 Stittsville Ont . . 613 836-4411
Neth Uni-Office Box 1122 Rotterdam 172981
Aust Tecnico Electronics Pty Ltd Box 222
South Melbourne 69 6961

DYNAPAR CORP SUB LOUIS ALLIS CO
1675 DELANY RD GURNEE ILL 60031 . . . 312 662-2666
J APPELGREN
Ala Louis Allis Co Box 7485A Birmingham 871-1187
Cal Louis Allis Co 12821 Imperial Hwy
Sante Fe Springs 944-3243
Colo Louis Allis Co 601 Broadway Bldg Denver . . . 222-0779
Conn Louis Allis Co 14 Oakwood Ave
West Hartford 233-8221
Fla Louis Allis Co 1501 1/2 S Dale Mabry
Tampa 251-3360
Ga Louis Allis Co 1629 Litton Dr
Stone Mountain 939-6333
Ill Louis Allis Co 2474 Dempster St Des Plaines . 298-2220
Ind Louis Allis Co 333 N Penna St Indnpls 634-9668
Iowa Louis Allis Co 517 Main St Davenport 326-1627
Ky Louis Allis Co 2305 Taylorsville Rd Louisville . 451-8702
La Louis Allis Co 4000 Louisa St New Orleans . . 945-2135
Md Louis Allis Co 26 W Penna Ave Towson 828-9242
Mass Louis Allis Co 90 Cambridge St Burlington . . 272-1595
Mich Louis Allis Co 17220 W 8 Mile Rd Southfield . 357-5252
Minn Louis Allis Co 7415 Wayzata Blvd Mnpls 545-5626
Mo Louis Allis Co 2800 S Brentwood Blvd
St Louis ....WO 8-0900
NJ Louis Allis Co 314 Dodd E Orange 674-8585
NY Louis Allis Co 1650 E Main Rochester 244-0751
Ohio Louis Allis Co 5545 Wilson Mills Rd
Cleveland 449-4430
Okla Louis Allis Co 5127 S Lewis Tulsa ....RI 3-6213
Ore Louis Allis Co 2053 N W Upshur Portland . . . 224-3151
Pa Louis Allis Co Box 234 Springfield 543-5600
Tenn Louis Allis Co, Division of Litton Industries
4990 E Poplar Ave Memphis 683-5925
Tex Louis Allis Co Box 22771 Houston 666-6338
Utah Electrical Sales Co Box 6049, Sugarhouse Sta
Salt Lake Cy 486-1367
Va Louis Allis Co 2100 Bremo Rd Richmond 282-8826
Wash Louis Allis Co 6140 Maynard Ave, S Seattle . 762-1197
WVa Foster-McClinton Inc 6213 Brenda Ct
Huntington 736-5161
Wis Louis Allis Co Box 546 Elm Grove 782-3100

DYNASCAN CORP 1801 W BELLE PLAINE AVE
CHICAGO ILL 60613 ....312 327-7270
R DUNN EMP 250 ENG 25

DYNASCIENCES CORP TOWNSHIP LINE RD
BLUE BELL PA 19422 TWX ABS 215 643-0250
P KRAUSE EMP 175 ENG 70 $2,500-$5,000M
Md J B Donahue 9900 Aldersgate Rd
Potomac 301 762-9544
NJ Dynamic Sales 39 E Front St Redbank . 201-747-5353
Ohio Rep/Corp 2077 Embury Park Rd
Dayton 513-278-5885
Va J G McHugh 3000 Matoaka Rd
Hampton 703-722-5597

DYNASIL CORP OF AMERICA COOPER RD BERLIN
N J 08009 ....609 RO 7-4600
M SAEPOFF EMP 17 ENG 2
Cal Abbott Inst & Eng Co 1736 Westwood Blvd
Los Angeles 213-GR 4-5310
NH G A Yale RD 4 Gilford 603-293-2285

DYNASONICS CORP PIPESTONE
MINN 56164 ....507 825-5441
G ERICKSON EMP 10 ENG 2 $250-$500M
Ariz Geo S Thomson Co Box 448 Phoenix . . . 602-258-4591
Cal Brennan-Hamilton Corp 187 Utah Ave
S San Francisco 415 589-2700
Colo Walter Engrg Assoc 880 Bonnie Brae Blvd
Denver 303 777-5585
Conn E E Smith 7 S Main St W Hartford.......AD 6-3521
Ga Dane & Co 6427 Roswell Rd Atlanta . . . 404-252-3953
Ill Midway Sales Co 1025 5th Ave Rockford . . . 968-1811
La Warriner Controls Box 73339 Metairie . 504-888-0345
Md Martin L Kaiser Inc Box 171
Cockeysville 301 666-3493
Minn Don Harstad Co 7101 Hwy 65 N E
Minneapolis 612 784-8221
Mont E A N Johnson Co Box 100
Edmonds Wash 206-778-1486
Neb Marketing Assoc Box 53938 Lincoln . . . 402-434-5244
NM Geo S Thomson Co Box 545
Albuquerque 505-256-1821
NY E Roewer 1 Ireland Pl Amityville 516 598-1311
Pa Howard C Buerger Co Box 235
Abington 215-CA 4-1740
Tex Apogee Engineering Services Inc Box 30354
Dallas 214-FL 2-2083
Va Dynamation Inc Box 3191 Richmond . . . 703-272-5001
Can Conway Electronic Enterprises Ltd 90 Arrow Rd
Weston, Ont
For Concessus SARL
Rua Dom Francisco de Melo 9-9A Lisbon Port
For Leviant Intl 641 Lexington Ave
New York NY 212-421-6300
For Intl Elctn Eng Ltd Huerfanos 521 Cas 10482
Santiago Chile
Fr Dannatt SA 198 Rue St Jacques Paris 5e
GB Nuclear Services 25 Great Strand St Dublin 1 Ire
SAfr Stanley Walters Co (Pty) Ltd Box 9181
Johannesburg
Swed Sciandia AB Box 314 Goteborg 1
Isrl STG Intl Ltd Box 1276 Tel Aviv
Spn Kemicon Aptdo 6185 Madrid

DYNA TECHNOLOGY, INC 2201 E SEVENTH ST
SIOUX CITY IOWA 51102 ....712 252-1821
D ANDERSON EMP 267 ENG 16

DYNATECH PRODUCTS CO DIV DYNATECH CORP
90 CAMBRIDGE ST BURLINGTON
MASS 01803 ....617 272-6050
C DAHL EMP 40 ENG 5 $1,000-$2,500M
Ala N B S Inc 201 Homewood Dr SW
Huntsville 205 881-3375
Ariz Kelly Scientific Sales 412 N Marshall Way
Scottsdale 602-947-7584
Cal Thorson Co 2443 Ash St Palo Alto.....415 321-2414
DC H L Robinson Assoc Inc 1010 Vermont Ave
Washington 737-7775
Fla N B S, Inc 2813 Primrose Ct Orlando . . . 305 423-4856
Ga Flo-Con Inc Box 13165 Station K
Atlanta 404 875-8084
Ill Ernest N Taylor & Assoc 6760 Stony Island Ave
Chicago 312 324-8532
Mass N J Caswell 90 Cambridge St
Burlington 617 272-6050
Mich George Instrument Co 1024 W 14 Mile Rd
Clawson 564-5481
Minn Northern States Sales Co 1109 West 78 1/2 St
Minneapolis 866-3468
NM Kelly Scientific Sales 2800 Cardenas NE
Albuquerque 505 268-3324
NY Electronic Tool 3980 White Plains Rd
Bronx 212 231-7760
NC Mec-Tric Control Co 4110 Monroe Rd
Charlotte 376-8552
Ohio E V Swenson & Assoc 1112 Talbott Tower
Dayton 513-2231
Pa Roberts Engineering Co 1 Radnor Sta Bldg
Radnor 688-6525
Tenn Standard Welders Supply Co 363 Walnut St
Memphis 901 525-6821
Tex Teamwork Inc 2646 Andjon Dallas 214 353-7747
Va Dynamation, Inc 2060 Buford Rd Bon Air . . . 272-5001
Wash Bill Waddell Co 10211 NE 31st Place
Bellevue 822-9629
Can Advanced Technical Sales 4 Shawbridge Ave
Toronto 18 Ont 416 233-5535
GB Spembly Technical Prod Trinity Trading Est
Sittingbourne Kent

DYNATEX DIV REPUBLIC CORP 727 SHASTA ST
REDWOOD CITY CAL 94063 ....415 369-4631
G REGAN EMP 15 ENG 3

DYNATRONICS OPER ELCTNS DIV GEN DYNAMICS
CORP BOX 2566 ORLANDO FLA 32802
TWX 305-838-1466 ....305 838-6161
B YAGERMAN EMP 950 ENG 225 OVER $10,000M
Cal H D Ivey 9841 Airport Blvd
Los Angeles 213-670-6976
DC R Feinstein 1025 Connecticut Ave NW
Washington 202-659-3900
Mass John Williams 81 Lisa La
North Andover 617-685-0531
NY Larry Hart 15 E 40th St New York 685-5178

DYNISCO DIV MICRODOT INC 20 SOUTHWEST PARK
WESTWOOD MASS 02090............617-326-8210
R CARRARA EMP 66 ENG 3 $1,000-$2,500M
Ala Kemp Instruments, Inc 4306 Governors Dr W
Huntsville 837-4304
Cal B J Wolfe Enterprises, Inc 10760 Burbank Blvd
N Hollywood 877-5518
Colo Applied Engrg Prods Co 1850 S Columbine
Denver 733-80210
Fla Beacon Electronic Assoc 540 S Maitland Ave
Maitland 647-3498
Ga Beacon Electronic Assoc 2285 Peachtree Rd NE
Atlanta 351-3654
Ill Electrical Matls & Equip Corp
6120 N Milwaukee St Chicago 763-2980
Kan Florence & Meyer Inc 2900 Woodland Ave
Wichita 838-7226

Mass	Daner-Buchler Inc 684 Commonwealth Ave Newton Centre	969-4650
Mo	Florence & Meyer Inc 406 W 34th St Kansas City	561-7282
NJ	Tridon Sales Co Eight Depot Sq Englewood	569-8011
NC	Beacon Electronic Assoc 305 Greenway St Jamestown	454-1010
Ohio	Orr Assoc 6510 Farnsworth Dr Cleveland	885-1324
Pa	P D C Corp The Benson East Jenkintown	887-9610
Utah	Applied Engrg Prods Co 6375 Emigration Canyon Salt Lake City	364-4942
Wash	Arva Inc 1320 Prospect St Seattle	622-0177
Can	B H McGregor Box 156 Sta H Toronto 13, Ont	699-5521
For	Ad Auriema, Inc 85 Broad St New York	269-7750
Ger	Ad Auriema-Europe Uhdestr 33 71 Heilbronn-Sontheim	
GB	AD Auriema Ltd 23/31 King St London	01-992-5388
Neth	Ad Auriema-Europe S A 172A Rue Brognieg Brussels 7	
Swed	Ad Auriema-Europe Molkomsbacken 37 Farsta	

DYONICS INC 71 PINE ST WOBURN
MASS 01810 617-935-5900
T VAN IDERSTINE EMP 43

Ala	Frank C Nickerson Inc 1148 Cheyenne Blvd Birmingham	205-853-3181
Cal	Nelgo Assoc 10174 Rush St S El Monte	213-443-3122
Colo	Clint Helton Co 3625 S Fox St Englewood	303-761-2090
Fla	Frank C Nickerson Inc 611 N W 73rd Terr Ft Lauderdale	305-524-4331
Ga	Frank C Nickerson Inc 1244 Clairmont Ave Decatur	404-377-1575
Md	J & B Assoc Box 653 Deverna Park	301-647-7132
Minn	E C Electronic Sales 10108 Abbott Ave S Mnpls	612-888-4626
Mo	Fixman Engrg Co 8160 Stanford Ave St Louis	314-725-5219
NY	Barnett Assoc 40 Aberdeen Rd Hauppauge	516-724-0202
NC	Frank C Nickerson Inc 1001 Parrott Ave Kingston	919-527-4911
RI	Perry Assoc Rosewood Ln Rfd 2 Cumberland	401-333-5054
Tex	P J Scanlon Co Inc 724 S Sherman Richardson	214-231-4461

DYTRO CORP 63 TEC ST HICKSVILLE
NY 11801 ....516 822-2130
F BRADLEY EMP 18 ENG 4

Ala	James L Highsmith & Co Holiday Office Ctr Huntsville	205 881-3294
Ariz	Tech-Ser Inc 1805 E Indian School Rd Phoenix	602 265-3629
Cal	Tech-Ser Inc 2435 N Naomi St Burbank	213 846-9631
Cal	Tech-Ser Inc 800 San Antonio Rd Palo Alto	415 969-9020
Colo	Williams-Assoc 4971 Jackson St Denver	303-388-4391
Fla	James L Highsmith & Co 2543 Industrial Blvd Orlando	305 293-5202
Md	Brimberg Assoc 814 Thayer Ave Silver Spring	301-588-7790
Mass	Burlingame Assoc 7 Wellington St Waltham	617-894-1955
Mich	H Teplitz & Co 26847 Grand River Ave Detroit	313-537-9058
NM	Williams Assoc 420 Washington St SE Albuquerque	505-255-1638
NY	Bradley Assocs Corp 130 Van Cortlandt Ave W Bronx	212 549-8500
NY	A & D Devices Inc 830 Linden Ave Rochester	716-586-8033
NC	James L Highsmith & Co 3733 Monroe Rd Charlotte	704 333-7743
Ohio	H Teplitz & Co 3718 Salem Ave Dayton	513-277-653
Pa	Holdsworth & Co Inc Box 298 Newtown Sq	215 EL 6-8550
Tex	Mitchell Speairs Co 3381 South Hills Cir Fort Worth	817-923-4657
Utah	Williams Assoc 2461 S Main St Salt Lake City	801-466-8709
Va	James L Highsmith & Co 5003 Brook Rd Richmond	703 266-2060
Wash	Dewar & Assoc 6361 First Ave S Seattle	206-763-2233

DYTRONICS CO INC 4800 EVANSWOOD DR
COLUMBUS OHIO 43229 ....614 885-3303
R RYAN EMP 20 ENG 6 $500-$1,000M

Cal	Wieler & Co Inc 10842 S Paramount Blvd Downey	861-9223
Colo	P E Bond Assoc 2149 S Clermont St Denver	756-1234
Fla	Beacon Electronic Assoc Inc 540 S Maitland Ave Maitland	647-3498
Ga	Beacon Electronic Assoc 2285 Peachtree Rd NE Atlanta	351-3654
Mass	Electronic Components & Serv 611 Trapelo Rd Waltham	894-6921
Mich	McShane Detroit	642-7050
NM	D E Bond Assoc Box 11331 Albuquerque	255-7634
NY	Cane Technical Sales, Inc 555 E Boston Post Rd Mamaroneck	698-4411
NC	Beacon Electronic Assoc Box 503 Jamestown	454-1010
Ohio	McShane Box 523 Medina	725-4568
Pa	Tyler Griffin Co 46 Darby Rd Paoli	644-7710
Tex	Airep Electronics Inc 6300 N Central Expwy Dallas	363-5291
Can	Megatronix Ltd 954 Wilson Ave Downsview Ont	630-7672
For	Joseph Plasencia Inc 521 Fifth Ave New York	867-8084

EAGLE ELECTRIC MFG CO INC
23-10 BRIDGE PLAZA, S LONG ISLAND CITY
N Y 11101 ....212 ST 4-9200
J LUDWIG EMP 1300

Ariz	Thomas A Geis 725 W Buchanan Phoenix	253-1185
Cal	D Moretski 430 Colyton St Los Angeles	MA 6-7736
Colo	Electrical Agencies Co 1689 Eliot St Denver	623-8246
Conn	D Dorman 599 Cleveland Ave Bridgeport	335-4400
Fla	Jules J Dreyfuss' Sons 1361 NW 23rd St Miami	635-0391
Ga	Jules J Dreyfuss' Sons 596 Means St NW Atlanta	635-0391
Ill	Arthur W Hirshman 2814 W Fullerton Ave Chicago	HU 9-5605
Ind	Dickinson & Hadley 1635 N Gent Ave Indpls	631-0993
Ky	Harry E Robbins 2507 Gardiner La Louisville	459-4579
Mass	Richard A Harris 233 Harvard St Brookline	RE 4-1040
Mich	Young & Champagne 91 E Milwaukee Ave Detroit	TR 1-0720
Minn	R J Bork Co 872 Curfew St St Paul	MI 6-7994
Mo	R J Keely Jr 7275 Princeton Ave University City	PA 7-7579
Neb	Ed T Taber 3240 S 31st St Lincoln	GA 3-4420
NY	Discenza & Vogt Assoc Box 306 Cazenovia	655-9770
Ohio	Don A Stromberg 18790 E Shoreland Rocky River	ED 1-5777
Ore	M Levin 10 SE Tenth Ave Portland	233-4920
Pa	Roger Gusky 424 Saybrook Rd Villanova	LA 5-5111
Tex	J M Tuite 8331 Hoyle Ave Dallas	EV 1-2103
Wis	Frank Snyder 2944 N 92nd St Milwaukee	BL 8-6396
Can	Eagle Elec of Can Ltd 216 Norseman St Toronto	BE 3-5835
Can	Wm Cohen Corp 8900 Park Ave Montreal	388-9201

EAGLE-PICHER INDUSTRIES INC, ELECTRONICS DIV
BOX 47 JOPLIN MO 64802
TWX 910-774-4508 ....417 623-8000
J BLACK EMP 700 ENG 90 OVER $10,000M
ADV PG 357

Cal	M O Barr 8515 S LaCienega Blvd Inglewood	678-3443
NJ	W Gray 38 Alexander Ave Farmingdale NY	293-6111

EAGLE SIGNAL A GULF & WESTERN CO
736 FEDERAL ST DAVENPORT IOWA 52803
TWX 910 525-1213 319-324-8111
W FANCHER EMP 900 ENG 70 OVER $10,000M
ADV PGS 536,641

Ala	McConnell Sales & Engr Co 117 Citation Ct Birmingham	871-3501
Ariz	John T Aldrich Co Box 1299 Scottsdale	945-8598
Cal	Hundley Co Inc 3282 Fletcher Dr Los Angeles	255-7111
Cal	Campbell & George Co 840 Mahler Rd Burlingame	697-2965
Colo	D E Bond Assoc 2149 S Clermont St Denver	756-1234
Fla	Ward Eng Co Inc 7040 Lake Ellenor Dr Orlando	851-0725
Fla	Ward Eng Co Inc 2727 Phyllis St Jacksonville	388-7656
Ga	Massa Control Co 4226 Pleasantdale Rd Atlanta	458-2281
Ill	Jim Otis & Assoc 3526 28th Ave Moline	762-3276
Ill	Kelburn Engr Co 6545 N Olmstead Chicago	755-5722
La	Thompson Equip Co 4020 Thalia St New Orleans	822-1336
La	Thompson Equip Co Airbase Ave-Varsity Dr Baton Rouge	355-6663
Md	H M Wood & Co Inc 2113-19 Eastern Ave Baltimore	276-1505
Mass	Gibson Engr Co 90 Broadway Norwood	769-3600
Mich	Mackinaw Engrg Co 4071 Lake Michigan Dr Grand Rapids	453-6361
Mich	R D Ernest Assoc Inc 12818 Puritan Ave Detroit	861-7311
Minn	Warren A Hallock Co 5316 Excelsior Blvd Minneapolis	920-6100
Mo	Conrow Co 3300 Wyoming St Kansas City	531-6065
Mo	Richard Greene Co 1716 S Hanley Rd St Louis	644-2666
NJ	C H Ribble Co 31 di Carolis Ct Hackensack	342-2602
NY	Munhall Co 170 Franklin St Buffalo	856-1212
Ohio	Thal-Mor Assoc Inc 3232 Encrete La Dayton	298-9939
Ohio	J L Finnicum & Assoc 1495 Warren Rd Cleveland	226-7076
Okla	C B Anderson Electric Co Box 761 Oklahoma City	751-2771
Okla	C B Anderson Electric Co 6708 E 13th St Tulsa	836-4661
Ore	Brannom Instruments Co 6019 NE Union Ave Portland	285-9861
Pa	Howard A Deevers Co 3690 Northern Pike Monroeville	372-7900
Pa	W F Keegan & Co 614 Darby Road Havertown	528-6640
Tex	Lynn Elliott Co 428 Pike Rd Missouri City	499-1571
Tex	Lynn Elliott Co 701 N Dooley Rd Addison	239-8533
Utah	C W Silver, Inc 550 W 7th St S Salt Lake City	355-5377
Wash	Brannom Instrument Co 2137 Second Ave Seattle	622-7320
WVa	Skaff Engineering Co Box 4198 Charleston	342-0131
Wis	Kelburn Engr Co 13330 W Sunny View Dr New Berlin	786-5630
Can	Davis Controls Ltd Box 160 Islington	233-3211
For	Rocke International Corp 13 E 40th St New York, NY	689-0200

EAGLE SIGNAL A GULF & WESTERN CO 925 LAKE ST
BARABOO WIS 53913
TWX 910-280-2640 608-356-8321
R OSBORNE EMP 900 ENG 70 OVER $10,000M
ADV PG 434

Cal	Space Engineering 491 N Los Robas Pasadena	213-681-4421
Ill	Engineered Sales Co 4738 N Harlem Ave Chicago	312-867-8434
Mich	G & H Sales 24001 Southfield Rd Southfield	313-358-1910
NJ	Unicomp 18 Sunny Ridge Rd Wayne	201-696-2888
NC	A B Andrews & Co Box 2627 Raleigh	919-833-5565
Ohio	J J Tisdall 359 Fawnwood Dr Dayton	513-299-4392
Ohio	G & H Sales Co 7215 Market Pl Cincinnati	513-761-6185
Ohio	G & H Sales Co 13690 Fox Hill Dr Novelty	216-247-4446
Ohio	G & H Sales Co Box 27280 Columbus	614-231-4433
Tex	Howell Sales Inc 1217 N W 14th St Grand Prairie	214-262-5153
Wash	F W Aurich & Co 3601 Gilman Ave W Seattle	206-284-5561
For	D B Gilbreth & Co 248 Lorraine Ave Upper Montclair NJ	201-744-2600

EALING CORP 2245 MASSACHUSETTS AVE
CAMBRIDGE MASS 02140
TWX 921-423 ....617 491-1515
F FERGUSON EMP 35 ENG 3

EASTERN AIR DEVICES INC 385 CENTRAL AVE
DOVER N H 03820 TWX 710-336-1611 ..603 742-3330
N GIARRA EMP 345 ENG 12 $2,500-$5,000M

Conn	Selmark Assoc Box 6243 Wolcott	203-879-2478
Fla	J L Marsh & Assoc Cypress Aisle Jupiter	746-4911
Ill	G Mcl Cole Co 6514 W Higgins Rd Chicago	774-3535
Md	Component Sales Inc 7 Church La Baltimore	484-3647
Mass	Selmark Assoc 181 West St Waltham	899-8110
Minn	Hasse & Assoc 385 York Ave N Mnpls	588-0551
Mo	Forristal-Young Sales Co 7110 Oakland St Louis	645-2360
NJ	R Lawson Assoc Box 206 Wenonah	857-1515
NY	E J Burke Assoc 8 Lincoln Ave Massapequa	799-6001
NY	H C Johnson Agencies 111 Mt Hope Ave Rochester	232-2688
Ohio	G T Wright & Assoc Box 2950 Cleveland	331-8656
Can	Samuel C Hooker (Can) Ltd 144 Ronald Dr Montreal, Que	488-9114

EASTERN DELTA CORP 29-09 BROADWAY
FAIR LAWN N J 07410 ....201 797-4200
M GOLDSMITH EMP 70 ENG 2 $500-$1,000M

Fla	John Evans 1455 E Fidler Ave Merritt Island	
Minn	Wenco Sales 7728 Morgan Ave S Minneapolis	866-3639
NJ	J A Rudy Assoc 409 Grand Ave Englewood	567-5880
NY	J F Harm Assoc 103 Pickford Rd Dewitt	446-2540
Pa	Elcom Inc 130 S Easton Rd Glenside	885-1325

EASTERN INDUSTRIES DIV LAB FOR ELECTRONICS
INC 100 SKIFF ST HAMDEN CONN 06514
TWX 963-425 ....203 248-3841
J DUFFY EMP 300 ENG 27 OVER $10,000M

Cal	Eastern Industries Div LFE 3889 Florista St Los Alamitos	213 DA 5-1820
Del	Eastern Industries Div LFE 1525 Concord Pike Wilmington	302 OL 8-7271
Ga	Adams Brothers Inc 532 Plasters Ave NE Atlanta	404 872-8881
Ill	Eastern Industries Div LFE 612 N Michigan Ave Chicago	312 MO 4-8070
Kan	Airight Sales 1544 S Washington Wichita	316 AM 4-1691
Ky	Henry M Wood Co Box 5167 Louisville	502 452-2661
Mass	Eastern Ind Div Lfe 555 High St Westwood	617 254-4252
Mich	Kerr Machinery Co 12880 Cloverdale Oak Park	313 564-4850
Minn	Air Engineering & Supply Co 2719 E Franklin Minneapolis	612 335-4181
NJ	Eastern Industries Div LFE 13 Orient Way Lyndhurst	201 933-0930
NY	Ross Equipment Co 2808 Court St Syracuse	315 455-5509
NC	Purser London & Edwards Inc 1317 E Fourth St Charlotte	704 ED 3-7541
Ohio	Henry M Wood Co 920 E McMillan St Cincinnati	513 AV 1-1136
Wash	Tower Equipment Co Box 5 Mercer Island	206 AD 2-1460
Can	Enterprise Ind Prods Ltd 208 Kerr St N Oakville Ont	416 364-2032
For	Masten-Wright Corp Box 1896 New Haven Conn	203 288-1638

EASTERN MARKING MACHINE CORP
30 ALABAMA AVE ISLAND PARK
N Y 11558 ....516 889-9090
B BEREZ EMP 10

EASTERN MICROWAVE CORP 139 SWANTON ST
WINCHESTER MASS 01890............617 729-8850
R WILSON EMP 45 ENG 5 $500-$1,000M

Ala	Brennan Assoc Box 1074 Huntsville	205-536-7425
Cal	L & M Engineering Inc 2620 The Alameda Santa Clara	408 338-0034
Fla	Brennan Assoc Box 5006 Clearwater	813 446-5006
Ga	Brennan Assoc Box 372 Tucker	404-469-8324
Ill	Scott Assoc 663 Fairview Ave Elmhurst	312 279-5681
Mass	Eugene Delfino Inc 75 Reed St Lexington	617 862-1118
NJ	Gray & Reed Assoc 626 Hillcrest Ave Westfield	201 233-2920
NY	Ossmann Instruments 101 Pickard Dr Syracuse	315 454-2461
Okla	Lear-Assoc Box 45191 Tulsa	918-627-1515
Tex	Lear Assoc Box 1202 Richardson	214 231-7696
Va	Schibley Assoc 10604 Warwick Ave Fairfax	703 591-3008

EASTERN PRECISION RESISTOR DIV CARDWELL
CONDENSER CORP 80 E MONTAUK HWY
LINDENHURST N Y 11757 ....516 888-5200
N KJELDSEN $250-$500M

EASTERN REPRODUCTION CORP 1250 MAIN ST
WALTHAM MASS 02154 ....617 893-8166
G MASON EMP 75 ENG 3 $1,000-$2,500M

Colo	R Chase 10161 Isabelle Rd Lafayette	665-5676
Conn	Lane Assoc Box 277 Cheshire	272-6081
Fla	Essco 1529 Pinar Rd Orlando	275-0680

Mass J Wesley 1250 Main St Waltham 893-8166
NY S F Foster Co 2806 Hennaberry Rd Pompey .677-3333
Tex J Earl Smith Co 1353 Chemical St Dallas ...631-1727

EASTERN ROLLING MILLS INC 1122 E 180 ST
BRONX N Y 10460 ....212 TA 3-2000
R STAFF EMP 85 ENG 2 $5,000-$10,000M

EASTERN SMELTING & REFINING CORP
37-39 BUBIER ST LYNN MASS 01901...617 599-9000
D MACINTYRE EMP 50

EASTERN SPECIALTY CO PHILADELPHIA
PA 19140 ....215 BA 8-0500
E CORNELY EMP 75 ENG 4 $500-$1,000M
Alas John P Bagoy & Assoc Box 1005 Anchorage ....BR 4-1884
Cal C C Blecksmith Box 54 Covina ....ED 2-2150
Colo Mountain States Machinery Co 1526 Blake St Denver ....CH 4-7421
DC Rumsey Electric Co 337 Southern Bldg Washington ....RE 7-8117
Fla David & Park Co Box 1002 Clearwater 442-4488
Ga J J Perry Jr 45 11th NE Atlanta 875-4848
Ill Cyril Talbot Jr 569 Cherry St Winnetka 446-8172
Ky Robert Armstrong 520 Nutwood St Bowling Green 843-9446
La John J Aertker Jr 315 E Wm David Pkwy Metairie 833-9509
Mass Staford J King Co 207 Cambridge St Burlington 272-5120
Minn Burmeister Elec Co 3776 W Broadway Minneapolis 588-0545
Mo Ivan Boggs & Co Box 3355 Glenstone Sta Springfield ....UN 5-2141
Mont E W Williams 815 E Center St Dillon 683-2327
Neb F C Clatterbaugh Co Box 152 Omaha 391-2905
NY M & M Sales 105 Worthington Terr East Rochester 586-6546
Ohio Mansfield Utility Sls Box 322 Mansfield 524-5188
Okla C B Anderson Electric Co Box 676 Tulsa ...TE 6-4661
Pa Rumsey Electric Co 3rd & Hunting Park Ave Phila ....GL 5-9900
Tenn John S Baron Box 1271 Nashville..........254-1948
Tex J E Rogers 102 Thomas Bldg Dallas ....RI 2-3075
Va Rumsey Electric Co 2910 W Moore St Richmond ....EL 5-4379
Wash Shaffer & Helson 314 NE 72nd St Seattle .LA 3-0664
Can Sangamo Co Ltd 215 Laird Dr, Leaside Toronto ....HU 5-0751
For Sangamo Intl Inc 60 E 42nd St New York, NY ....MU 2-2040

EASTMAN KODAK CO 343 STATE ST ROCHESTER
N Y 14650 ....716 325-2000
G ZORNOW EMP 83546 OVER $10,000M

EASTRON CORP 25 LOCUST ST HAVERHILL
MASS 01830 ....617 373-3824
W SLUSHER EMP 40
Ala Young & Lawrence Assoc 2901 Governors Dr SW Huntsville 205 539-6575
Ariz Toward Engrg 4240 E Clarendon Phoenix ...955-3191
Cal J Striker Co 1650 Laurel St San Carlos 591-0736
Cal Kittleson Co 416 N LaBrea Ave Los Angeles 213 933-7371
Fla Young & Lawrence Assoc 601 N New York Ave Winter Park 647-6929
Ill J H Beck Assoc Inc 7650 Karlov Ave Skokie .674-5151
Ill Lightner Assoc 6322 N Milwaukee Ave Chicago 312 774-1500
Md J H Dougherty Sls Co 320 Hillen Rd Towson .823-0431
Mich Elko Sales Corp 3119 Midland Dr S E Grand Rapids 949-1451
NJ Abbott-Gordon Assoc 628 W Englewood Ave Teaneck 836-3876
NJ Andrew A Foley Assoc Box 155 Moorestown 609 663-4545
NY Abbott-Gordon Assoc 3939 Wicks Ave Seaford ....SU 1-5256
NY B D Hummel Co 2224 Maynard Ave Utica ...732-2370
Ohio Midwest Mktg Assoc 137 Lakeview Dr Dayton 513 433-2511
Ore J E Edstrom 1220 SW Morrison St Portland 227-5311
Tex Charles Hoffman Assoc 7775 S Central Expwy Richardson 214 235-3600
Can Specialty Electronics 6600 St Urbain Montreal, Que 274-8271
For Elbar Electronics Corp 433 Liberty St Schenectady NY ....372&5841
Mex Distrimex, S A Box 60-506 Mexico 15-39-71
Mex Distrimex S A Ave San Antonio Mexico 18 D F 319-101

EATON YALE & TOWNE INC RELIANCE DIV
25 CHARLES AVE, S E MASSILLON OHIO 44646
TWX 810 433-9175 ....216 832-1511
J KNOTT EMP 700 ENG 10 OVER $10,000M
Cal Grether & Grether Box 47 Stockton ...209 462-4124
Fla Guy Waters 1400 S Ocean Blvd Pompano Beach
Ill E C Gross 332 S Michigan Ave Chicago .312 427-4441
Ind J J Harrison 1010 E 86th St Indianapolis 317 846-6526
Ky E J Helline 4050 Westport Rd Louisville 502-896-1749
Mass W A Tait 6 Northgate Rd Wellesley 617-235-4719
Mich M O Hooton 24275 Northwestern Hwy Southfield 313 358-1500
Minn Jack Griggs 7710 Computer Ave Minneapolis 612-926-8344
Mo Lynn Boardman & Co 34 No Brentwood Clayton 314-721-0388
NJ T L Hunter 3370 Hwy 35 Hazlet 201 264-6777
Ohio Wm F McCormick 13375 Madison Ave Cleveland 216 226-0986
Tenn Gardener & Meredith Inc 519 Cherokee Blvd Chattanooga 615 267-4971

EBAUCHES SA DEPT OSCILLOQUARTZ
16 RUE DES BREVARDS 2001 NEUCHATEL
SWITZ TWX 35 163 ....038/5 85 01
B SCHLUETER EMP 80 ENG 20 $500-$1,000M
NY Wosic 608 Fifth Ave New York...........757-7030
Can Smyth Electronic Components Ltd 1877 S t Antoine St Montreal PQ ......WE 5-6354
For Max Bannineger & Cie KG Bauernmarkt 10 Wien 1 ....0222/632346
For J K Nagele Ave da Igreja 18 Lisboa Port 71 35 75
For H A Wirth Casilla 232 Santiago
For F Lakner 8 Clovelly Path May Rd Hong Kong
For Quimica Suiza Sa Apdo 3919 Lima.........28-7480
For Ten Ying Co Ltd 5 Alley 4 La 89 Cheng Tw Rd Taipei 67-173
Den Chr Ude-Hansen OG Handelsfirma Jaegersborg Alle 53-55 Charlottenlund ....OR 5505
Fr Societe Electronique 38 Rue Sedaine Paris ..TUR 3513
Ger Ohni Ray Gmbh Nymphenburger Str 164 D-8-Munich 19 51-32059
GB Newmark Instr Ltd 143 GT Portland St London W 1 ....MUS 8666
Neth Ing Heijnen Stendalerstr 56 Gennep ..08851-956-678
Ital B S T sas M G Santuz Ilng Via Carpi 4 Milano.2362981
Nor Arvid Dahm Fr Nansenspl 9 Oslo 426688/421215
SAfr G H Langler & Co Ltd 251 Main St Johannesburg 22-4402/23-1541
Swed Gunnar Wilklund A/B Kungsgatan 38 Stockholm C 20 62 72
Arg Crisoles Produmat Sacifi Congreso 1735 Buenos Aires r28
Belg Regulation-Mesure Sprl Rue St Hubert 22 Bruzelles 15 ....71 20 20
Braz Hora Sa Caixa Postal 3814 Sao Paulo 32-4111
Ind Raj-Der-Kar & Co Dr D Naoroji Rd Bombay 1.26-2304
Isrl Swiss Electric Representation Ltd Box 4541 Tel-Aviv 62 983
NZ Townson & Merger Holdings NZ Ltd 2 Morgan St Newmarket Auckland 34-759
Spn Union Azeta Avda Gen Franco 3991 Barcelona 8 2284475
Fin Finntele M Heikkila & Co Eerikinkatu 28 A 9 Helsinki 18 ....60 24 42
Aust Townson & Mercer Holdings Aus Ltd 318 Burns Bay Rd Lane Cove Sydney 428-1199

EBERLINE INSTRUMENT CORP BOX 2108
SANTA FE N M 87501 ....505 982-1881
R GRAY EMP 256 ENG 24 $2,500-$5,000M
Cal F S Smith, Jr Box 261 Livermore.........447-6050
NM J C Bentley Box 8885-Sta C Albuquerque ..265-6655
Ohio Barney V Roberts Box 18082 Cincinnati 522-7682
Va Merton R Marley Box 177 Springfield......451-4641

EBERT ELECTRONICS CORP 130 JERICHO TPKE
FLORAL PARK N Y 11002..............516 437-7777
V HOROWITZ EMP 25 ENG 2
Cal Hundley Co 3282 Fletcher Dr Los Angeles ..CL 5-7111
Ga Applebe-Church Inc Box 13485 Atlanta 404 875-7244
Ill Olson Sales Co 1005 E Washington Blvd Lombard 627-3802
Mich Mackinaw Engrg Co 4071 Lake Mich Dr NW Grand Rapids 616 453-6361
Minn Warren A Hallock Co 5316 Excelsior Blvd Minneapolis 920-6100
Mo Herdlein Inst Supply Co 14831 Phelps Dr Bridgeton 314 865-2547
NY MWM Assoc Box 412 Lynbrook ....LY 3-6190
NC Carolina Tech Rep Inc Box 17726 Charlotte 704 364-0163
Ohio Del Steffen & Assoc 25000 Euclid Ave Cleveland 261-5055
Pa Process Engrg Co Box 10464 Pittsburg .412 561-2242
Tex Stevens Sales 2415 Valley View La Dallas ....214 CH 1-2574
Va VA Thnical Assoc Inc Box 9524 Richmond 703 266-9654
Wash Branom Instr Co 2133-37 Second Ave Seattle 206 622-7320
Can Philips Elec Ind Ltd 116 Vanderhoof Ave Toronto ....HU 7-5161

EBY CO HUGH H 4701 GERMANTOWN AVE
PHILADELPHIA PA 19144 ....215 DA 4-7000
W TELMOSSE EMP 300 ENG 8 $250-$500M
Ariz Don V Hamilton Co of Arizona 5363 E Pima S Tucson 326-6461
Conn Gerlad Rosen Co Inc 194 Plymouth St Stratford 375-5456
Fla Aerodyne Engrg Box 17057 Orlando ...305-295-4440
Ill Edward Flaxman Co 52 James Ct Glenview ..729-1880
Kan Mesa Inc 5460 Buena Vista Dr Mission.913 CO 2-6565
Mass Gerald Rosen Co Inc 563 Worcester Rd Natick
Mich Shalco Inc 23525 Woodward Ave Ferndale ..LI 7-4771
Minn Hamilton Grayden & Flemmer Hamilton Rd Hopkins 935-5558
NY Rep Tech Inc Box 98 Syracuse
Ohio Components Engineering Co 7461 N Linden La Cleveland 842-2737
Tex Southwest Electronics 183 Meadows Bldg Dallas ....EM 3-1671
Wis Mesa Inc 6510 N Clark St Chicago Ill
Can W T Barron Co Box 127 Oakville Ont ..416-845-2224

ECCO ELECTRONIC COMPONENTS CORP
161 S MCQUESTEN PKWY MOUNT VERNON
N Y 10550 ....914 MO 8-4800
R JENNINGS
Ga Millar-Hutto Assoc Inc 3110 Maple Dr, NE Atlanta 404 261-6160
Ill Morton L Friedman Co 4749-51 N Rockwell Ave Chicago
NJ A Peterson Box 822 W Caldwell........201 226-4363
NY Dave Rudnick 364 Lincoln Pl Brooklyn .212 ST 9-9585

ECKSTEIN BROS 4807 W 118TH PL HAWTHORNE
CAL 90250 ....213 772-6113
H WHIPPLE EMP 18 ENG 3 $250-$500M

Ill Gordon Stowe & Assoc 1728 Chapel Ct Northbrook
Pa T S Haley & Assoc Cambra
Fr Audipha 81 Rue d'Alsace Courbevoie
Ger Hansaton Dehnhaide 85 Hamburg 22
GB P C Werth Co 341 Oxford St London W 1
Ital Amplifon Via Durini 26 Milan
SAfr Westdene SVCS 175 Jeppe St Johannesburg
Swit Bommer Co Langgrutstr 112 Zurich

ECP CORP 4726 SUPERIOR AVE CLEVELAND
OHIO 44103 ....216 391-0444
B DEAHL EMP 25 ENG 2 $250-$500M

ECTRON CORP 8070 ENGINEER RD SAN DIEGO
CAL 92111 ....714 278-0600
E CUNNINGHAM EMP 10 ENG 3 $100-$250M
Cal Premmco/PH 3351 59th St Long Beach 213-531-8702
Cal Premmco/PH 2406 Lincoln Ave Alameda 415-523-9495
Cal Premmco/PH 4476 Tivoli St San Diego 714-222-9424
Mich Twin Region Elect Sales 29563 Northwestern Hwy Southfield 313-358-4480
NY Sencor Inc 79 Albertson Ave Albertson .516-747-1273
Ohio Twin Region Elctn Sales 21010 Center Ridge Rd Cleveland 216 331-7650
Ohio Twin Region Elect Sales 3864 Kettering Blvd Dayton 513-434-8000
Tex Technical Products Inc 10219 Hedgeway Dr Dallas 214-357-9603
Tex Technical Products Inc 6440 Hillcroft Houston 713-771-9366
Va Nine Assoc 7753 A-4 Patriot Dr Annandale 703 256-9105

EDAL INDUSTRIES INC 4 SHORT BEACH RD
EAST HAVEN CONN 06512 ....203 467-2591
E PAGANO EMP 300 ENG 5 $2,500-$5,000M
ADV PG 520
Ala Component Sales Corp Box 899 Huntsville 205 539-6973
Cal Hal Foraker Box 1325 Fremont 657-2213
Conn A & M Electronic Rep Ailene Dr Madison 203 245-1031
Fla Component Sales Corp Box 9545 St Petersburg 813 360-7460
Ill Brock & Cushman 6261 W Grand Ave Chicago 662-4110
Mass A & M Electronic Representative 1492 Highland Ave Needham 444-8170
Minn Heimann Co 5603 Lyndale Ave S Minneapolis 827-5457
Mo Maury E Bettis Co 3706 Broadway Kansas City 816-561-0772
NJ S Glassman Assoc 326 Hillside Ave Nutley ...667-0653
NY S Glassman Assoc 28 Prestwick Terr Glen Cove 676-1039
NC Component Sales Corp Box 6401 Raleigh 919 832-1897
Ohio K W Electronics 8459 N Main St Dayton 513-278-4797
Pa W Henry Cordray Sales Co 1 Radnor Sta Radnor 687-1366
Tex George Weinreich & Assoc 11554 E Northwest Hwy Dallas.........321-2800
Va The Jay Co Inc 2914 Annandale Rd Falls Church 301-821-5227

EDCRAFT INDUSTRIES INC 620 COMMERCE RD
LINDEN N J 07036 ....201 925-7760
L EDWARDS EMP 25 ENG 2 $250-$500M

EDDY MFG CO INC 3001 S KILSON DR SANTA ANA
CAL 92707 ....714 540-8992
A HANKE EMP 16 $250-$500M
Cal Miner & Assoc 2500 Compton Blvd Redondo Beach 772-6311

EDI 611 PARK DR BRADENTON FLA 33505 .813 746-3991
R GROVE EMP 10 ENG 2 UP TO $100M

EDISON, THOMAS A INDUSTRIES, INSTR DIV
81 LAKESIDE AVE WEST ORANGE
N J 07051 ....201 736-1000
G BOSELLI EMP 300 $5,000-$10,000M
Ala McCain Eng Sales Co Box 1251 Birmingham 822-8610
Ariz Baron Machine & Engrg Corp 2515 E Indian School Rd Phoenix 264-3757
Cal T A Edison Ind 1499 Bayshore Hwy Burlingame 692-0199
Colo R E Cathey Co 200 Garrison St Denver 238-1506
Del Energy Control Corp 64 E Main St Newark ..368-9143
DC Meleney Engineering Co 2430 Penna Ave NW Washington 965-3360
Fla Lewis M Crowe Co RR 2, Penn Park Jupiter .746-7483
Ga Lewis M Crowe Co 174 W Wieuca Rd NE Atlanta 255-2700
Ill Memeco 7760 W Devon Ave Chicago 774-0920
Ind Dale D Merchent Co Box 20045 Indianapolis.255-4690
Iowa The Walling Co 1518 Washington St Davenport 323-6425
Mich Colley & Schlee Inc 24681 Telegraph Rd Southfield 356-7200
Minn Power-Process Equip Inc 6032 W 37th St Minneapolis 929-6791
Mo Williams Equip Co 453 N Lindbergh St Louis.997-1030
Neb The Walling Co 1514 Davenport St Omaha ..342-7044
NJ Thomas A Edison Ind 81 Lakeside Ave W Orange 736-1000
NY The Stone Co 800 Linden Ave Rochester 381-1155
NC B W Allen Co 121 Greenwich Rd Charlotte ..366-0031
Ohio Collvra Eng Sales Co 11926 Lake Shore Blvd Cleveland 681-2726
Okla James E Dyer Co 4836 S Peoria Ave Tulsa ..742-8832
Ore G H Rosette Co 416- n W 14th St Portland..234-7433
Pa Process Eng Co Box 10464 Pittsburgh 561-2242
Tenn Process & Power Inc Box 6138 Memphis ...942-3253

Tex Thos A Edison Inc 1300 Sage Brush Tr
Euless 283-0301
Utah Edsco Equip Co Box 17316 Salt Lake City .. 277-0330
Va Berkness Control & Equip Co 308 W Cary St
Richmond 643-5357
Wis Geo H Fredricks Co 4524 W Burleigh St
Milwaukee 871-4970
Can Associated Inst & Controls Ltd
9265 Chas De Latour St Montreal 384-7211
For Chittick & Co 123 Ayala Ave Makati, Rizal
For RETEC Ave Bulnes 97 Santiago 89532
For Tamco Electrical Eng Co Ltd 12 Jalan Penchala
Petaling Jaya, Selangor 5892617
For Case Tech Co Ltd 366 Upper Roosevelt Ave
Teheran 624738
Den Norsk Sprinkler Co Rosenkrantzgt 20
Oslo, Norway
Fr Auxitrol 189, Bd St-Denis Courbevoie
Ger Billman Regler GmbH Postfach 1705 4000
Dusseldorf 1
GB Perfection Parts Ltd 59 Union St London, S E 1
Ital H Coe & Clerici Ramo Tecnico Via M A Colonna 12
Milan
Jap Nippon St Johnson Sales Co Ltd
3-5 Uchikanda-3 Chome Tokyo
Swit Panelectra AG Raffelstr 20 Zurich
Arg Cosari SAIC Bouchard 432 Buenos Aires 31-6763
BC P E Robinson Agencies Ltd 1100 Lonsdale Ave
N Vancouver, B C
Ind Batliboi & Co Ltd Forbes St, Fort Bombay-1
Isrl Telsys Ltd Engr Co Box 10034 Tel-Aviv 223756
Mex Ingenieria Termo Industr, S A Puebla 308
Mexico City D F 25-21-50
Spn Auxitrol Iberico Doctor Fleming 26 Madrid 16
Aust C M Terry Pty Ltd 115 Pitt St Sydney 28-8128

EDKO ELECTRONICS INC 397 BEDFORD AVE
BROOKLYN N Y 11211 .... 212-EV 4-2746
M COE EMP 4 ENG 1 $100-$250M

EDMONT-WILSON 3080 WALNUT ST COSHOCTON
OHIO 43812 .... 614 MA 2-4311
D STRANGE EMP 600 ENG 7
Cal C U Eyster 531 Amherst Ct San Ramon 326-8323
Fla D A Mallardi 6808 Crest Hill Ct Tampa 884-1980
Ga J S Hammock 3119 Chateau Blvd
East Point 767-0197
Ill P Bobolia 245 Gentry St Park Forest 748-9092
Kan R J Iveson 9703 W 92 St Overland Park 381-3447
La R H Tennent 1550 Wildwood La Slidell 643-2647
Md P C McLaughlin 2805a Kings Ridge Rd
Baltimore 668-9435
Mass H D Byington 28 Manor Ave Wellesley 235-4393
Mich C W Davis 15644 Ellen Dr Livonia 421-8071
Minn D V Ralph 440 Decatur Ave N Minneapolis .. 544-1048
Mo C H Lester 3980 Woodcrest Florissant 839-1353
NJ E B McCaul, Jr 121 Meeting House La
Cherry Hill 667-2364
NY C K Gottwik 1A Appletree La Great Neck 482-4890
NC W H McKinley 4208 Briarhill Dr Charlotte .. 536-3496
Ohio R C Mohler 145 Tuxworth Rd Dayton 885-7867
Ore J E Lynes, Jr 17636 N E Wasco St
Portland 252-6845
Pa M W Feeney 1620 Beechwood Blvd
Pittsburgh 521-1576
Tenn G Kahnweiler 4258 Green Hall Way
Memphis 386-3353
Tex L E Sheets 3143 Jubilee Trail Dallas 352-4306
Utah D Younger 230 S 5th Provo 374-2944
Wis A D White 2640 Anita Dr Brookfield 786-5789
Can Edmont Canada Ltd Cowansville, Que 263-0585
Belg Edmont Belgium SA Nachtegaalstr 4
Erembodegem

EDMUND SCIENTIFIC CO 380 EDSCORP BLDG
BARRINGTON N J 08007 .... 609 547-3488
L COREY EMP 110 ENG 10

EDNALITE CORP 210 N WATER ST PEEKSKILL
N Y 10566 .... 914-PE-7-4100
G DORSEY
Ariz Gar-Wic Co 3530 E Indian School Rd
Phoenix 602-266-4461
Cal Cameron G Pierce & Assoc 1810 Fair Oaks Ave
So Pasadena 213-682-1166
Fla Ludlum Assoc Box 1337 Miami 305-885-3611
Ill EMF Co 6135 W Belmont Ave Chicago . 312 889-8323
Md D K Jones & Assoc 2026 Maryland Ave
Baltimore 301-752-0577
Mass Production Devices Corp 489 Main St
Stoneham 617 438-2772
Mich Electro Enterprises 10745 Morang Dr
Detroit 313-886-2280
Minn Servco 521 S 7th St Minneapolis 339-8611
NJ Jam Scientific 173 Engle St Tenafly 567-6569
NY R P Kennedy Co 39 Saginaw Dr
Rochester 716-271-6322
Tex H Weaver Co Box 4219 Dallas 214 946-5698
WVa Preiser Scientific Box 551 Charleston 343-5515

EDO WESTERN CORP 2645 S SECOND W
SALT LAKE CITY UTAH 84115 .... 801 486-7481
E WINSTON EMP 250 ENG 20 $2,500-$5,000M
Cal L Kidd 2813 Gobat Ave San Diego 714 453-4712
DC Aeromaritime Inc 1156 15th St NW
Washington 202-659-8140
Fla Col-Ins-Co Box 13189 Orlando 305-423-7615
Haw Paul Hanson Co Box 2173 Honolulu 808 510-484
Ill H J Corey 2538 W Peterson Ave
Chicago 312 973-5300
Mass Measurement Equip Corp 591 North Ave
Wakefield 617 245-4870
Mich Don Poulin 17222 E Warren Ave
Detroit 313-886-4990
NY Don Haverty 13-10 111th St
College Point 212-886-6611
Tex M Brainard Jr 2505 Broadway Houston . 713 643-6239
Va Gans-Fryling Inc 2030 16th St N
Arlington 703-527-3262
Wash Paratech Box 5427 Seattle 206 783-3900

Can Instronics Ltd Box 100 Stittsville Ont .. 613 836-4411

E D P CORP 1900 N MILLS AVE ORLANDO
FLA 32803 .... 305 241-5324
A MINIDIS EMP 100 ENG 9 $1,000-$2,500M
ADV PG 236
Ala Technical Mktg Inc Box 5971 Birmingham .. 871-5431
Fla Technical Mktg Inc 1511 E Robinson
Orlando 843-2500
Ga Technical Mktg Inc Box 1152 Marietta . 404-435-0079
Md Zenatronix Assoc 11215 Oak Leaf Dr
Silver Spring 301-593-9000
Mich W R Hummon & Assoc Box 501
Farmington 313-474-0661
NJ Marshbank-Monteiro Assoc 95 W Gate Dr
Cherry Hill 609-428-5551
NY Bertram D Aaron & Co 55 Northern Blvd
Greenvale 516-MA-1-0630
NC Technical Mktg Inc Box 6664
Greensboro 919-274-2570
Can Technitron Assoc, Ltd 769 Lajoie Ave
Dorval, Que 514 631-6859

EDROY PRODUCTS CO, MAGNI FOCUSER DIV
130 W 29TH ST NEW YORK N Y 10001 .. 212 565-5226
M STOLTZE EMP 14 ENG 1 $100-$250M

EDSYN, INC 15954 ARMINTA ST VAN NUYS
CAL 91406 TWX EDSYNEX 213 989-2324
N NORVELL EMP 15 ENG 2 $250-$500M

EDWARDS CO INC, UNIT OF GENERAL SIGNAL
CORP 90 CONNECTICUT AVE NORWALK
CONN 06852 .... 203 838-8441
W ADAMS EMP 900 ENG 25 OVER $10,000M
Ala Edwards Co Inc 2031 Ninth Ave S
Birmingham 251-7585
Ariz J A Ware & Assoc 1400 N 32nd St Phoenix . 273-7309
Cal Edwards Co Inc 811 S Main St Burbank 845-7852
Colo Lighting Sales Inc 1170 W Custer Pl Denver . 744-1089
Conn Edwards Co Inc 11 Anderson Rd Norwalk ... 847-7475
DC Edwards Co Inc 4925 Fairmont Ave
Bethesda 657-3777
Fla Shannon Assoc Inc 1240-44 S E Lake St
Long Wood 831-2245
Ga Edwards Co Inc 2285 Peachtree Rd NW
Atlanta 355-8171
Haw Matt Cabot & Assoc 1514 Ala Moana Bldg
Honolulu 949-5378
Ill Edwards Co Inc 9838 Roosevelt Rd
Westchester 345-8760
Ind Roth-Mooney Elec Agency Inc
5226 N Keystone Ave Indianapolis .... CL 1-3504
La E P Jones & Co 4408 Cleveland Dr Metairie . 887-0892
Mass Edwards Co Inc Columbian Sq
S Weymouth .... ED 5-1900
Mich Edwards Co Inc 20100 Greenfield Rd
Detroit 342-6886
Minn Edwards Co Inc 5009 Excelsior Bldg
Minneapolis 920-1481
Miss A M Spencer 1838 Camillia La Jackson 355-5011
Mo Edwards Co Inc 8007 Clayton Rd Clayton .. PA 6-5122
Neb Electrical Prods Co Box 325 Omaha 341-2592
NJ Edwards Co Inc 519 Federal St Camden .. WO 4-5350
NY Edwards Co Inc 7 Hugh J Grant Cir
New York .... SY 2-9000
NC Edwards Co Inc 1529 S Tryon St Charlotte . 376-5063
Ohio Edwards Co Inc 211 E 4th St Cincinnati 241-0818
Okla R W McKnight 3213 NW 54th Cir
Oklahoma City .... VI 2-8118
Pa Edwards Co Inc 9800 McKnight Rd
Pittsburgh 931-2274
Tex Edwards Co Inc 3003 Live Oak Dallas .... TA 7-3790
Utah Manufacturers Elec Sales Agency 56 Bryan Ave
Salt Lake City 486-7111
Va Epperson & Dull Co 1103 E Main St
Richmond .... MI 3-2126
Wash Edwards Co, Inc 158 Thomas St Seattle .. MA 3-0594
Wis Edwards Co Inc 741 N Milwaukee St
Milwaukee .... BR 1-8644
Can Edwards of Can Ltd Box 430
Owen Sound, Ont .... FR 6-2430

EDWARDS HIGH VACUUM INC
3279 GRAND ISLAND BLVD GRAND ISLAND
N Y 14072 TWX 710-260-1350 .... 716 773-7552
G SCHMIDT EMP 1300 ENG 8
Ala Physimetrics Box 4108, Farley Sta
Huntsville 881-4965
Cal Edwards High Vacuum, Inc 343 Richmond St
El Segundo 322-7699
Fla Physimetrics 999 Woodcock Rd Orlando 841-4956
Ga Physimetrics 3376 Peachtree Rd, N E
Atlanta 237-8278
Ill Edwards High Vacuum, Inc 5251 W 95th St
Oak Lawn 423-0443
Md Kelly Assoc 11114 Oak Leaf Dr
Silver Spring 593-9250
Mass Edwards High Vacuum, Inc Box 26
Auburndale 332-0886
Mich Edwards High Vacuum Inc Box 2048
Ann Arbor 662-1141
NJ Edwards High Vacuum, Inc Box 147
Ringwood 835-3925
NM Southwestern Engrg 5301 Central Ave E
Albuquerque 265-6775
NC Physimetrics 3500 Six Forks Rd Raleigh 787-9265
Tex Southwestern Engrg 6300 N Central Exp
Dallas 363-6501
Can Edwards High Vacuum Ltd 430 S Service Rd W
Oakville, Ont 845-3437
Ger Edwards Hochvakuum GMBH
Niederrad, Hahnstr 46 Frankfurt am Main
GB Edwards High Vacuum Intl Ltd Manor Royal
Crawley Sussex
Ital Edwards Alto Vuoto Via C Pisacane, Pero Milan

EDWARDS HIGH VACUUM (CANADA) LTD
430 S SERVICE RD W OAKVILLE ONT ... 416 845-3437
F BARNES EMP 10 ENG 1 $250-$500M

EDWIN INDUSTRIES CORP 11933 TECH RD
SILVER SPRING MD 20904
TWX 89-8455 .... 301 622-0700
E CAMERON EMP 15 ENG 5 $1,000-$2,500M
Md Eastronics 2401 Blueridge Ave Wheaton 942-2363
NJ L A Garten & Assoc 375 Passaic Ave
Caldwell 226-7800
Pa L A Garten & Assoc 947 Old York Rd
Abington .... WA 7-1200
Can Instronics Box 100 Stittsville, Ont 828-5115

EEMCO DIV INSTR MOTORS, ELECTRONICS SPECIALTY
CO 4612 W JEFFERSON BLVD LOS ANGELES
CAL 90016 TWX 910-321-0151 213-733-0151
D HAYMOND
ADV PG 390
Cal Mauldin Co 441 California St Palo Alto
Cal CDH Assoc 18075 Ventura Blvd Encino
Fla Page One Inc 6990 Lake Ellenor Dr Orlando
Ill J D Allyn Co 419 S Bruner St Hinsdale
NY Geo F McCarthy Corp 75 Plandome Rd Manhasset
Ohio Larry Berberich & Assoc 4130 Linden Ave Dayton
Pa Wm D Staats Co 2766 Murray Ave
Cornwell Heights
Tex Brice Co 1402 Dunlavy St Houston
Can Sterling Aircraft Prods Inc 65 Martin Ross Ave
Downsview Ont
Ger Elektro-Metall Export GMBH Jagerhofstr 29
Dusseldorf 4000
Jap Sumitomo Shoji Kaisha Ltd 1 Kandamitoshiro-cho
Chiyodaku Tokyo
Aust Haranel Int'l Pty Ltd 566 St Kilda Rd
Melbourne 3004 Vic

E F ASSOC INC 211 PARK AVE SCOTCH PLAINS
N J 07076 .... 201 322-6471
G EGERT EMP 1 ENG 1
Ariz O'Halloran Assoc 4747 N 16th St
Phoenix 602 277-3223
Cal O'Halloran Assoc 10700 Ventura Blvd
North Hollywood 213 877-0173
Conn Howard J Schuft Co 965 Dixwell Ave
New Haven 203 865-1365
Ill Laub Engineering 466 Central St
Northfield 312 446-4166
Kan Simpson Enterprises Box 18066 SE Sta
Wichita 316 943-0502
Mass Howard J Schuft Co 815 Washington St
Newtonville 617 527-5304
Mich Ohio Instrument Co 339 Municipal Ct Bldg
Ann Arbor 313 769-1177
Mo Simpson Enterprises Kirkwood 314 965-1115
NJ Data-Rep Assoc Box 645 Ridgewood ... 201 447-0660
NY Lightstone Corp E Molloy Rd Syracuse .. 315 454-3209
Ohio Ohio Instrument Co 505 Whitney Ave
Worthington 614 885-0743
Pa Data-Rep Assoc Box 349 Norristown ... 215 279-8210
Tex E G Miller Co Box 929 Henderson 214 657-5049

E G & G INC, ELECTRONIC PRODS DIV
160 BROOKLINE AVE BOSTON MASS 02215
TWX 617 262-9317 .... 617 267-9700
S RUBINOVITZ $5,000-$10,000M
Ala Physimetrics Box 4108 Farley Sta
Huntsville 205 881-4965
Ariz Hyer Electronics Co 3300 S Mill Ave
Tempe 910 951-4210
Cal E G & G Inc 5445 Sunset Blvd
Hollywood 213 464-2800
Colo Hyer Electronics Co 7895 E Prentice Ave
Englewood 303 771-5285
DC Eastern Instru Inc 2600 Virginia Ave
Washington 202 333-8880
Fla Physimetrics 999 Woodcock Rd Orlando . 305 841-4956
Ga Physimetrics 3376 Peachtree Rd N E
Atlanta 404 237-8278
Ill Laub Engineering Box 8 Northfield 312 446-4166
Ind Dan C Flanagan 2512 E Dr Fort Wayne . 219 484-5751
Iowa Engineering Services Co 1026 3rd Ave NE
Cedar Rapids 319 366-1591
Kan Engineering Services Co 7924 A State Line
Prairie Village 649-4000
Md Eastern Instrumentation Inc 1002 Ingleside Ave
Baltimore 301 744-3675
Mich Harvey Teplitz & Co Inc 26847 Grand River Ave
Detroit 313 537-9058
Mo Engineering Services Co 6717 Vernon Ave
St Louis 314 726-2233
NM HYER Electronics Co 130 Alvarado NE
Albuquerque 505-265-5961
NY Robert F Lamb Co 1865 Kenmore Ave
Buffalo 716 874-4900
NC Physimetrics 3500 Six Forks Rd
Raleigh 704 372-3179
Ohio Harvey Teplitz & CO Inc 3718 Salem Ave
Dayton 513-277-6531
Pa Eastern Instrumentation Inc 613 Cheltenham Ave
Philadelphia 215 927-6269
Tex W Pat Fralia Box 12625 Fort Worth ... 817 738-2394
Utah Hyer Electronics Co 445 E 2nd S
Salt Lake City 801 363-6773
Va Eastern Instru Inc Ross Bldg Richmond . 703 644-6622
Wash Dewar & Assoc 6361 First Ave So
Seattle 206 763-2233
Can Samuel C Hooker Ltd 144 Ronald Dr
Montreal 488-9114
For Technical Resources, Inc 600 Main St Waltham
Fr ETS Radiophon 148 Avenue Malakoff Paris 16E
Ger Alfred Neye - Enatechnik Schillerstr 14
Quickborn-Hamburg
GB Dale Electns (Dist) Ltd 109 Jermyn St
London SW 1 01-930-0725
Ital Elettronucleonica S P A 7 Piazza De Angeli Milano
Jap Hakuto Co Ltd CPO Box 25 Tokyo
Swed Svenska Ab Oltronix Jamtlandsgaton 125
Vallingby
Swit SEN 31 Ave Ernest Pictet 1211 Geneva 13
Isrl Landseas, Ltd 29 Bezalel St Tel-Aviv
Aust Consolidated Nucleonics Pty Ltd 813 Dawling St
Waterloo, N S W

E G & G INC LABORATORY PRODS DIV BOX 755
GOLETA CAL 93017 . . . . .805 967-0456
H MARSHALL EMP 5000 ENG 2000
OVER $10,000M

Ariz Hytronic Measurements Inc 1017 N 3rd St Phoenix 602 253-6104
Cal Instrument Specialists Inc 1109 S Central Ave Glendale 213-245-9404
Colo Hytronic Measurements Inc 4940 E 39th St Denver 303 388-4081
Ill Bard Assoc LaGrange Ind Park LaGrange 312-354-0660
Ind Bard Assoc 4000 Meadows Dr Indianapolis 317-547-3113
Mass Princeton Applied Research NW 17 Dunster St Cambridge 617-491-6800
Minn Bard Assoc 4640 W 77th St Minneapolis 612-922-8233
NM Hytronic Measurements Inc 205 San Pablo SE Albuquerque 505 268-3941
Tex Noakes Engineering Box 968 Irving 214-255-0441
Va Duskin Assoc 1007 Mountford Ct SW Vienna 703-281-3638
Wash Instrument Specialists Inc 5950 6th Ave S Seattle 206-767-4260
Ger Alfred Neye-Enatechinik 14 Schiller Str 2085 Quickborn Hamburg 0/41/06 82/22
GB Nuclear Measurements Ltd 67 Dudley St Luton, Bedfordshire
Ital Elettronucleonica SPA Via Bisleri 19 Milan .40-70-351
Jap Hakuto Co Ltd Box 25 Tokyo Central 3160
Swed Svenska AB Oltronix Jamtlandsgatan 125 Vallingby 08/87-0330
Isrl Landseas Corp Ltd 29 Bezalel St Tel-Aviv
Aust Consolidated Nucleonics Pty Ltd 813 Dowling St Waterloo NSW

E G & G INC, SYSTEMS GROUP CROSBY DR
BEDFORD MASS 01730 . . . . .617 271-5000
C PAULSON

E G & G INT'L INC GEODYNE DIV 151 BEAR HILL RD
WALTHAM MASS 02154 . . . . .617 899-3710
J MCCARTHY

Cal Saxe Montgomery 1360 Rosecrans St San Diego 714-224-2932
DC Engrg Service Assoc 1500 Massachusetts Ave N W Washington 202-659-8800
Tex Eg & G Intl 3920 Stoney Brook Dr Houston 713-785-4020
Wash Jon B Jolly Pier 59 Seattle 206-624-2152
For Bum Yang Industrial Co Intl PO Box 1141 Seoul Korea 73-1251
Fr Codevintec 27, rue d'Astorg 75-Paris 8e . . .265 38 54
Ger Hagenuk 2300 Kiel Westing 431-451 Kiel 0431-41231
GB John Mills Lyne, Nr Chertsey Surrey . . .Long Coss 258
Jap Sanko TsushoCo LOd 26 Wishikubo-Sakurggawa-Cho Shiba Minato-Ku Tokyo 503-0918
Aust Consolidated Nucleonics Pty Ltd 813 Powling St Waterloo N S W .69-7581

EHRENREICH PHOTO OPTICAL IND INC INSTR DIV
623 STEWART AVE GARDEN CITY NY 11050
TWX 125855 . . . . .516 248-5200
I FELDMAN EMP 175 ENG 3 OVER $10,000M

Cal A G Heinze Co Inc 295 S Fair Oaks Ave Pasadena 681-7474
Cal Technical Instr Corp 348 6th St San Francisco. .HE 1-8231
Colo Dick Rossmiller Co 405 S 44th St Boulder . .444-2411
Conn M E Clark Co 377 N Granby Rd North Granby 653-3425
Fla Blanco Inc 3220 46th Ave N St Petersburg .525-2134
Ill Radiation Equipt Co Inc 1495 Old Deerfield Rd Highland Park .831-2900
Ill Penco Assoc 286 Lockwood Ave Northfield . .446-3606
Ind Miller Tool & Gage 320 S High St Muncie . .AT 4-1691
Iowa Rapid Industrial Supply 428 1st St SW Cedar Rapids .EM 6-1967
Kan Representative Sales & Service 6110 Willow Kansas City . . . . .FL 3-6010
Ky Preiser Scientific Inc 1500 Algonquin Pkwy Louisville 636-3309
Mass Ca-Pra Inc 75 Lawton St Brookline . . . . . . .LO 6-4140
Mich Production Machinery Sales Co 4845 St Aubin Ave Detroit 832-4711
Minn Machine Tool Supply 3301 E 26th St Mnpls . . . . .PA 1-5371
Mo Merrick Machinery Co 338 N Vandeventer Ave St Louis
NJ Thomas Sappington Assoc 304 Pembroke Rd Bala Cynwyd, Pa . . . . .MO 4-8020
NY Peterzell Machinery Co 305 Webster Ave Rochester . . . . .HU 2-8160
NY Stangert Corp 1321 McBride St Far Rockaway . . . . .FA 7-0918
NC Apex Machine Tool Supply Co 3615 Wilkinson Blvd Charlotte . . . . .EX 9-0445
Ohio Elkro Co 2800 W Lower Springboro Rd Franklin . . . . .SH 6-9271
Pa Optical Apparatus Co 128 Coulter Ave Ardmore . . . . .MI 2-1636
Tenn Preiser Scientific Inc 6700 Glen Brook Dr Knoxville 588-5607
Tex Dolan Scientific Instruments 2411 Times Blvd Houston . . . . .JA 3-6444
Wash Seaport Co 902 NW Leary Way Seattle . . .SU 4-9030
WVa Preiser Scientific Inc 900 MacCorkle Ave SW Charleston . . . . .DI 4-2221

E-H RESEARCH LABS INC BOX 1289 OAKLAND
CAL 94604 TWX 910-366-7258 . . . . .415 834-3030
D CARNEY EMP 200 ENG 16

Ala Gentry Assoc 2109 W Climton Ave Huntsville 205-534-9771
Ariz E H Research Labs 2842 E Cholla Phoenix 602 944-3383
Cal E-H Research Labs Inc 99 E Magnolia Blvd Burbank 213-849-6508
Conn Instrument Dynamics, Inc 345 N Main St West Hartford 378-0435
DC SONCO 4720 Montgomery La Washington 301 654-5226
Fla Gentry Assoc 550 N Bumby Ave Orlando 305-841-7740
Ill Cozzens & Cudahy Inc 9501 W Devon Ave Rosemont 312-825-1144
Mass Instrument Dynamics, Inc Wakefield Ind Park Wakefield 617-245-5100
Minn Pat Lind Electronics, Co 10104 Sunset Rd Circle Pines .612-786-5770
Mo Cozzens & Cudahy Inc 10534 Natural Bridge Rd Edmundson .314-423-1234
NJ SBM Assoc, Inc 1519 Stuyvesant Ave Union 201-687-8737
NY SBM Assoc Inc 138 Pickard Bldg Syracuse 315-454-9377
NC Mekco Assoc 100B Lindsey St Burlington 919 226-7177
Ohio Cozzens & Cudahy Inc 735 S Court St Medina 216-725-5660
Ore Arva Inc 2035 SW 58th Ave Portland . .503 292-8762
Pa Sonco 107 Town Ctr Rd King of Prussia 215-265-3250
Tex E-H Research Labs 13333 N Central Expwy Dallas 214-AD 1-4607
Wash Arva Inc 1320 Prospect St Seattle 206 622-0177
Can Megatronix, Ltd 954 Wilson Downview Ont 416-630-7672
Can Megatronix Ltd 3300 Cavendish Blvd Montreal P Q 514 488-0404
Den S A Metric Naerum Hovedgade 121 2850 Naerum 804200
Fr Rohde & Schwarz France 33 BD Berthier Paris XVII 16-1-3803468
Ger Rohde & Schwarz GMBH Hohe Str 160-168 5 Koeln 0949-221-233006
GB E-H Research Labs UK Box 157 West Drayton Mdsx 6266
Neth E-H Research Labs, NV Box 1018 Eindhoven 040-33704
Neth Groenpol NV Box 1188 Amsterdam 020-64474
Ital Silverstar Ltd 20 Via dei Gracchi Milan 469-6551
Jap Iwatsu Electric Co Ltd 7-41 1-chome Kugayama-Sugi Tokyo 398-1911
Nor Hugo Riso, AS Teknisk Import, Box 8, Taasen Oslo 8 23-25-80
SAfr Protea Holdings Ltd 7 Newton St Wemmer Johannesburg 838-8351
Swed Scandia Metric AB Sodra Langgatan 22 Fack Solna 3 820410
Swit Omni Ray AG 56 Dufourstr Zurich 8 478200
Belg C N Rood Bruxelles 30 Rue Leon Frederic Bruxelles 4 0932-2-355479
Ind Electronic Enterprises 46, Karani Bldg New Charni Rd Bombay 353069
NZ W & K McLean Ltd Box 3097 Auckland 586-000
Fin Into O/Y 11 Meritallinkatu Helsinki 11177
Aust Amalgamated Wireless Ltd 422 Lane Cove Rd North Ryde NSW 88-6666

EICO ELECTRONIC INSTRUMENT CO INC
283 MALTA ST BROOKLYN NY 11207 . . .212 949-1100
H ASHLEY EMP 300 ENG 10 $5,000-$10,000M

Can Eico Canada Ltd 11 Millwick Dr Weston Ont

E I L INSTRUMENT DIV UNITEC INDUSTRIES
110 W TIMONIUM RD TIMONIUM MD 21093
TWX 0879-32 . . . . .301 252-1260
F WINSHIP EMP 75 ENG 4 $2,500-$5,000M

Ala E I L Instr Div 2205 University Dr, NW Huntsville 205 539-4181
Ariz Central Station Equip Co 2323 Aviation Hwy Tuscon 602-624-6041
Cal Ingalls Assoc 5915 Christie St Emeryville .415-658-5622
Colo Hamilton Assoc 1236 Elati St Denver . .303-244-2901
Fla E I L Instr Div 716 Bunker Rd West Palm Beach 305 585-9363
Fla Vickers Sales Corp Box 1427 Lake Worth .305-967-2908
Ga E A Thornwell Inc Box 19598 Sta N Atlanta 404-351-6535
Ill Brisky Assoc 11734 S Western Ave Chicago 312-233-1339
Kan Simpson Enterprises Box 18066 SE Sta Wichita 316-WH 3-0502
Mass Cowperthwait & Broadhead 570 Hillside Ave Needham Hts 617-444-9410
Mo Gordon Karraker Co 706 Chestnut St St Louis 314-231-3666
NJ Bonn Assoc 266 Lake Ave Metuchen . . .201-549-9573
NC Jake Rudisill Assoc 1225 Harding Pl Box 4245 Charlotte 704-377-6901
Pa E I L Instr Div 2366 Holiday Pk Area Rt 286 Pittsburgh 412 327-4450
Tex Eads Co Fidelity Union Life Bldg Dallas .214-747-9101
Tex Gettys-Eads-Adair 8020 Westglen Dr Houston 713-781-3005

EIMAC DIV, VARIAN ASSOCIATES
301 INDUSTRIAL WAY SAN CARLOS CAL 94070
TWX 910-376-4893 . . . . .415 592-1221
J QUINN EMP 1300 ENG 300
For Sales Offices/Representatives See Varian Associates Listing

EISLER ENGINEERING CO 751 S 13TH ST NEWARK
N J 07103 . . . . .201 243-5310
C EISLER JR EMP 50 ENG 5

ELASCO-EASTERN INC BOX 276 BLOOMFIELD
CONN 06002 203-242-0708
J GILLER EMP 55 ENG 5 $500-$1,000M

Cal James S Heaton Co 4301 W Commonwealth Ave Fullerton 714-521-3961
Fla C E Snow Co 2400 E Oakland Park Blvd Ft Lauderdale 305-563-2448
Mass New England Elctn Sales Co 590 Washington St Canton 617-828-4835
Minn G E Arneson & Co 4900 Viking Dr Minneapolis 920-2086
Mo Kuhlman & Assoc 306 McDonough St St Charles .314-291-1150
NJ Kenneth E Hughes Co 2175 Lemoine Ave Fort Lee 201-944-1600
NY Carlen Reps 3650 James St Syracuse . .315-437-2921
Pa L E Snow Co Inc 258 N Main St Ambler 215-646-9451

ELASTIC STOP NUT DIV AMERACE ESNA CORP
2330 VAUXHALL RD UNION N J 07083 . .201 686-6000
J DUKE EMP 2200 ENG 20 OVER $10,000M

Cal ESNA 16150 Stagg St Van Nuys 873-7420
Fla A C Booth 2615 49th St W Bradenton 747-2877
Ga C K Bogle Jr Marietta 427-5744
Ill ESNA 5555 N Northwest Hwy Chicago 774-3546
Ind ESNA 1111 E 54th St Indianapolis 253-6526
Mich ESNA 30233 Southfield Rd Southfield 646-6700
Minn ESNA 7710 Computer Minneapolis 922-1686
Mo ESNA 213B West 75th St Kansas City 333-8394
NY F J Howes 891 Monroe Ave Rochester 743-5088
Ohio ESNA 20137 Progress Dr Strongsville 238-3351
Tex Duane R Corey 1st Bank & Trust Bldg Richardson 231-2391
Wis H Baumann 3055 N Brookfield Rd Brookfield . . . . .SU 6-4456
Can Elastic Stop Nut Div 751 Lajoie Ave Dorval, Que 631-9013
Fr Simmonds S A Suresnes, Seine
GB T J Brooks (Leicester) Ltd Leicester
Ital Urama-Simmonds Milano
Belg Intair S A Antwerp
Aust A E S Trading Co Pty Ltd Niddrie Victoria

ELASTRONICS LABS 19458 VENTURA BLVD
TARZANA CAL 91356 . . . . .213 345-6828
E STOELZNER EMP 14 ENG 4 $100-$250M

Ala Tec-Sel Inc 4306 Governor Dr SW Huntsville 837-4541
Cal Morse Assoc 1721 Chestnut St San Francisco 415 567-6871
Ger E Brosa Messgeraete GMBH Kaltenberger Str 45 Tetthang Wuerttembert

ELCO CORP MARYLAND RD & COMPUTER AVE
WILLOW GROVE PA 19090
TWX 510-665-5573 . . . . .215 OL 9-7000
S CAMPERI EMP 1875 ENG 75 OVER $10,000M
ADV PGS 158,160,164,168

Ariz Jack Berman Co Inc 2101 W Shangri La Rd Phoenix 944-3361
Cal Jack Berman Inc 8295 S Lacienega Blvd Inglewood 678-1281
Colo McLoud & Raymond Co 2151 S Grape St Denver 756-1589
Conn Elco District Sales Box 12 Colebrook 379-0287
DC Mechtronics 7600 Georgia Ave NW Washington 291-6004
Fla J J Smith & Assoc Box 460 Winter Park . . .644-4316
Ga Beacon Electronics Assoc 2285 Peachtree Rd NE Atlanta 351-3654
Ill D Dolin Sales Co 3525 W Peterson Chicago .JU 8-3738
Ind Morris-Cunningham Assoc 720 E 65th St Indpls 255-2458
Mass Elco District Sales 181 West St Waltham . . .899-6510
Mich Sheridan Assoc Box 128 Lathrup Village . . .358-3333
Minn Countryman Assoc 1821 University Ave St Paul 645-9151
Mo R W Farris Co Inc 1715 Baltimore Ave Kansas City . . . . .HA 1-1751
NM McLoud Raymond Assoc 1415 Richmond Dr NE Albuquerque 256-1749
NY Wincor Electronic Sales 75 Plandome Rd Manhasset 627-9474
Ohio Baehr-Greenleaf & Assoc 14700 Detroit Ave Cleveland . . . . .AC 1-9030
Okla Ammon & Champion Assoc Box 4682 Tulsa .627-7670
Ore Almac/Stroum Electronics 8888 SW Canyon Rd Portland 292-3534
Pa Hilliard Assoc Inc Box 186 Abington 884-6100
Tex Ammon & Champion Co Blanton Tower 628 Dallas . . . . .FL 7-8441
Wash Almac-Stroum Electronics 5811 Sixth Ave Seattle 763-2300
Can Elco Connectors Canada 32 Mobile Dr Toronto 16 425-3310
For Werkvertretungen Altmannsdorferstr 174/37 A-1232 Wien Aus
For Electrotecnica Rua Das Portas De Sto Antao 169/173 Lisboa, Port
Den Int'l Elco A/S Sdr Ringvej 41-45 Copenhagen-Glostrup
Fr Elco France Distribution 73 Ave De Neuilly Neuilly-Sur-Seine Paris
Ger Deutsche Elco GmbH 5241 Niederdreisbach Alter Wegi 041016131
GB Varelco Exning Rd Mewmarket Suffolk
Neth Radikor Electronics Emmastr 13A Hilversum
Ital Eurelettronica Piassa 5 Babila Milano 5
Jap Elco Intl Corp Ctbr Bldg 505-506 Tokyo . . .580-2711
Nor Hefro Teknish A/S Trondheimsveien 80 Oslo 5
Swed Elco Svenska Hornsgatan 58 Stockholm
Swit Sibalco Claragraben 39 4000 Basel 5
Belg Betea 15 Ave Geo Bernier Brussels 5
Isrl Elisra 51 Hayarkon Bene Barak
Mex Gimbel Mexicana Av Sonora 170 Mexico 11
Fin Oy Elmika AB Georgsgatan 34 A5 Helsingfors

ELCOR, DIV HALLIBURTON CO 2431 LINDEN LA
SILVER SPRING MD 20910 . . . . .301 589-6614
R HOTHEM EMP 20 ENG 3

Ala Reynolds & Assoc, Inc 904 Bob Wallace Ave Huntsville 205-536-1941
Cal T Whychell 580 Spargur Dr Los Altos . .415-948-0355

Cal Gee Assoc Inc 14474 Dickens St
Sherman Oaks 213-872-1068
Colo Electro Rep, Inc 1051 S Platte River Dr
Denver 303-744-2821
Fla Reynolds & Assoc, Inc 161 S W 75th Ave
Ft Lauderdale....................305-581-6611
Fla Reynolds & Assoc, Inc 2903 Timberlake Dr
Orlando 305-424-3836
Fla Reynolds & Assoc, Inc Box 1043
Eau Gallie....................305-727-3205
Ga Reynolds & Assoc, Inc 175 W Wieuco Rd, N E
Atlanta 404-252-5360
Ill Dave Hausten Co 614 Arbor Ave
Wheaton 312-668-7312
Mass Applied Technology Inc 7 Vine St
Manchester 617-227-2700
Mich Electro Sales Assoc 15324 Mack Ave
Detroit....................313-886-2280
NM Electronic Enterprises 5206 Constitution Ave N E
Albuq....................505-256-1585
NM Electronic Enterprises Box 116
Las Cruces....................505-524-0126
NY Bradley Assoc 130 Van Corlandt Ave, W
New York....................212-549-8500
NC Reynolds Assoc 412 W Market St
Greensboro....................919-292-4236
Ohio Electro Sales Assoc 335 E 200th St
Cleveland....................216-261-5440
Ohio Electro Sales Assoc Overlook Br Bx 3122
Dayton....................513-426-5551
Pa Electro Sales Assoc 201 Penn Center Blvd
Pittsburgh 412-371-9449
Pa Letronix 251 W DeKalb Pike
King of Prussia 215 265-1020
Tex E G Miller Co Box 929 Henderson 214 657-5049
Va Jay Co 2914 Annandale Rd
Falls Church....................703-534-7800
Can York Instru 1262 Don Mills Rd
Don Mills, Ont 416 445-1255
For Henley & Co Inc 202 E 44th St
New York, NY 212-986-5544

ELCO TOOL & SCREW CORP 1111 SAMUELSON RD
ROCKFORD ILL 61101 ....815 964-8611
J RATHKE EMP 550 ENG 14 OVER $10,000M
Cal Corbett-Smith Co 7340 E Florence Ave
Downey 927-2677
Colo S J Morgan & Assoc Box 5821 Denver .303 433-8626
Conn H D Newman & Assoc 368 Owen Ave
Fair Lawn NJ 201-796-1600
Del D B Lilly Co Inc Box 2285 Wilmington 328-6675
Ill R Samuelson 3158 Des Plaines Ave
Des Plaines 827-0155
Ind Z B Smith 4922 Hawthorn Ter Indpls ..317-251-7464
Iowa Fred W Lagerholm 340 43rd St Des Moines .277-9513
Mich Snyder & Tribell, Inc 914 Michigan Nat'l Tower
Lansing 487-5475
Minn R E Anderson 7710 Computer Ave Mnpls ...926-1571
Mo Meiners Sales Corp 7500 Natural Bridge Rd
St Louis 314 383-4833
NY William Eggleston 334 El Mar Dr Rochester .663-4554
Ohio C L Kerr & Assoc 26921 Tungsten Rd
Cleveland....................261-1840
Tenn T S Stone 1212 Pierce Pkwy Knoxville..615 546-9282
Tex R E Dahlin Box 2375 Dallas 521-2939
Wash G Teeple 15121 Washington Ave SW
Tacoma 588-1879
Wis A G Kavlar 1723 Alta Vista Ave
Wauwatosa....................414 453-0125

ELDEMA DIV GENISCO TECHNOLOGY CORP
18435 SUSANA RD COMPTON CAL 90221
TWX 910-346-6773....................213 774-1850
R CHASE EMP 32 ENG 3
Ariz W Bert Knight Co Box 11394 Phoenix ..602 264-3578
Ark Dick Bellew Sales, Inc 418 Maple Hill
El Dorado....................501-863-8325
Cal Wm J Purdy Co 770 Airport Blvd
Burlingame....................415-347-7701
Cal W Bert Knight Co 112 Glasgow Ave
Inglewood 213 678-4711
Colo Wm J Purdy Co 1449 W Littleton
Littleton....................303-794-4283
Conn Paul R Sturgeon Co Inc Box 170 Milford ...TR 4-6080
DC S K MacDonald Inc 3308 14th St N W
Washington....................202 265-3938
Fla Geartner Assoc Inc 350 Lincoln Rd
Miami Beach....................JE 1-0200
Fla Geartner Assoc Inc 2101 Mohawk Trail
Maitland 647-4000
Ill W S Patterson Co Inc 5604 N Western Ave
Chicago ....AR 1-3774
La Dick Bellew Sales, Inc 3017 D 18th St
Metairie....................833-6496
Md S K MacDonald Inc 5500 Harford Rd
Baltimore....................254-3380
Mass Paul R Sturgeon Co Inc 1330 Boylston St
Chestnut Hill 734-7710
Mich Hilltronics Inc 13720 Puritan Ave
Detroit....................313-342-3242
Minn Fred B Hill Co 6110 Excelsior Blvd
Minneapolis 929-6727
Mo R W Farris Co, Inc 1715 Baltimore Ave
Kansas City ....HA 1-1751
Mo Dipro, Inc Box 1427 Maryland Heights 432-3780
NM C T Carlberg & Assoc 2611 Quincy St NE
Albuquerque....................265-1579
NY Fred Spellman Co 1295 Northern Blvd
Manhasset....................627-3399
NY R W Mitscher Co Inc 496 Ellicott Sq Bldg
Buffalo 854-2517
Ohio Neal Bear Corp 3435 Streetboro Rd
West Richfield 216-659-3331
Ohio Neal Bear Corp 563 E Dorothy La
Dayton....................513-299-3566
Pa S K MacDonald Inc 1531 Spruce St
Philadelphia....................KI 5-1205
Pa S K MacDonald Inc 7805 McKnight Rd
Pittsburgh 366-2643
Tex Robert E Nesbitt Co 2930 Merrell Rd Dallas .357-4601
Tex Robert E Nesbitt Co Box 66831
Houston 713-528-3811
Wash James J Backer Co 221 W Galer St
Seattle....................AT 3-6470
Can Avnet Electronics 1505 Louvain St
W Montreal 11 Que 514-381-9127
Can Avnet Electronics 87 Wingold Ave
Toronto 19 Ont....................416-789-2621
For E F Gilson 27, Merrow Croft, Guildford
Surrey....................HAN 3000

ELDER-OILFIELD INC BOX 2061 HOUSTON
TEX 77001 ....713 OX 5-6811
K KELLEY EMP 100 ENG 6

ELDORADO ELECTRONICS 601 CHALOMAR RD
CONCORD CAL 94520
TWX 910 481-9476 ....415 686-4200
R SWIFT EMP 70 ENG 11 $1,000-$2,500M
Ala BCS Assoc 2317 Bob Wallace Ave S W
Huntsville 205 534-9771
Ariz T Louis Snitzer Co 15 N 40th Pl
Phoenix....................602 273-1673
Cal T Louis Snitzer Co 9005 Exposition Blvd
Los Angeles....................213 836-6170
Colo Aztec Enterprises 3385 S Bannock
Englewood 303 761-0101
Conn Applied Measurements, Inc 2531 Whitney Ave
Hamden 203 288-5288
Fla BCS Assoc 940 N Fern Creek Ave
Orlando 305-843-1510
Ill Torkelson Assoc 540 W Frontage Rd
Northfield....................312 446-8450
Ind Torkelson Assoc 3512 Rockville Rd
Indianapolis 317-244-7867
Kan Leemark Engineers, Inc Box 6175
Leawood....................913 NI 8-0124
Md Eastronics 11200 Lockwood Dr
Silver Spring 301-593-8100
Mass Applied Measurements, Inc 86 Hayward Rd
Acton 617 263-2766
Mich Anderson Elctns Inc 19471 James Couzens Hwy
Detroit....................313-476-9161
Minn Torkelson Assoc 4820 W 77th St
Minneapolis....................612 920-1046
NJ SBM Assoc 1915 Stuyvesant Ave
Union 201-687-8737
NM Aztec Enterprises 3202 Candelaria Rd
Albuquerque 505 345-3441
NY SBM Assoc 800 Linden Ave Rochester .716-381-8350
NC BCS Assoc 1039 E Wendover Ave
Greensboro 919 227-2581
Ohio Instrumentation Systems Inc.
3481 Office Park Dr Dayton 513 293-8095
Tex Crockett Engrg Co Box 47287 Dallas .214 ME 7-6120
Wash Brennan Assoc 208 Carlson Bldg
Bellevue....................206 GL 4-9332

ELDRE COMPONENTS INC 1239 UNIVERSITY AVE
ROCHESTER N Y 14607
TWX 510 253-4347 ....716 244-2570
J ERDLE EMP 75 ENG 5 $1,000-$2,500M
ADV PGS 66,166
Ariz Engineering Sales Assoc Box 544
Scottsdale 602-945-5781
Cal E E Enterprises Inc 5901 Noble Ave
Van Nuys 213-787-5360
Cal W J Purdy Co 770 Airport Blvd
Burlingame....................415-347-7701
Colo W J Purdy Co 1449 W Littleton Blvd
Littleton....................303-794-4283
Conn Harmon Assoc 251 Harvard St
Brookline Mass 617-232-6687
Conn Win-Cor Electronic Sales 75 Plandone Rd
Manhasset NY 516-627-9474
Fla G F Bohman Assoc 7040 Lake Ellenor Dr
Orlando 305-855-0274
Ill Rendell Sales Co 520 N Robinson Dr
Palatine....................312-KE9-1600
Mass Harmon Assoc 251 Harvard St
Brookline 617-232-6687
NJ J N Barrett & Assoc 140 Barclay Ctr Rt 70
Cherry Hill 609-429-1551
NJ Win-Cor Electronic Sales 75 Plandone Rd
Manhasset NY 516-627-9474
NY Win-Cor Electronic Sales 75 Plandone Rd
Manhasset 516-627-9474
Pa J N Barrett & Assoc 140 Barclay Ctr Rt 70
Cherry Hill NJ....................609-429-1551
Tex Gillett Industries 5635 Yale Blvd
Dallas 214-EM 3-0107
Wash W J Purdy Co 770 Airport Blvd
Burlingame Cal....................415-347-7701
Wis Beta Engrg Co 128 Jackson Ave
Hopkins 612-938-2551
Wis Rendell Sales Co 520 N Robinson Dr
Palatine Ill 312-KE-9-1600

ELECTRAC INC 1614 ORANGETHORPE WAY
ANAHEIM CAL 92801....................714 879-6021
L KATZ EMP 50 ENG 15 $1,000-$2,500M
Ala W Peak Box 1424 Huntsville..........205-536-5650
Cal Waldman Assoc 1094 W Evelyn
Sunnyvale....................408-245-2500
Fla Currie Aerospace Assoc Box 13229
Orlando 305-855-0843
Mass Howard J Schuft Co 815 Washington St
Newtonville 617 527-5304
NM Electronic Enterprises 5206 Constitution Av NE
Albuquerque....................505-256-1585
NC Currie Aerospace Assoc 519 Nissen Bldg
Winston-Salem....................919-725-1927
Pa Engineering Technology Corp Box 52
Bala Cynwyd....................215-667-5110
Va E-Tech Engrg Tech Corp 6615 Backlick Rd
Springfield 703-451-6500

ELECTRA/MIDLAND CORP 3151 FIBERGLAS RD
KANSAS CITY KAN 66115
TWX 910 743-6843 ....913 342-7950
P DUTCHER EMP 500 ENG 12 $5,000-$10,000M
Ariz Runyon Co Inc 6825 E Thomas Rd
Scottsdale 602 947-5711
Cal Electra/Midland Corp 3347 Industrial Ct
San Diego....................714 453-0332
Cal Electra/Midland Corp 3402 W Century Blvd
Inglewood....................213 678-2531
Cal F W Moulthrop & Assoc 1530 E 12th
Oakland 415-261-7676
Cal Black & Strong 1728 S LaCienega Blvd
Los Angeles 213-870-9191
Cal Black & Strong 444 Olive St San Diego.714-298-4711
Colo Simpson Assoc 8000 S Kendall Blvd
Littleton....................303-798-8439
Fla Conley-May Assoc West Broadway
Oviedo....................305 365-3284
Ill Electra/Midland Corp 6641 W North Ave
Oak Park 312 848-0390
Ill Grey Assoc 1421 N State Pkwy
Chicago 312-751-0647
Md Component Sales 7 Church La
Baltimore....................301-484-3647
Mass Electra Midland Corp 144 Addison St
East Boston 617-567-6146
Minn Wagner Component Consultants 542 S Snelling
St Paul 612-698-0331
NY Tech-Mork Inc 101 Jefferson Ave
Endicott....................607-748-7473
NY Sprung/Nussbaum 254 W 31st
New York....................212-565-1820
NC Candor Co Bethania....................919-924-1480
Ohio G & H Sales 7215 Market Pl Cincinnati .216 449-0944
Ohio G & H Sales 136900 Fox Hill Dr
Novelty....................513 298-0662
Pa Jerry Bresson Assoc 107 Forrest Ave
Narberth....................215 839-6770
Tex William Reese Assoc Box 24410 Dallas .214-339-4280
Tex Electra/Midland Corp Box 760
Mineral Wells 817 325-7871
Wash Western Technical Sales 10843 NE 8th St
Bellevue 206 454-3906
Fr Transitron Elctn S A R L 29 Ave de L'Opera
Paris 1....................Opera 69-89
Ger Transitron Elctn GMBH Munich 5
Corneliusstr 12....................24-12-74
GB Transitron Elctn Ltd Gardner Rd Maidenhead
Berkshire....................MU 1-26371

ELECTRAN MFG CO CONSTANT VOLTAGE CO DIV
1901 CLYBOURN AVE CHICAGO ILL 60614
TWX FAX BGD 312 248-4596
J HUBENTHAL EMP 50 ENG 5
Cal Robt G Moye Co 244 Milton Dr San Gabriel
Ill Murphy & Dickey 10001 Derby La Westchester
Mass Blake Assoc 7 Lowell Ave Winchester
Mich Thies & Assoc 1450 Rossman Ave S E
Grand Rapids
NJ Budd Cato Assoc 200 Atlantic Ave Mansquan
Ohio B Michaelson Co Box 217 Zenia

ELECTRA PRODUCTS INC RT 309
MONTGOMERYVILLE PA 18936........215 855-6674
A LIPSI

ELECTRA SCIENTIFIC DIV GULTON INDUS INC
BOX 3429 FULLERTON CAL 92634
TWX 910-592-1247 ....714 871-2150
R COLE EMP 60 ENG 6 $1,000-$2,500M

ELECTRICAL INDUSTRIES, DIV PHILIPS ELCTNS &
PHARM IND CORP 691 CENTRAL AVE
MURRAY HILL N J 07974
TWX 201 464-1553 ....201 464-3200
D WILSON
ADV PG 562
Ariz Edwin E Black 8238 E Montecito
Scottsdale 947-2007
Cal E V Roberts & Assoc 9601 W Jefferson Blvd
Culver City....................870-9561
Cal E V Roberts & Assoc 800 San Antonio Rd
Palo Alto 324-1671
Cal E V Roberts & Assoc 4279 30th St
San Diego 283-2149
Conn Hathaway Electronics Inc Ducillo Bldg
Canaan 824-7215
Fla Geartner Assoc Inc 350 Lincoln Rd
Miami Beach 538-8266
Fla H Geartner 2101 Mohawk Trail Maitland ...647-4000
Ill J Golten Co Inc 4319 W Irving Park Rd
Chicago 725-7870
Ind R O Whitesell & Assoc 6691 E Washington St
Indianapolis 359-5374
Ind M E Gamble 203 W Wayne St Fort Wayne ..743-4411
Kan Burke Sales Co 3718 W 95th St Leawood ..649-2727
Ky J Bishop 3620 Lexington Rd Louisville 893-7303
Mass Hathaway Electronics Inc 7-11 Mystic St
Arlington 646-1380
Minn HMR Inc 9 E 22nd St Mnpls....................335-7734
Mo D D Kohler 1760 S Brentwood Brentwood...962-9308
NJ A L Livera & Assoc 4 Green Village Rd
Madison....................377-3220
NY A L Livera & Assoc 275 Warner Ave
Roslyn Hts 484-1276
NY C W Beach Co 120 Ramsey Ave Syracuse ...446-9587
NY Johnson Assoc Box 125 Westfield..........454-2023
NC Wm Breeyear Box 17604 Charlotte
Ohio F Lammers 12478 W 130th St Strongville ..237-4211
Ore Dale G Weber Co Weatherly Bldg Portland ..234-0686
Va McLean Sales Co Box 250 Waynesboro 942-8678
Wash Dale G Weber Co 325 Maritime Bldg Seattle
Can D & R Assoc Olympic Prof Bldg
Upper Montclair NJ 744-8378
For L P Graner Inc 40 E 49th St New York, N Y .755-2980

ELECTRICAL INSULATION CO INC
1245 MARCONI BLVD COPIAGUE
N Y 11726 .... 516 AM 4-6190
R GOLDSTEIN EMP 65 ENG 3 $1,000-$2,500M
ADV PG 423
Conn Joseph Onkey 797 Washington Ave Bridgeport
Ind Warner, Kessler & Assoc Box 338 S Whitley
NJ Harry W Halm 22 Raymond Ave Rutherford
NY Duncan Cameron 295 East St Pittsford

ELECTRICAL PLASTICS CORP
ORIENT WAY & NEW JERSEY AVE LYNDHURST
N J 07071 .... 201 438-2400
J FELDHUSEN EMP 30 ENG 2 $250-$500M
Cal E A Wilcox Co 6436 E Corvette St
Los Angeles 723-6436
Conn Ray Perron & Co 10 Briarwood Rd
Farmington 673-4825
Fla Buchanan & Abrams Assoc Inc
1512 E Concord Ave Orlando 423-8995
Ga V Avis McCorvey Co 2187 Briarcliff Rd, NE
Atlanta 636-2502
Ill Jerry Golten Co Inc 2750 W North Ave
Chicago 384-5959
Mass Ray Perron & Co 159 Morse St Norwood ... 762-8114
Mo H A Roes & Co 2601 Cherry Kansas City 221-0866
NH Ray Perron & Co 1 Elm St Dover 742-2321
NJ Harry Thaw 46 Springbrook Rd Livingston .. 992-2711
NY Schmitz Bros Inc 82 St Paul St Rochester .. 546-7628
Ohio Midwest Sales Co 3219 West 117th St
Cleveland 941-2700
Pa Humes-Quinlan Sales Co 242 E Butler Ave
Ambler 646-7250
Tex Stasco 13310 Spring Grove Ave Dallas 239-5054
Wash National Co Inc 69 Marion St Seattle 623-7060

ELECTRICAL REFRACTORIES CO 50 E CLARK ST
EAST PALESTINE OHIO 44413 .... 216 426-9433
L TURNER EMP 54 $250-$500M
Cal E A Wilcox Co 6436 E Corvette St
Los Angeles .... RA 3-6436
Ill Harold L Dale 5816 W Lake St Chicago ... CO 1-8244
Mich W A Krogh 81 Vernier Grosse Pointe Shores . 871-7670
NY L I Machinery Sales Corp 568 W Hoffman Ave
Lindenhurst .... TU 4-3070
Wash E A Wilcox Co 15001 8th Ave SW Seattle .. 243-5450

ELECTRICAL TESTING LABS INC 2 EAST END AVE
NEW YORK N Y 10021 .... 212 288-2600
H BEAGLE EMP 150 ENG 26 $1,000-$2,500M

ELECTRICAL UTILITIES CO
2427 ST VINCENTS AVE LA SALLE ILL 61301
TWX 910 642-3947 .... 815 223-1732
R WALDORF EMP 303 ENG 10 $2,500-$5,000M
Cal W E Kirk Co 415 Wall St Los Angeles .... MA 4-3651
Ill E C Winkenwerder 5932 Gunnison Ave
Chicago 736-1332
Mich Elmer Jordan 2024 Glen Dr Jackson ...... ST 2-0694
NJ Adley Corp 210 N 6th St Camden .... WO 4-9533
NY Landfear & Brophy Inc Box 575 Rochester .. 442-0430
Ohio W Brauer & Assoc 29029 Euclid Ave
Wickliffe 943-0601
Okla Components Inc 1526 E Fourth St Tulsa ... LU 3-9149
Tex Industrial Equipment Co 6831 Navigation Blvd
Houston .... WA 8-3463
Va Adley Corp 2523 Wilson Blvd Arlington .... JA 7-8036
Wash Jos C Platt 111 Bell St Seattle .... MA 3-6141

ELECTRICAL WINDINGS INC 2015 N KOLMAR AVE
CHICAGO ILL 60639 .... 312 235-3360
L KAMMERER EMP 200 ENG 4 $1,000-$2,500M
Colo Electronic Component Sales Co
4783 So Quebec St Denver 771-6200
NM Electronic Component Sales Co 209 San Pablo SE
Albuquerque 256-3663
NY R E Breuer Co Inc 1 Barstow Rd
Great Neck 516 466-3030
Pa John J Nolan Assoc 314 W Sparks St
Philadelphia 924-1595
Utah Electronic Component Sales Co Box 2066
Salt Lake City 262-3700

ELECTRIC INDICATOR CO INC 195 K DANBURY RD
WILTON CONN 06897 TWX 96-5945 .... 203 762-8655
W SLY EMP 185 ENG 5 $2,500-$5,000M
Cal E V Roberts & Assoc 800 San Antonio Rd
Palo Alto 415-324-1671
Cal Valectron Engineering Co Box 762
West Covina 213 330-1515
Fla W Ben Wimberly Co 532 S Ft Harrison Ave
Clearwater 813-446-7072
Ill R M Puzerewski Sales 8159 W Balmoral Ave
Chicago 312-631-9545
Md Jadelectronic Assoc Box 115 Greenbelt . 301-474-8161
Mass John E Boeing Co Inc Box 5 Lexington . 617-862-2500
Mich Sheridan Assoc Inc Box 128
Lathrup Village 313 358-3333
Minn Murphy Assoc Inc 730 Chicago Ave
Mnpls 612-333-4511
Mo Sheridan Assoc, Inc Box 3997 St Louis . 314-524-4800
NY Jones/Sudders Inc 309 Colony Park Dr
Liverpool 315-457-1180
Ohio Sheridan Assoc Inc Box 37646
Cincinnati 513-761-5432
Okla T J Ray Co Box 45191 Tulsa 918-627-1515
Pa Jadelectronic Assoc Box 5735
Philadelphia 215-455-3355
Tex W Pat Fralia Co Box 12625 Ft Worth . 817-738-2394
Can Power Service Prods Co Box 184
Islington, Ont 416-239-2977
For Aeromaritime Inc 1156 15th St NW
Washington, DC 202-659-8140

ELECTRIC MACHINERY MFG CO 800 CENTRAL AVE
MINNEAPOLIS MINN 55413 .... 612 FE 9-6751
C REMMERS EMP 1400 ENG 125
Ala Electric Machy Mfg Co Box 2015 Birmingham
Ariz Electric Machy Mfg Co Drawer 869
Phoenix .... AL 8-4551
Cal Electric Machy Mfg Co 420 Market St
San Francisco .... EX 2-8296
Colo Electric Machy Mfg Co 4949 Colorado Blvd
Denver 388-6322
DC Electric Machy Mfg Co 1025 Vermont Ave NW
Washington 347-6400
Fla Electric Machy Mfg Co Box 10537 Tampa .. 832-8111
Ga Electric Machy Mfg Co 1677 Tullie Circle
Atlanta 633-9271
Ill Electric Machy Mfg Co 20 N Wacker Dr
Chicago .... ST 2-7153
Ind Electric Machy Mfg Co 4165 Millersville Rd
Indpls .... LI 6-4053
Kan Electric Mach Mfg Co Box 8226
Prairie Village .... En 2-8540
La Electric Machy Mfg Co 1500 Lafayette St
Gretna 362-1074
Md Electric Machy Mfg Co 333 E 25th St
Baltimore .... HO 7-3280
Mass Electric Machy Mfg Co 235 Bear Hill Rd Waltham
Mich Electric Machy Mfg Co 3117 W McNichols Rd
Detroit .... DI 1-8686
Minn Electric Machy Mfg Co 800 Central Ave
Mnpls 339-9631
Mo Electric Machy Mfg Co 4378 Lindell Blvd
St Louis .... OL 2-2222
Mont Electric Machy Mfg Co 829 Maryland Butte . 792-5447
NY Electric Machy Mfg Co 110 E 42nd St
New York .... OX 7-0955
NC Electric Machy Mfg Co 1409 E Boulevard
Charlotte .... ED 4-4244
Ohio Electric Machy Mfg Co 215 Euclid Ave
Cleveland .... CH 1-6369
Okla Electric Machy Mfg Co Box 7573 Tulsa ... LU 5-5624
Ore Electric Machy Mfg Co 1233 NW 12th Ave
Portland .... CA 3-7349
Pa Electric Machy Mfg Co 1617 J F Kennedy Blvd
Phila .... LO 3-1197
Tenn Electric Machy Mfg Co Box 395 Knoxville .. 523-0111
Tex Electric Machy Mfg Co
2017 Fid Union Tower Bldg Dallas ...... RI 8-6691
Utah Electric Machy Mfg Co Box 16046
Salt Lake City 355-7464
Va Electric Machy Mfg Co Box 8238 Richmond . 288-3008
Wash Electric Machy Mfg Co Box 2983 Spokane . HU 7-1641
Wis Electric Machy Mfg Co 5856 N Pt Wash Rd
Milwaukee .... ED 2-5140
Can Electric Machy Mfg Co 10187 104th St
Edmonton .... GA 2-6954
Can Electric Mach Mfg Co Box 315 Don Mills
Toronto, Ont 447-5876
BC Electric Machy Mfg Co 1300 W 6th Ave
Vancouver .... RE 6-0351

ELECTRI-CORD MFG CO INC 312 E MAIN ST
WESTFIELD PA 16950 .... 814 367-2265
B GRANT EMP 125 ENG 2 $2,500-$5,000M
Cal Falmat Inc 13125 Yukon Ave
Hawthorne 213-772-6207
Colo Fred A Pease Box 31246 Aurora 303 364-9391
Conn Raymond Russ 244 Mountain Rd
Windsor 203 658-6261
Ill R M Puzerewski Sales 8159 W Balmoral Ave
Chicago 631-9545
Ind Frederick & Meily 1601 S Hanna St
Fort Wayne 219 745-2461
Iowa In-Tek Sales Co 2818 A Ave N E
Cedar Rapids 319 364-0833
Mass Andrew L Gutekunst Co 46 Gates Rd
Shrewsbury 617 235-6330
Miss Herron Assoc 4394 18th Ave Meridan .. 601 482-1878
NJ A Morin 18 Johnson Ave Englewood .... LO 8-8511
NY Thos H Maden Box 83 Fayetteville 315-446-9280
Pa A Wetterhan 4420 Crescent Blvd
Pennsauken NJ 609-662-1611

ELECTRIC PRODUCTS CO 1725 CLARKSTONE RD
CLEVELAND OHIO 44112
TWX 216-486-5766 .... 216 481-1500
R PURSELL EMP 261 ENG 15 $500-$1,000M
Cal Electric Products Co 1255 Post St
San Francisco .... PR 5-6010
Ill Electric Products Co 650 Roosevelt Rd
Glen Ellyn 469-7021
NY Electric Products Co 65 W 55th St
New York 765-3072

ELECTRIC SOLDERING IRON CO INC W ELM ST
DEEP RIVER CONN 06417 .... 203 526-5361
A MEYERS EMP 50 ENG 1
Cal Sierra Pacific Engrg Inc 11235 Park St
Cerritos 213-865-3112
Colo Electronic Mfrs Consultants Box 503
Colorado Springs 303-636-5131
Fla MacGregor Assoc Box 1711
Clearwater 813-446-7310
Ill H Halinton Eng Assoc 6418 N Central Ave
Chicago 763-2131
Ind B F Homsher Co 418 E Berry St
Fort Wayne 219 432-1164
Mass RJC Assoc 600 Main St Waltham 899-5858
Mo Maury E Bettis Co 3706 Broadway
Kansas City .... LO 1-0772
NY Oren G Lanzendorf Co 513 Cumberland Ave
Syracuse .... GR 2-4195
Pa J V Calhoun Co 349 Montgomery Ave
Bala Cynwyd 839-3000
Tenn Hillyer Tool Sales Co Bell Meade Cove
Memphis 682-5781
Tex Geo Weinreich & Assoc 11554 E Northwest Hwy
Dallas 214-321-2800

ELECTRIC TACHOMETER CORP 6749 UPLAND ST
PHILADELPHIA PA 19142 .... 215 SA 6-7723
F PORTER EMP 50 ENG 4 $500-$1,000M
Cal Paul Rosen Co Box 16 Berkeley 526-8286
Cal Slocum Industries Box 687 Reseda 345-8544
Fla CES Assoc Box 1152 Melbourne 254-2183
Haw Berkley Eng & Equip Co Box 3856 Honolulu .. 581-921
Ill Johnson Eng & Sales Co 120 E Ogden Ave
Hinsdale 325-2272
Ind Law Instrument Co Box 95 Angola 665-6016
Mass Hardy Co 4 Waltham St Lexington 861-0201
Mich Tufts Equipment Co Box 2309 Dearborn ... CR 4-0515
Mo C O Leaver Co 2800 S Brentwood Blvd
St Louis .... WO 8-1500
NJ C G Thomson 272 Jefferson Ave Haddonfield . 429-5233
NJ A & B Electronics Co 14-25 Plaza Rd
Fair Lawn 797-5356
NY A & B Electronics Co 891 Fulton St
Valley Stream 825-8955
NC Associated Agents Box 11444 Greensboro .. 292-6508
Ohio Kammerer Sales Co 3449 Observatory Ave
Cincinnati 321-5494
Tex Jordan Equipment Co Drawer V Stafford .. GY 8-6212
Wis Johnson Eng & Sales Co 2333 W Wells St
Milwaukee .... WE 3-3138
Can Lasanne Services Ltd 426 Victoria Ave
St Lambert Que 514-672-6430
For Font Assoc Box 69 Old San Juan PR 725-4631
Ital Cesare Pavone S A S Via Del Cybo, 11/c Milan
Braz Coel Controles Electricos Ltda
Rue Maris E Barros 146 Sao Paulo 63-4144

ELECTRIC TERMINAL CORP 25 BELLOWS ST
WARWICK R I 02888 .... 401 781-2189
W MASSIE JR EMP 55 ENG 2 $500-$1,000M
Ga C H Cloer & Assoc 3272 Peachtree Rd NE
Atlanta 231-4625
Ill J C Angel & Co 2743 W Peterson Ave
Chicago .... UP 8-0653
Ind Sales Assoc Box 2841 Ft Wayne 627-3152
Ky R O Whitesell & Assoc 3620 Lexington Rd
Louisville 893-7303
Mich Heick & Ralph Assoc 26847 Grand River
Detroit 40 538-3350
Mo H J Weisler & Assoc 2050 Woodson Rd
St Louis .... HA 9-3934
Ohio American Magnetics 149 Valleyview Dr
Dayton 277-5122
Can R Neill Co 5200 Yonge St Willowdale, Ont ... 489-1269

ELECTRIC THERMOMETERS, INC 10 GLOVER AVE
NORWALK CONN 06850 .... 203 847-7265
A ABRAMS EMP 30 ENG 5 $500-$1,000M
Cal Repex 2015 Latham St Mountainview .. 415-969-9200
Cal L H Freeman Co 13263 Ventura Blvd
Studio City 213-872-1633
Del H E Beane Assoc Marlboro Rd Rt 1
Kennett Square Pa 215-793-1204
Ill Arthur Clark 6560 N Sheridan Rd
Chicago 312-274-0304
Mass Andruss-Peskin Corp 15 Court St
Natick 617 653-3919
NY Liasson Co New York 914-948-6211
NY TEK Sales Inc 1157 Fairport Rd
Fairport 716-381-8110
NC Data Tech Inc 5950 Fairview Rd
Charlotte 704 366-5302
Pa Weiss Instrument Co 6 Barton Dr
Pittsburgh 412-371-3020
Va Datatech Inc 4906 Fitzhugh Ave
Richmond 703-358-6925
Wash Instr Engr Sales 1331 3rd Ave Bldg
Seattle .... MU 2-1123
Can Bestobell Controls Ltd 235 Norseman St
Toronto 416-231-9216

ELECTRIX CORP BOX 5117 ESMOND
R I 02917 .... 401 231-1700
J KENNEDY EMP 50 ENG 2 $1,000-$2,500M
Mass Anchor Engineer Corp 336 Washington St
Wellesley Hills 617-235-6330
Mich Airola-Beach 4571 Arrow Head Rd
Okemos 517-332-4600
NC B M Triggs & Assoc Box 17844 Charlotte
Ohio H H Rauh 1506 Pemberton Dr
Columbus 614 488-3574

ELECTRO-AIR DIV EMERSON ELECTRIC CO
OLIVIA & SPROUL STS MCKEES ROCKS
PA 15136 TWX FAX-GXC 412 771-4900
A CONWAY EMP 150 ENG 5 $5,000-$10,000M
Cal W R Hickey 3337 Clay St
San Francisco 415-563-8538
Conn B R Noonan 99 Clinton Dr S Windsor ... 203 644-1206
Ga J S Ragan 6048 Driftwood Trail
Mableton 404 948-3703
Ill Thermal Range Prods Co 400 N Wells St
Chicago 312 644-5644
Ind C E Ray Co 5555 N Tacoma Ave
Indianapolis 317 255-7500
Iowa L L Brouwer Ventura 515 829-3377
Ky D McAtee 1424 S Ft Thomas
Ft Thomas 506-781-1720
La T M Peyton 1223 Compromise St
Kenner 504 721-7913
Md W C Mann 6229 Fernwood Terr
Riverdale 301 459-4661
Mich Geo Crampton Co 19956 James Couzens Dr
Detroit 313 343-3883
Minn Delanel-Cardinal Co 796 E 7th St
St Paul 612 776-2757
Mo E W Lytle 6633 Weber Rd St Louis 314 631-8040
NJ R T Kuenzler 29 John Pl Cedar Grove .. 201-256-4222
NY N Hill R D 1 Salt Springs Rd
Chittenango 315 687-6642
NC E G Byrum Jr 101 McAlway Rd
Charlotte 704-366-1720
Ohio Mussun Sales, Inc 1547 E 18th St
Cleveland 216 621-5088
Okla G E Baxter 2944 Huntleigh Dr
Oklahoma City 405-232-4147
Ore L A Cox 4214 NE 27th Ave Portland ... 503 281-5459
Pa W S McKinnon 2620 Hillcrest Ave
Norristown 215-279-7818
Tex Schenk & Assoc 8415 Bluebonnet
Dallas 214-357-2935

For Wesco Export, Ltd 2 Park Ave
Manhasset NY 516 365-9824

ELECTRO APPLICATIONS, INC GEORGE ST
CANONSBURG PA 15317 412-745-7730
J LAHOSKY EMP 11 ENG 2 $250-$500M
Cal Hubbell Co 2810 E Echo Hill Way Orange ...637-1998
Pa H A Woolman Co 4 W Manilla Ave
Pittsburgh 922-2420

ELECTRO ASSEMBLIES INC
4338 W MONTROSE AVE CHICAGO ILL 60641
TWX 25-3693 ....312 282-1266
D STEWART EMP 50 ENG 4 $250-$500M
Cal Components Unltd Box 801 San Carlos 326-1033
Ill Nu-Tronix Sales Corp 4477 N Elston Ave
Chicago 736-6023
Iowa Jerry VRBIK Co 2818 A Ave NE
Cedar Rapids 365-0461
NJ Winter Assoc Box 104 Boonton 334-3434
Pa Cooper-Clement & Assoc 835 Glenside Ave
Wyncote 548-5450
Cal L Kidd 2813 Gobat Ave San Diego 714 453-4712
Fla Beacon Electronics Box 1728 Maitland .305 564-4298
Haw Paul Hanson Co Box 2173 Honolulu .808 510-484/485
Ill H J Corey 2538 W Peterson Ave
Chicago 312 973-5300
Mass Measurement Equip Corp 591 North Ave
Wakefield 617 245-4870
Tex M Brainard Jr 2505 Braodway Houston .713 643-6239
Va Sutter & Co 145 Church St Vienna 703 938-0505
Wash Paratech Box 5427 Seattle 206 783-3900
Can Instronics Ltd Box 100 Stittsville Ont ..613 836-4411

ELECTRO-CHEMICAL ENGRAVING CO INC
1100 BROOK AVE BRONX N Y 10456 ...212 LU 8-9000
S SMALL EMP 300 ENG 4 $2,500-$5,000M

ELECTROCHIMICA CORP 1140 06BRIEN DR
MENLO PARK CAL 94025..............415 323-0283
A ANTTILA EMP 20 ENG 8 $250-$500M

ELECTROCHROME CORP 11 COMMERCIAL ST
PLAINVIEW N Y 11803 ....516 433-0808
M MILLER EMP 15 ENG 3

ELECTRO CONNECTIVE SYSTEMS INC
87 WESTGATE DR BROCKTON
MASS 02401 ....617 588-5100
H GRANT EMP 70 ENG 20 $500-$1,000M
Ala NBS, Inc Box 1343 Huntsville 205 881-3175
Ariz TCI Mfrs Reps 415 Winfield Scott Plaza
Scottsdale 602 945-4554
Cal Hitemp Wires Div 1532 S Calif Ave
Monrovia 213 359-8381
Colo Lindberg Co 2654 S Krameria Denver ..303 757-6489
Conn Forsberg Sales 22 Broadway
North Haven 203 239-5111
Fla NBS, Inc 2813 Primrose Ct Orlando ...305 423-4856
Ga NBS, Inc 893 Church St NW Marietta .404 422-6067
Kan Halgin Sales 5460 Buena Vista Mission .913 722-2441
Md Ansell Engrg Co 816 Thayer Ave
Silver Spring 301 588-4222
Mass Forsberg Sales 646 Summer St
Brockton 617 588-6110
Mich Reichold Assoc 14 Weston St SE
Grand Rapids 616 459-4445
NJ Graydon-Sherman Inc 230 Madison Ave
Morristown 201 538-9246
NM TCI Mfrs Reps 2318 Wisconsin NE
albuquerque 505 298-2628
NY Graydon-Sherman Inc Davis Bldg
Fayetteville 315 637-9861
Ohio Gallagher Co 15 Ritchie Ave Cincinnati ..513 761-1288
Pa Graydon-Sherman Inc 835 Connell Ave
Yeadon 215 664-7316
Tex Kemp Engineering Co 2618 Manana Dr
Dallas 214-357-6663
Wash Ray Johnston Co Inc 1011 NE 69th St
Seattle 206 524-5170

ELECTRO-CRAFT CORP 1600 S SECOND ST HOPKINS
MINN 55343 ....612 935-8226
J LITTLE EMP 100 ENG 5 $2,500-$5,000M
ADV PG 391
Cal Long & Assoc 505 Middlefield Rd
Redwood City 369-3324
Colo Daniels-Padgett Assoc 2785 N Speer Blvd
Denver 303-433-7181
Conn John F Whitehead Co Monroe Bldg
Guilford 203-453-3855
Fla R F Willet Co 1260A S Highland Ave
Clearwater 446-0075
Ill Oak Engineering 7343 W Wilson Ave
Chicago 867-6262
Mich R C Merchant & Co Inc 18411 W McNichols Rd
Detroit 313-535-6000
Minn Arjay Sales Co 6121 Excelsior Blvd
Minneapolis 612-921-1833
Mo Wells-White Co 7607 Page Blvd St Louis ...726-2511
NY Ross Co Box 301 East Sta Yonkers 212-824-5425
Ohio Arthur H Baier Co & Assoc Willoughby .216-946-6080
Pa C A Briggs Assoc Box 151 Glenside 885-2244
Tex J Y Schoonmaker Co Inc 2995 Ladybird La
Dallas 357-8481
Wis Automation Engrg Co 12740 N River Rd
Mequon 414-242-1520
Can Electrodesign Ltd 3433 Bathurst St
Toronto 19 Ont 416-787-0991
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 11 Que 514-389-5914

ELECTRO CUBE INC 1710 S DEL MAR AVE
SAN GABRIEL CAL 91776 ....213 283-0511
V GOTT EMP 125 ENG 5 $1,000-$2,500M
Ariz Dubblar Assoc 1822 E Windsor Ave
Phoenix 602 277-9739
Cal Aracia Sales Inc 216 Middlefield Rd
Mtn View 415-969-9900
Colo Daniels Padgett 2785 N Speer Blvd Denver

Fla Technical Mktg 1511 E Robinson
Orlando 305-424-8531
Ill Lincoln, Hodges & Assoc 5875 N Lincoln Ave
Chicago 561-8440
Kan Penzner Assoc Box 4362 Overland Park 381-0004
Md Mount & Co 4853 Cordell Ave
Bethesda 301 652-4845
Mass Godfrey Co Box 68 Reading 944-2230
Mich Skip Greiner Assoc 15318 Mack Ave
Detroit 313 882-7570
Minn Electro-Serv 1455 W Lake St
Minneapolis 612 827-2907
NY Gislason Sales Co 82nd St Paul St
Rochester 454-4741
Ohio Neal Bear Corp 2801 Far Hills Ave Dayton ..299-3566
Pa Nebco Assoc 1974 Gregory Ave Monroeville .824-2111
Tex Whiteside Sales Box 22 Garland 276-8382
Wash Mount & Co 4853 Cordell Ave
Bethesda 301 652-4845
Can John Herring & Co 3468 Dundas St, W
Toronto 9, Ont 413 762-7545

ELECTRO-DATA INC 3121 BENTON ST GARLAND
TEX 75040 ....214 276-6167
J SHORT EMP 18 ENG 5 $250-$500M
Ariz Hyer Assoc 3300 S Mill Tempe 602-275-7524
Cal Wright Engineering 180 E Calif Blvd
Pasadena 213-681-2651
Colo Hyer Assoc 8101 E Prentice Ave
Englewood 303-771-5424
Fla Gra-Mar 3113 Lawton Rd Orlando 305-841-2330
Md Bryne Assoc 4853 Cordell Ave
Bethesda 301-654-8814
Mass Instr Consultants Inc Box 25 Waban ...617-969-9881
Mich Ohio Instr 8928 Nottingham Dr
Ypsilanti 313-484-0585
NJ Central Assoc 44 N Dean St Englewood .201-568-0808
NM Hyer Assoc 130 Alvarado Dr NE
Albuquerque 505-265-5961
NY Central Assoc 11 Commercial St
Plainview 516-433-0808
Ohio Ohio Instruments 505 Whitney Ave
Worthington 614-885-0743
Pa M Lader Co 628 Ridge Pike
Lafayette Hill 215-825-3177
Tex Chas Hoffman Assoc 777 S Central Expwy
Richardson 214-235-3600
Utah Hyer Assoc 1425 S 2nd W
Salt Lake City 801-487-7747
Can Instronics Techno-Prods Ltd Box 100
Stittsville Ont 613-836-4411
Can Instronics Techno-Prods Ltd
Montreal Que 514-332-9395
Den Intelec A/S Holbergsgade 14 Copenhagen K
Fr Salies Import 65-67 Ave Jean Jaures
91-Palaiseau 920-40, 10
Ger Wacker GMBH Stettenstr 9
6 Frankfurt Am Main 55 53 54
GB Roberts Electronics Ltd 17 Hermitage Rd
Hitchin ....HI 5-0551
Neth Projecto Prinsengracht 530 Amsterdam 234342
Jap Seki & Co, Ltd
92-Chome Nihonbashi-Koamicho Chov-Ku
Tokyo 669 4121
Swed Teleprodukter Box 43070 Stockholm 18 29 30
BC Instronics Techno-Prods Ltd
Vancouver 604-688-2619
Ind Radiosound 42 Canady Bridge Bombay 4 353997

ELECTRO DESIGN INC 8141 ENGINEER RD
SAN DIEGO CAL 92111 ....714 277-2471
J DEAVENPORT EMP 3 ENG 1

ELECTRO DEVELOPMENT CORP BOX 100
LYNNWOOD WASH 98036
TWX 910 449-2855 ....206 743-1313
O SAILER EMP 350 ENG 100 $5,000-$10,000M
Cal Egbert Engineering of Cal 801 Welch Rd
Palo Alto 415-326-1387
Colo Hilleary Assoc 2552 Ridge Rd Littleton .303-794-4279
Ga Astro-Tec 3456 Paces Pl NW Atlanta ..404-237-0943
Mass EDC Box 16 Groveland 617-372-8032
Mo Fen-Co Assoc 8003 Forsyth Ave
Clayton 314 863-0231
NY The Barker Co 288 Old Country Rd Mineola .746-0481
Va Gans-Fryling Inc 2030 16th St N Arlington ..527-3262

ELECTRO-DEVICES INC SERVOSPEED DIV
4-6 GODWIN AVE PATERSON N J 07501 .201 274-8989
O CARLSON EMP 18 ENG 2 $500-$1,000M
Ind Industrial Transmission Equip, Inc
1147 Mishawaka Ave South Bend
Mass Stanwood Assoc Box 112 Sherborn 617 655-2597
NJ Frederick E Kent Deerhaven Mahwah
Ohio Wagner-Smith Co Box 672 Dayton
Pa William D Staats 2766 Murray Ave
Cornwells Heights
Wash Picatti Brothers Inc 105 S 3rd Ave Yakima

ELECTRODYNE DIV BECTON, DICKINSON CO
SHARON MASS 02067 617-828-9080
J GORDON
Cal D McBride 657 S Van Ness Ave
San Francisco 415-861-7877
Ill H Osterberg 164 N Addison St
Bensenville 312-766-6611
Ky L Perlman 692 New Cir Rd NE
Lexington 606-254-0719
Mich R Wrona 23614 Van Born Rd
Dearborn Heights 313-562-7744
Minn Robert Lahay 333 Maple Lane Ct
St Paul 612-484-3419
Mo R Brandt 7347 Cartwheel La
Hazelwood 314-839-3031
Neb J Kronschnabel 13405 Cedar St
Omaha 402-333-6673
NJ F Robertson 116 Canterbury Rd
Moorestown 609-234-0774
NY Samuel Lasky 98 Ketchum Rd
Hicksville 516-WE 5-2958

Pa D Epperson 8229 Elaine Dr Pittsburgh .412-364-2773
Tex Chas Bolding 2107 Prairie Creek Dr
Richardson 214-235-2444
Va Rob Smith 768B Windomere Ave
Richmond 703-262-3162
Wash E Rizk 2615 162nd St Bellevue 206-TU 5-2860
Can Y Brisson 2464 S Sheridan Way
Clarkson, Ont 278-9202

ELECTRO-ETCH CIRCUITS INC
7112 S VICTORIA AVE LOS ANGELES
CAL 90043 ....213 752-6111
R GRAWOIG EMP 20 ENG 3

ELECTRO FIBEROPTICS CORP 45 WATER ST
WORCESTER MASS 01604 617-791-7391
R POULIN EMP 31 ENG 5
Mass Lancer-Kneeland Inc 359 Main St
Haverhill 617-373-1313
Minn Murphy Assoc 730 Chicago Ave Mnpls .612-333-4511

ELECTROFILM, INC 7116 LAUREL CANYON BLVD
NORTH HOLLYWOOD CAL 91605
TWX 910 499-2663 ....213 875-1000
L HORWEDEL EMP 160 ENG 12 $2,500-$5,000M
Cal Westec Elctns, Inc 110 First St Los Altos ...948-8880
Fla Holcombe Sales Agency
2827 Cullen Lake Shore Dr Orlando 855-2455
Ga Holcombe Sales Agency 3098 Piedmont Rd, N E
Atlanta 233-2837
Ill Malovac Sales Co 1726 N 76th Ct
Elmwood Park 637-9090
Ind R O Whitesell & Assocs 6691 E Washington St
Indianapolis 359-5374
Ky R O Whitesell & Assocs 3620 Lexington Rd
Louisville 893-7303
Mass R O Whitesell & Assocs 25100 Evergreen Rd
Southfield 358-2020
Minn Wm B Odegard Inc 6504 Walker Ave
Minneapolis 929-2226
NJ Electrofilm, Inc 2 Fellowship Rd Cherry Hill ..428-6300
Ohio Components Inc 7461 N Linden La
Cleveland 842-2737
Tex Electrofilm Inc 903 Newberry Richardson ...231-3920
Wash Martin Poggi Co 845 106th NE Bellevue 454-2026
Can Lake Engrg Co Ltd 123 Manville Rd
Scarborough Ont 751-5980

ELECTRO-FLEX HEAT INC NORTHWOOD IND PK
BLOOMFIELD CONN 06002
TWX 710 425-2978 ....203 242-6287
R RAVENSCROFT EMP 50 ENG 5 $500-$1,000M
Cal Don Weaver & Assoc 13218 Crenshaw Blvd
Gardena 213 321-8962
Colo Franklin Sales Co 2149 S Clermont St
Denver 303 757-0734
Fla H R Webb Assoc 409 Oak Lynn Dr
Orlando 305 855-5257
Ill Raines & Assoc 636 Charlemagne Dr
Northbrook 312 272-9129
Ind F E Menze 6010 Lower Huntington Rd
Ft Wayne 219 747-5616
Mass Representatives Corp 10 High St
Boston 617 426-0541
Mich R T Mathews & Co 20441 James Couzens Hwy
Detroit 313 835-5200
Minn E Melius & Assoc Inc Box 2606 St Paul .612 484-8541
Mo Maury E Bettis Co 3706 Broadway
Kansas City 816 561-0772
NJ R Lawson Assoc Box 206 Wenonah 609 857-1515
NY J P Scanlon Co 51 Bloomfield Pl
Rochester 716 473-7553
NC Winco Sales Assoc Box 1022 Raleigh ...919 772-4269
Ohio Norco Indus Sales Corp 3439 W Brainard Rd
Cleveland 216 831-5191
Pa Angus McArn Co Box 11127 Pittsburgh .412 366-1533
Tex Kanowsky Sales Engineers Box 35184
Dallas 214 352-8431
Wash Technical Sales Co Box 3143 Seattle ..206 723-4982
Wis Kramer Indus Sales Co 4117 W North Ave
Milwaukee 414 442-9680
Can S C Hooker Ltd 144 Ronald Dr
Montreal, Que 514 488-9114
Can Samuel C Hooker Ltd 2602 St Clair Ave W
Toronto Ont 416 767-7725

ELECTROFORMS INC 239 E GARDENA BLVD
GARDENA CAL 90247.................213 321-2905
T LARSEN EMP 55 ENG 2 $250-$500M

ELECTROGLAS INC 150 CONSTITUTION DR
MENLO PARK CAL 94025
TWX 910 373-1214 ....415 325-1536
J LUCUS EMP 200 ENG 32 $5,000-$10,000M
Cal Electroglas Inc 9323 Natick Sepulveda .213-892-1265
Fla Electroglas Inc 3833 Wry Rd
Lake Worth 305-842-2411
Ill Carter Electns, Inc 7203 S Western
Chicago 312 776-1601
Minn Carter Elctns, Inc 2401 West 66th St
Minneapolis 612 869-3261
NJ Electroglas, Inc 22 E Quackenbush Ave
Dumont 201 384-2800
Ohio WKM Assoc Inc 6741 Ridge Rd Cleveland ...885-5616
Pa WKM Assoc Inc 90 Clairton Blvd Pittsburgh .892-2953
Tex Electroglas Inc 312 N Central Expwy
Richardson 214-321-8244
Fr Technique et Prod Rue Carle-Vernet
Cite des Bruyeres, Sevres 92 408-14-00
Ger Electroglas GmbH Herterichstr 9 8 Munich 71 .797846
GB E P A K Assoc 73 Cherry Orchard Rd
Croydon ....CR 9 6AH
Ital Hulss & Cappelli Vai G Lazzaroni 4 Milano
Ital G G Gorgatti Vis Borromei 5
20123 Milano 870.725-890.040
Jap Tokyo Electron Labs TBS Kaikan Bldg Akaska
Minato-ku Tokyo
Swit Ing-Industrievertretungen Dorngasse 311
8967 Widen 05777440
Belg Belram, S A 83 Ave des Mimosas Brussels 15

Ind Bali Intl Agencies Palton Rd Box 1676 India
Isrl Intradco 58/60 Moriah St Haifa 8-4455
Aust N I C Instrument Co Essendon Airport Victoria 3041

ELECTROID CORP 95 PROGRESS ST UNION
N J 07083 ....201 686-8290
J WILSON EMP 100 ENG 7 $1,000-$2,500M
Ariz Jarko Assoc 2032 N 27th Ave Phoenix .602 272-2684
Cal Edward L Parsons Co 1954 Mountain Blvd Oakland 415-339-8086
Conn Tor-Axial Drive Components Box 193 Unionville 203-673-3592
Ill Automation Kinetics & Controls 1301 W 22nd St Oakbrook 312-654-2775
Mich Cliff Engineering Co 1104 Gladstone, S E Grand Rapids 616 241-4070
NY John G Rubino Inc 313 State Tower Bldg Syracuse 471-5179
Ohio Zenith Engineering Sales Co 3344 Broadview Rd Cleveland 661-0104
Pa E T C Sales Box 101 Radnor 215-687-1360
Wash Campbell Industrial 3433 Airport Way S Seattle 206-MA2-5567

ELECTRO IMPULSE LAB INC 116 CHESTNUT ST
RED BANK N J 07701
TWX 710-722-5767 ....201 741-0404
M RUBIN EMP 50 ENG 6 $500-$1,000M
Cal RF Assoc 1621 Pontius Ave West Los Angeles 213-478-1586
Fla Gra-Mar 3113 Lawton Rd Orlando 305-841-2330
Md Scientific Mktg Assoc 8817 Hunting La Laurel 301-776-5130
Mass Atlantic Assoc 224 Cordaville Rd Ashland 617-881-4060
NJ Megargel & Himmelstein 8070C Rte 130 Pennsauken 609-662-3081
NY Lightstone Corp E Molloy Rd Syracuse .315-454-3209
Tex Chas Hoffman Assoc 777 S Central Expwy Richardson 214-235-3600
Can Conway Elctns Ltd 88-90 Arrow Rd Weston, Ont 416-244-5655
For Rocke Intl 13 E 40th St New York, NY .212 689-0200

ELEC-TROL INC 21018 SOLEDAD CANYON RD
SAUGUS CAL 91350 805-252-8330
K DORIOT EMP 100 ENG 6 $1,000-$2,500M
Ala Frank C Nickerson Co 1148 Cheyenne Blvd Birmingham 853-3181
Cal Ruby Sales Corp 1265 E Camino Real Santa Clara 243-1694
Cal Carl E Holmes Co 107 N Ave 64 Los Angeles .256-2255
Colo Electronic Component Sales Box 22011 Denver 771-6200
Conn N P M Assoc, Inc 522 E Putnam Ave Greenwich 869-4955
Fla Frank C Nickerson Co 611 NW 73rd Ter Fort Lauderdale 524-4331
Ga Frank C Nickerson Co 1244 Clairmont Ave Decatur 377-1575
Ill A S & H Assoc 6272 W North Ave Chicago ..237-2053
Ky G&H Sales Co Box 18178 Louisville 239-1162
Md Jadelectronic Assoc Box 115 Greenbelt.....474-8161
Mich G&H Sales Co 24001 Southfield Rd Southfield 358-1910
Minn Cahill Assoc 3000 Hudson Rd St Paul 739-8445
Mo Havercamp & Day Co 8115 Troost Kansas City 444-2871
NM Electronic Component Sales 209 San Pablo SE Albuquerque 256-3663
NY HRC Assoc 390 Plandome Rd Manhasset ...627-4644
NY KLM Assoc 1 Nouvelle Park New Hartford ..735-8525
NC Frank C Nickerson Co 1001 Parrott Ave Kinston 527-4911
Ohio G&H Sales Co Box 37416 Cincinnati.......761-6185
Pa Jadelectronic Assoc Box 5735 Philadelphia..455-3355
Tex Allied Components, Inc Box 38009 Dallas...DI 8-6660
Utah Electronic Component Sales 445 E 2nd S Salt Lake City 355-5327
Wash Ray Over Sales 1615 103rd Ave, S E Bellevue ....GL 4-4551
Can Whittaker Electronics Ltd 42 Howden Ave Ottawa, Ont 224-1221

ELECTROLOGIC INC 4732 INDIANAPOLIS BLVD
EAST CHICAGO IND 46312 219-397-9070
EMP 6 ENG 2 UP TO $100M

ELECTROLUBE LTD OXFORD AVE SLOUGH
ENGLAND ....SLOUGH 25574
J PAGDIN EMP 14 ENG 3
NY Trans Atlantic Elctns Inc 55 Bloomingdale Rd Hicksville NY 516-822-2110
Can Charles W Pointon Ltd 66 Racine Rd Rexdale, Ont ....CH 7-8777
For B Thorvaldsson Karfavogur 24 Reykjavik
For G F Huggins & Co Ltd Box 179 Port-Of-Spain Trin 38881
For Bharka Radio & Electrical Service 36 Norris Rd Singapore 21229
For Rualdo Lda Rua De S Jose 15 Lisbon 30676
For Brownlee Bros Ltd 32 Molesworth St Dublin 67201
Den E V Johanssen A/S Scherfigsvej 1 2100 Copenhagen ....Palae 7304
Fr Film Et Radio 6 Rue Denis-Poisson Paris 17 380-24-62
Ger Liqui-Moly GmbH Electrolube Deutschland 79 Ulm-Donau Postfach
GB Electrolube Ltd 16 Berkeley St London W I ....Mayfair 7654
Neth Electrolube (Nederland) Aelbrechtskade 150c Rotterdam 238267
Ital GBC Italiana SAS Viale Giacomo Matteotti 66 Milano 92 89 391
Jap JPN Intl Co Ltd 7 Mori Bldg 2 Tomoecho Minato-Ku Tokyo 433 6386
Nor Hefro Teknisk A/S Trondheimsveien 80 Oslo 5 ....38 10 88
SAfr Engineering Products (Pty) Ltd Box 31619 Braamfontein Johannesburg 724-7371
Swed Bo Palmblad A/B Hornsgaten 58 Stockholm SV 24 61 60
Swit Egli, Fischer & Co Ltd Gotthardstr 6 Zurich ..25 02 34
Arg Malek Reps Rodrigues Pena 486 Buenos Aires .49-0545
Belg Matelectric SPRL 199 Boulevard Leopold II Brussels 26 99 83
Ind Killick Nixon & Co Ltd Box 109 Bombay
Isrl Lachman Ltd Box 8024 Haifa 54453
NZ P H Rothschild & Co Ltd Box 170 Lower Hut...63-581
Spn Radio Saturno Box 501 Barcelona 2320992
Fin Eri Oy Box 10428 Italandenk 10/12 ....64 06 26
Aust Richard Foot Ltd Box 78 Crows Nest NSW

ELECTROMAGNETIC TECHNOLOGY CORP
486 ELLIS ST MOUNTAIN VIEW CAL 94040
TWX 910-379-6946 ....415 968-2062
W EDSON EMP 387 ENG 58 $5,000-$10,000M
Ariz Shefler-Kahn Co Box 1587 Phoenix ...602 258-7893
Cal Walter Assoc Box A N Los Altos 415-941-3141
Cal American Elctn Labs 8939 S Sepulveda Blvd Los Angeles 213 670-8755
Colo Edward W Johnson Co 10130 W Asbury Ave Denver 303-985-4810
Haw Harkom Hawaii Inc 630 Piikoi St Honolulu....587-178
Ill Midwest Microwave 6414 W Belmont Ave Chicago 312 283-1051
Kan Mid America Marketing Co 10019 W 55th St Merriam 913-432-8678
Mass Addelco Corp 56 Pickering St Needham 617-444-4754
NJ Bonn Assoc 266 Lake St Metuchen 201 549-9573
NM Shefler-Kahn Co Box 8342 Albuquerque 505-265-7077
NY Lightstone Corp E Molloy Rd Syracuse .315-454-3209
Ohio Mulligan & Mathias 2011 Riverside Dr Columbus 614 486-2976
Pa Amer Electronic Labs, Inc Richardson Rd Colmar 215-822-2929
Tex G Weinreich & Assoc 11554 E Northwest Hwy Dallas 214-321-2800
Va Amer Electronic Labs, Inc 6629 Iron Pl Springfield 703-354-5700
Wash Cane-Topp Co Box 250 Bellevue 206-746-5750

ELECTRO MARINE CORP 4 ROBBINS RD FALMOUTH
MASS 02540 ....617 548-2386
R JEPSON EMP 10 ENG 2 UP TO $100M

ELECTRO MATERIALS DIV ILL TOOL WKS INC
11620 SORRENTO VALLEY RD SAN DIEGO
CAL 92121 TWX 910-322-1130 ....714 459-4355
J FISH EMP 250 ENG 8 $2,500-$5,000M
Ariz Compar Rocky Mtn 84 W 1st St Scottsdale .947-4336
Cal Compar Sn Francisco 1817 Bayshore Hwy Burlingame 697-6244
Cal Compar Los Angeles 434 W Colorado Blvd Glendale 245-1172
Colo Compar Rocky Mtn 300 E Hampden Ave Englewood 781-0912
Conn Comar New England 2357 Whitney Ave Hamden 288-9276
Fla Compar Florida 2826 Broadway Riviera Beach 855-3964
Ill Electro Materials Div 6615 Irving Park Rd Chicago 282-7383
Md Compar Chesapeake 7 Church La Baltimore .484-5400
Mass Compar New England 88 Needham St Newton Highlands 969-7140
Mich Compar Midwest 21250 10 1/2 Mile Rd Southfield 357-5369
Minn Compar Twin Cities Box 8095 Minneapolis ..922-7011
NM Compar Rocky Mtn 2125 San Mateo Blvd Albuquerque 265-1020
NY Compar Albany 419 Central Ave Albany 436-8536
NY Compar New York 335 Crossway Pk Dr Woodbury 921-9393
NC Compar Southern 1106 Burke St Winston-Salem 724-0750
Ohio Compar Ohio Box 4791 Fairview Park 333-4120
Pa Compar Phila 15 Potter St Haddonfield 429-1526
Tex Compar Southwest 8609 N-W Plaza Blvd Dallas 363-1526
Wash Compar Northwest 6133 Maynard Ave S Seattle 763-1711

ELECTRO MATERIALS CORP OF AMERICA
605 CENTER AVE MAMARONECK
N Y 10543 ....914 698-8434
G LANE
Ala Necomb Assoc Box 3244 Huntsville....205-539-3274
Ariz Allen Assoc Box 3091 Papago Sta Scottsdale 945-5781
Cal Dahlin & Assoc 12356 Obrad Dr Saratoga 408-257-0121
Fla Gra-Mar Inc Box 20493 Orlando 305-841-2330
Ill Robt W Venn & Assoc Box 660 Lake Villa
Mass Hybritek Engrg Box 7 Candlewood Isle .203-743-2618
NJ R H B Sales Co 95 Carpenter St Belleville 201-751-1415
Va W A Brown & Assoc 325 First St Alexandria
Wash Larrabee & Assoc 2127 1st Ave Seattle 206-623-2521

ELECTROMATIC EQUIPMENT CO
562 ALBEMARLE PL CEDARHURST
N Y 11516 ....516 295-4300
S HARRIS EMP 5 ENG 1 UP TO $100M

ELECTRO MECHANICAL CORP 701 S ELMER AVE
SAYRE PA 18840 ....717 885-0281
P LACESA EMP 400 ENG 7 $5,000-$10,000M

ELECTRO-MECHANICAL INSTRUMENT CO, INC
813 CHESTNUT ST PERKASIE PA 18944
TWX 510-661-5170 ....215 257-6561
R JONES EMP 130 ENG 4 $1,000-$2,500M
ADV PG 709
Cal C E Holmes Co 107 N Ave 64 Los Angeles ..CL 6-2255
Colo Koether-Cox Co 1327 S Inca St Denver ...PE 3-5561
Fla Industronics Inc 47 E Overbrook Dr Largo ..584-1829
Ill Ropek-Cahill Inc 5439 W Division St Chicago ....AU 7-7292
Ind R O Whitesell & Assoc 6691 E Washington St Indnpls ....FL 9-5374
Ky R O Whitesell & Assoc 3620 Lexington Rd Louisville 893-7303
Md Leff Sales Assoc 408 York Rd Towson 252-2205
Mass Anderson Sales Co 177 State St Boston ...CA 7-2980
Minn H M R, Inc 9 E 22nd St Minneapolis 335-7734
Mo F A Waelterman Co 8754 Big Bend Blvd St Louis 968-0303
NJ Leff Sales Assoc 5900 Westfield Ave Pennsauken 663-4025
NY D Sonkin Assoc 10 Fiske Pl Mt Vernon ....MO 8-9809
NC Electro-Rep Assoc Inc 128 W 30th St Charlotte 333-0451
Ohio R M Nelson Inc One Public Sq Cleveland 241-4581
Tex Campion Sales Co Addison Arpt Box 396 Addison 214 239-9196
Wash F H Haight Co 3212 Eastlake Ave Seattle ..EA 2-1818
Can Wilson Enterprises 19 Abercorn Rd Markham Ont 297-1289
For Dreyco Inc 1775 Broadway New York, N Y ..265-0105

ELECTRO-MECHANICS CO BOX 1546 AUSTIN
TEX 78767 ....512 452-8881
D MALONE EMP 60 ENG 12 $500-$1,000M
Cal Electromagnetic Products Co 1616 Victory Blvd Glendale 213-245-1024
DC Gawler-Knopp Co 1751 Rockville Pike Rockville Md 301-427-3950
Md Gawler-Knopp Co 807 E Seminary Ave Towson 301-825-3151
NJ Gawler-Knopp Co 14 Beaufort Ave Roseland 201-266-4545
Pa Gawler-Knopp Co Box 414 Richboro ...215-925-7550
Tex Electro-Mechanics Co Box 1546 Austin 512-452-8881

ELECTRO-MECHANISMS INC
407 W CHESTNUT AVE MONROVIA
CAL 91016 ....213 358-2549
G MARTIN EMP 15 ENG 2 $250-$500M
Cal Lebell-Warren Assoc Box 246 San Carlos ...593-7688
Colo Regan Assoc 1449 W Littleton Blvd Littleton 794-6477
Ill Feller Assoc 3065 University Ave Highland Park 433-3646
Mass Robt Hoey Co Box 844 Acton 891-4510
Minn Howard Carlson Co 100 N 7th St Minneapolis
NJ R P Luce & Co, Inc Short Hills 379-6600
NY John Shea Assoc 7172 Transit Rd Williamsville 634-0206
Ohio Harvey Teplitz & Co 3718 Salem Ave Dayton 277-9178
Pa R P Luce & Co Inc 8717 Patton Rd Phila ...884-8365
Tex Robert R Thomas Co 8616 Northwest Plaza Dr Dallas 363-8591

ELECTRO-MECHANISMS, INC 29 CROWN ST
NASHUA N H 03060 TWX 710-228-1663 .603 889-6191
H DIXON EMP 200 ENG 15 $2,500-$5,000M
Ala Aerol Assoc 703 Watts Dr Huntsville ...205-536-1196
Ariz Carter Assoc 201 W 1st St Scottsdale 947-4355
Cal Cirna Assoc 1418 N Highland Ave Hollywood 213 464-4064
DC Arco Engrg Corp 1000 16th St NW Washington 202-393-5991
Fla W Ben Wimberly Corp 532 S Fort Harrison Ave Clearwater 813 446-7072
Ill Lightner Assoc 6322 N Milwaukee Ave Chicago 312 774-1500
Mass Lancer Kneeland Assoc 16 Adams St Burlington 617 862-7782
Minn Wagner Component Consultants 542 S Snelling Ave St Paul 612-698-0331
Mo Lomax Engrg 4200 W 99th St Overland Park Kan 913-649-0742
NJ Bonn Assoc 266 Lake Ave Metuchen ...201 549-9573
NY L-Tron Corp Box 147 Skaneateles 315 685-6172
Ohio Compar Ohio Box 4791 Fairview Park ..216 333-4120
Tex Aerol Assoc 645 Denton Dr Dallas.....214-358-4725
Wash Compar Northwest 6133 Maynard Ave S Seattle 206 763-1711

ELECTRO-MECH COMPONENTS INC
1039 E VALLEY BLVD SAN GABRIEL CAL 91776
TWX 910 589-3382 ....213 283-9213
W TRUMBULL, JR EMP 175 ENG 10
$1,000-$2,500M
Ala Estes Assoc, Inc 8018 Craigmont Rd, S W Huntsville 881-5470
Ariz AR/TEC, Inc 14 E Stetson Dr Scottsdale...947-6304
Cal Paul Nurches Co 999 Commercial St Palo Alto 326-7842
Colo Franklin Sales 2149 S Clermont St Denver ..757-1371
Conn Todino Engineering Sales Co Box 402 Milford 874-6643
Fla Estes Assocs, Inc Box 14611 Orlando......277-1510
Ga Estes Assocs, Inc 533 Decatur Fed Bldg Decatur
Ill D J M Electronic 5356 N Milwaukee Chicago
Md Quality Components, Inc Box 711 Rockville..933-1623
Mass Todino Engineering Sales Co Box 201 Needham Hgts 444-7925
Mich Don Poulin Assoc 17222 E Warren Detroit ..886-4990
Mo Gordon Fixman Engrg Co 8160 Stanford Ave St Louis 725-5219
NY Bassin Technical Sales Co 52 Fayette Rd Scarsdale
Ohio Scott Electronics, Inc 1836 Euclid Ave Cleveland 861-2626
Pa Chas J McGowan Co Inc 81 Old York Rd Willow Grove
Tenn Glidden Engrg & Equip Co 7728 Long Point Rd Houston 681-1415
Tex Glidden Engrg & Equip Co 8609 N Plaza Dr Dallas 363-6539

Can Leonard Electric Ltd 1008 Range View Rd Port Credit Ont 274-3454
GB G E Industrial Supplies, Ltd 182 Campden Hill Rd London W8 ....PAR 5008

ELECTRO-MEC INSTRUMENT CORP
183 COMMERCIAL ST WATERTOWN
CONN 06795 ....203 274-5431
S LIEBER EMP 40 ENG 2 $500-$1,000M
Ala Component Sales Corp Box 899 Huntsville 205 539-6973
Ariz Robbins & Assoc 2652 N 19th Ave Phoenix 602-254-0836
Cal Crown Electronics Box 4741 No Hollywood 213-877-3550
Colo Robbins & Assoc 700 Poplar St Denver .303-399-6618
Conn Astro-Tek Assoc Box 813 Waterbury ..203-753-4129
Fla Component Sales Corp Box 14523 Orlando 305 277-1510
Ill Ray Klipp Assoc Box 226 Grayslake ...312-223-4837
Iowa W E Pfeiffer 615 Stutsman St Council Bluffs 712-322-8280
Mass Astro-Tek Assoc 1644 Mass Ave Lexington 617 862-1633
Minn Carl-M Co 1926 Wellesley Ave St Paul .612 699-8004
NY Sprung-Nussbaum Inc 254 W 31st St New York 212-565-1820
NC Component Sales Corp Box 6401 Raleigh 919 832-1897
Ohio J Olsen Co 16201 Shaker Blvd Cleveland 216-752-5444
Okla Southwest Elec Inds 2015-C S Lakewood Tulsa 918 835-2481
Pa J Olsen Co 104 Elatan Dr Pittsburgh ...412-279-2550
Tex Southwest Elec Inds 621 Meadows Bldg Dallas 214 363-1671
Wash Willis Sales Co 2805 124th Pl NE Bellevue 206-885-4903

ELECTRO-MED INSTRUMENTS INC 5525 PINE ST
HOUSTON TEX 77036 ....713 666-1856
B JONES EMP 18 ENG 5 $250-$500M
Ala Professional Lab Supply Ltd 707 21st St Birmingham
Cal C Smith 740 N Lake St Burbank
Colo Applied Technical Prods 2229 Oneida St Denver
Fla Blair Instruments 1065 97th St Miami Beach
Ill Medtron Chicago Inc 9665 Allen Ave Rosemont
Mo Seeco 337 Marion Ave St Louis
Ohio The Dann Co 1801 E 40th St Cleveland
Ore AID 810 SE 7th St Portland
Wis Pengelly Medical Supply 5501 W State St Milwaukee
Can Electro Design Ltd 9124 St Lawrence Blvd Montreal, Que

ELECTRO-MEL INDUSTRIES INC HAZELHURST
WIS 54531 715-356-5271
K CONRIDINE EMP 85 ENG 2
NY Irv Morse Sales 2351 E 65th St Brooklyn ..CO7-2913

ELECTRO-METRICS CORP SUB FAIRCHILD CAM &
INSTR CORP 100 CHURCH ST AMSTERDAM
N Y 12010 ....518 843-2600
D SAMUELSON EMP 115 ENG 10
$2,500-$5,000M
Ala E G Holmes Assoc 4862 Governors Dr W Huntsville 837-6900
Ariz F Y Gates Co 3300 S Mill Ave Tempe 966-5441
Cal Electro-Metrics Corp 724 S Victory Blvd Burbank 849-7175
Colo F Y Gates Co 1930 S Navajo Denver 761-0591
Conn Applied Measurements Inc 2335 A Whitney Ave Hamden 288-5288
Fla E G Holmes & Assoc 316-1/2 S Bumby St Orlando 241-2128
Ga E G Holmes & Assoc 4185 Clairmont Rd Chamblee 451-6161
Ill Carter Electronics Inc 4919 W 63rd St Chicago 585-5485
Ind Carter Electronics Inc 6333 Hollister Dr Indianapolis ....AX 3-0696
Kan Harris-Hanson Co 7916 Paseo Kansas City ..HI 4-9494
Md Gawler-Knoop Co 1751 Rockville Pike Rockville 427-3950
Mass Applied Measurements Inc 86 Hayward Rd Acton ....CO 3-2766
Mich WKM Assoc Inc 1474 E Outer Dr Detroit ...892-2500
Minn Carter Electronics Inc 2401 W 66th St Minneapolis 869-3261
Mo Harris-Hanson Co 2814 S Brentwood Blvd St Louis 962-9895
NJ Gawler-Knoop Co 14 Beaufort Ave Roseland ....CA 6-4545
NM F Y Gates Co Inc 2631 Texas NE Albuquerque 298-1875
NY J A Reagan Co Inc 41 Woodberry Rd New Hartford 732-3775
NY J A Reagan Co Inc 52B Crestmont Rd Binghamton 723-9661
NY J A Reagan Co Inc 6 Highland Ave Albany ...489-4777
NY J A Reagan Co Inc 891 Monroe Ave Rochester 473-2115
NY J A Reagan Co Inc RD 3 Meadow Hill Rd Newburgh 561-4510
NC E G Holmes & Assoc 430 W Friendly Ave Greensboro 272-0855
Ohio WKM Assoc Inc 5335 Far Hills Ave Dayton ..434-7500
Ohio WKM Assoc Inc 6741 Ridge Rd Cleveland ...885-5616
Pa Gawler-Knoop Co Box 414 Richboro ....WA 5-7550
Pa WKM Assoc Inc 90 Clairton Blvd Pittsburgh .892-2953
Tex Scientific Devices 312 N Central Expwy Richardson 231-8106
Tex Scientific Devices 3827 Richmond Ave Houston 667-8755
Wash G M Gillett & Assoc Box 99035 Seattle 284-3344
Can Megatronix Ltd 954 Wilson Ave Downsview ..630-7672
For Lindor Intl Corp 10 E 40th St New York, NY ....MU 5-6740

ELECTRO MINIATURES CORP 600 HUYLER ST
SOUTH HACKENSACK N J 07606
TWX 201-488-7717 ....201 HU 8-7770
H HOROWITZ EMP 170 ENG 12 $2,500-$5,000M
Ala N B S Inc Box 1343 Huntsville 205 881-3175
Cal Paul F Wiley Inc 1632 Silverlake Blvd Los Angeles 213 663-8028
Fla Russell Assoc 211 W Fairbanks Ave Winter Park 305-MI7-2251
Ga Russell Assoc 6427 Roswell Rd Atlanta .404-255-8422
Md Russell Assoc 102 N Main St Bel Air ...301-838-9292
Mass Musello Inc Box 125 Stow 617 369-5900
Mich Russell Assoc 24634 Five Mile Rd Detroit 313-KE2-5770
NY M R I Inc 55 Central Ave Farmingdale ..516-293-9696
Ohio Bronson & Co 789 N Main St Akron ...216 762-7407
Wash Russell Assoc 6361 First Ave S Seattle .206-RO2-1213

ELECTRO MOTIVE MFG CO INC
SOUTH PARK & JOHN STS WILLIMANTIC
CONN 06226 TWX 710-440-0601 ....203 423-9231
J GILLIGAN EMP 2650 ENG 9 OVER $10,000M
ADV PG 90
Cal Collins & Hyde Co 5380 Whittier Blvd Los Angeles 685-7975
Cal Collins & Hyde Co 900 N San Antonia Rd Los Altos 941-3355
Ill Electro Motive Mfg Co Inc 2504 E Grove St Arlington Heights 392-1074

ELECTRON BEAM CORP 161 PLEASANT ST LYNN
MASS 01901 ....617 592-6866
D BELFORTE EMP 9 ENG 3 $500-$1,000M
Cal Fieldtec Inc 4242 Campus Dr Newport Beach 540-4000
Colo Overgard Machine Tool Co 2045 W 8th Ave Denver ....MA 3-3141
Conn Evans Equipment Co Sunset Hill Rd Brookfield ....SP 5-2800
Ga G H Crossley & Assoc 3390 Peachtree Rd Atlanta 231-4278
Ill Marshall & Huschart 571 Washington Blvd Chicago 726-8860
Ind Marshall & Huschart Mach Co Chamber of Commerce Bldg Indianapolis ..635-6347
Mass Nelson & Jacobs Co 16 Buffam St Salem ...PI 5-2568
Mich Motch & Merryweather 15565 Northland Dr Detroit 444-4920
Minn Minnesota Supply Co 706 Portland Ave Minneapolis ....fE 6-4646
Mo J E Rush Machinery Co 34 N Brentwood Blvd St Louis ....PA 6-0332
NY J W Hoffman Machinery Co 3135 Walden Ave Buffalo 684-7300
Ohio Motch & Merryweather Mach Co 1250 E 222nd St Cleveland 486-3600
Pa Lynch Machinery Co 29 E Wynnewood Rd Wynnewood 642-1210
Wash Hallidie Machinery Co 4975 3rd Ave S Seattle ....PA 3-9520
Can Williams & Wilson Ltd 544 Inspector St Montreal ....UN 6-2851
Can Williams & Wilson Ltd 71 Front St Toronto ..363-8731

ELECTRON ENTERPRISES INC
6645 W STANLEY AVE BERWYN
ILL 60402 ....312 BI 22636
J CIMFE EMP 25 ENG 2 $1,000-$2,500M

ELECTRONETICS CORP 555 SANTA ROSA DR
DES PLAINES ILL 60018 ....312 299-0101
ADV PG 328

ELECTRO NETWORKS DIV CONNREX CORP
MAPLE ST CALEDONIA N Y 14423
TWX 510-254-0422 ....716 538-4423
W HARRINGTON EMP 250 ENG 12
$2,500-$5,000M

ELECTRONIC ACCESSORIES DIV OF BIW
141 NEVADA ST EL SEGUNDO
CAL 90245 213-678-6141
H BURLEY III EMP 22 ENG 2 $500-$1,000M
Conn Wm Hill 103 Robert Treat Dr Milford 336-0409
Fla Wm Anderson 3433 N E 6th Dr Boca Raton .732-8196
Ill T Russell 4068 Western Ave Western Springs 246-2570
Md Wm Bridges 3913 Sadie Rd Randallstown ...655-1788
Mass R Williamson 34 Bacon St Natick ....OL 3-8756
NJ P McKatten Highcrest Lake Dr Rd 3 Butler ..838-1385
NY Wm Stamp 127 S Long St Buffalo 634-2240
Ohio Frank Gunther 56 Maple St Chagrin Falls ...247-6117
Tex Wm Malcom 1312 Floyd Rd Richardson 231-7847
Wash Jon Jolly Pier 59 Seattle 624-2152
Can Boston Insulated Wire & Cable, Ltd 3448 Peel St Montreal, P Q 845-2852
Can Boston Insulated Wire & Cable, Ltd 118 Shaw St Hamilton, Ont ....JA 9-7151

ELECTRONIC APPLICATIONS CO ROUTE 46
PINE BROOK N J 07058 ....201 227-0518
F BURTON EMP 20 ENG 3 UP TO $100M
NJ Electronic Applications Co Box 267 Whippany

ELECTRONIC ARRAYS INC 501 ELLIS ST
MOUNTAIN VIEW CAL 94040
TWX 910-379-6985 415-964-4321
R EILER EMP 81 ENG 20 $1,000-$2,500M
Ala Col-Ins-Co Inc W Clinton Huntsville 205-539-1771
Ariz Hecht Henschen & Assoc 2435 E University Dr Phoenix 602-275-4411
Cal R Goodman 9932 Voyager Cir Huntington Beach 714-968-3775
Colo Cropley Inc 1523 E Easter Cir Littleton 303-794-4231
Fla Col-Ins-Co Inc 1313 44th St Orlando ..305-423-7615
Ga Col-Ins-Co Inc 200 Carrington Way SE Marietta 404-422-8327
Mass B Giron Box 18 Waban 617-969-7606
NY KLM Assoc 1 Nouvelle Park New Hartford 315-735-8525
NC Col-Ins-Co Inc 3925 Guinevere La Winston-Salem 919-765-3650
Pa Denco 500 A E Godfrey Ave Philadelphia 215-725-9000
Va H J Heffernan Co 1123 N Irving St Arlington 703-522-6666
Wash Rush S Drake Assoc 6133 Maynard Ave S Seattle 206-763-2755
Swed Large Scale-electronic AB Valla Torg 53 121 69 Johanneshov 08-91-04-04

ELECTRONIC ASSISTANCE CORP 20 BRIDGE AVE
RED BANK N J 07701 ....201 747-5100
W BURTON EMP 200 ENG 5 OVER $10,000M

ELECTRONIC ASSOCIATES INC SCIEN INSTR
4151 MIDDLEFIELD RD PALO ALTO
CAL 94303 ....415 321-7801
J BURDEN EMP 3500 ENG 500 OVER $10,000M

ELECTRONIC ASSOCIATES INC
185 MONMOUTH PKWY WEST LONG BRANCH
N J 07764 TWX 710-722-6597 ....201 229-1100
R YEAGER EMP 2200 ENG 500 OVER $10,000M
Ala Electronic Assoc Inc Box 4108 Huntsville ...881-7031
Cal Electronic Assoc Inc 1500 E Imperial Hwy El Segundo 322-3124
Colo Electronic Assoc Inc 2120 S Ash St Denver 303-757-8341
Fla Electronic Assoc Inc 7040 Lake Ellenor Dr Orlando 851-0640
Ill Electronic Assoc Inc 33166 Des Plaines Ave Des Plaines 296-8171
Md Electronic Assoc Inc 12260 Wilkins Ave Rockville 933-4100
Mass Electronic Assoc Inc 875 Providence Hwy Dedham 326-6756
Ohio Electronic Assoc Inc 6500 Pearl Rd Cleveland 884-4406
Tex Electronic Assoc Inc 3514 Cedar Springs Rd Dallas 231-1431
Fr EAI Electronic Assoc Sarl 72-74 Rue De La Tombe Issoire Paris 14e 535.01.07
Ger EAI Electronic Assoc GmbH 5100 Aachen Bergdriesch 37 26041
GB Electronic Assoc Ltd Burgess Hill Sussex 5101-10
Swed EAI Electronic Assoc AB Hagavagen 14 Solna 82-40-97
Belg EAI 116-120 Rue Des Palais Brussels 16-81-15
Aust EAI Electronic Assoc Pty Ltd 11 Chester Rd Oakleigh Vic 569-0961

ELECTRONIC BATTERIES INC 28-34 35 ST
BROOKLYN N Y 11232 ....212 499-5301
J STURGES EMP 35 ENG 2

ELECTRONIC BRAZING CO 140 GLENRIDGE AVE
MONTCLAIR N J 07042 ....201 744-2160
W LAMBERT EMP 6 ENG 1 $100-$250M
Ala James Spader Co 512 N 18th St Birmingham ....AL 2-7419
Cal C L Repp Co 11168 Santa Monica Blvd Los Angeles ....GR 2-5990
Fla Ward Eng Co Inc 1015 W Central Ave Orlando
Ga Hooker Reid Co Box 11754 Atlanta ....CE 7-9385
Ill Murphy & Dickey 537 S Dearborn St Chicago ....HA 7-7953
La Mid-South Sales Co Inc 4424-B Earhard Blvd New Orleans 822-3030
Mass B H Parker Sales Agency 610 Atlantic Ave Boston ....LI 2-9214
Mich G R Peters Assoc 2399 Coolidge Hwy Berkley 564-6325
Minn Volco Co 831 S 6th St Minneapolis ....FE 6-6631
Mo C O Leaver Co 2800 S Brentwood Blvd St Louis ....WO 8-1500
NY H H Sticht Co Inc 27 Park Pl New York ....RE 2-8163
NC Associated Agents Inc 3408 Rockingham Rd Greensboro 299-3363
Ohio Beedle Equip Co Roselawn Ctr Bldg Cincinnati ....JE 1-2640
Ore J L Kearns Co Inc 6055 NE Glisan St Portland ....BE 6-1165
Pa R F Clark Co 10517 Lindberg Ave Pittsburgh ....CH 2-9500
Tex W E Brice Co 1402 Dunlavy Houston ....JA 6-3197
Wis M F Jacobs Co 2218 N 3rd St Milwaukee ..LO 2-5690
For M R Franceschini Inc Box 9393 Santurce, PR

ELECTRONIC CHEMICAL CORP
813 COMMUNIPAW AVE JERSEY CITY
N J 07304 ....201 332-2877
W GOTTLIEB EMP 16 $100-$250M
Cal Heeger Inc 729 Ceres Ave Los Angeles ....MA 7-9310
Ill W M Linz Assoc Inc 4001 W Devon Ave Chicago ....MU 5-6060
Mass Northeastern Reps Box 842 Framingham ...879-2300
Mich Central Elec Sales Co 19217 Fairport Detroit ....LA 6-5841
NY Callahan-Ferguson Co 107 Greenhedge Dr Camillus 488-5518
NY Louis W Keller & Assoc 1608 Newbridge Rd No Bellmore 785-2826
Ohio H H Seay Co 1350 Crestwood Ave Columbus .235-0265
Pa S A Jeffries Inc 105 Forrest Ave Narberth .MO 4-8500

ELECTRONIC COIL CO 2506 ONTARIO BURBANK
CAL 91505 ....213 842-9898
E SEIZER EMP 7 ENG 1 UP TO $100M

ELECTRONIC COILS INC 33 LYMAN ST
SPRINGFIELD MASS 01101 ....413 736-6339
R LAWSON EMP 80 ENG 4 $500-$1,000M
NJ Gilbert Sales Assoc 70 Glenwood Rd Ridgewood 201-444-2604
NY Rolmar Components Inc 4312 W Genesee St Syracuse 315-488-3251

ELECTRONIC COMMUNICATIONS INC DIV NCR
BOX 12248 ST PETERSBURG FLA 33733
TWX 810 863-0377 ....813 347-1121
C LUSTY EMP 2000 ENG 400 OVER $10,000M
Ala L C Layfield 3217 Hastings Rd SW
Huntsville 205 883-0140
Cal Geo D Pugsley 4500 Campus Dr
Newport Beach 714 546-5114
Mass Donald P Clark 594 Marrett Rd
Lexington 617 862-0010
NJ J Hartley 176 Riverside Ave Red Bank . . 201-842-0284
Ohio J B Leist 4130 Linden Ave Dayton 513 253-9166
Va K Prall D N Priddy 1901 N Fort Myer Dr
Arlington 703 525-7070

ELECTRONIC COMPONENTS CORP
520 INTERSTATE RD ADDISON
ILL 60101 ....312 543-7720
E JOYNER EMP 1200 ENG 18 OVER $10,000M
Cal Shnable & Assoc 56 Buckskin La
Rolling Hills Estates 213-326-9260
Colo Arrowhead Sales 6460 Brentwood
Arvada 303-798-0319
NJ Wm Boyce, Sr 151 Fern Rd
East Brunswick 201-254-3831
NM Arrowhead Sales Box 243 Albuquerque . 505-268-9706
NY Richard A Job 321 E Lake Rd
Canandaigua 315-394-0596
Tex G Peck 210 Casa Linda Plaza Dallas . . . 214-328-3511
Utah Arrowhead Sales 1966 W 6255 S
Salt Lake City 801-487-3444
Wash Northwestern Agencies 4130 1st Ave S
Seattle 206-623-8882

ELECTRONIC CONTROL CORP 15341 DALE DETROIT
MICH 48223 ....313 533-6219
S LAWRENCE EMP 7 ENG 2 $100-$250M
Mich Elias Elctns 26817 W 7 Mile Detroit . . . 313 255-2111
NJ McKay Assoc 60 Park Pl Newark
Ohio Cleveland Duplex Machy Co 14625 Detroit
Lakewood ....AC 6-4740
Wis Hein Electric Supply Co 1032 N 6th St
Milwaukee ....BR 6-7802

ELECTRONIC CONTROLS INC 141 DANBURY RD
WILTON CONN 06897 ....203 762-8351
A MORGAN EMP 50 ENG 8 $1,000-$2,500M
Cal Cutlass Elctns 8921 S Sepulvada
Los Angeles 776-6476
Colo Engineering Research Assoc 231 Detroit St
Denver 377-8306
Conn A & M Electronic Reps Inc Ailene Rd
Madison 245-1031
Fla Beacon Electronics 540 S Maitland Ave
Maitland 647-3498
Ga Beacon Electronics 2285 Peachtree Rd NE
Atlanta 351-3654
La Gordon V Peck Co 4771 Spain St
New Orleans 282-1553
Md Arnold Assoc Box 7081 Baltimore 661-3469
Mass A & M Electn Reps Inc 1492 Higland Ave
Needam 444-8170
Minn R G Ragon Inc 1136 W Larpenteur Ave
St Paul 488-6634
NY A Decew Agency Box F Sodus 483-3261
NC Beacon Electronic 305 Greenway St
Jamestown 454-1010
Okla Gordon V Peck Co 729 W 5th St Tulsa . . . . LU 5-5853
Pa Arnold Assoc 2 Ryers Ave Cheltenham 742-0600
Tex Gordon V Peck Co 210 Casa Linda Plaza
Dallas 328-3511
Wash Electronic Sales Corp 621 S Michigan St
Seattle 767-3160
For Marc Wood Intl 289 Central Park W
New York 757-6656
Fr Marc Wood Intl 94 Blvd Haussmann Paris

ELECTRONIC CONTROL SYSTEMS INC BOX 1232
FAIRMONT W VA 26554 ....304 363-8632
M GLAZER EMP 140 ENG 6 $2,500-$5,000M
Ala Col-Ins-Co Inc Box 4246 Huntsville . . . 205-539-1771
Ariz Cosmic Controls Co 5045 N 12th St
Phoenix 602-266-7661
Cal B J Wolfe Enterprises 10760 Burbank Blvd
N Hollywood 213 877-5518
Cal B J Wolfe Enterprises
10601 S Saratoga-Sunnyvale Rd
Cupertino 408 252-5010
Fla Co-Ins-Co Inc Box 13189 Orlando 305 423-7615
Ga Co-Ins-Co Inc 200 Carrington Way
Marietta 404 422-8327
Ill Electronic Control Systems 4855 W 95th St
Oak Lawn 312-423-4116
Ind C L Brosey Co Inc 5555 N Tacoma Ave
Indianapolis 317 253-2097
Iowa Ensco 1026 3rd Ave SE Cedar Rapids . . 319-366-1591
Kan Ensco 7924 A State Line Praire Village . 913-649-4000
La Butler & Land Inc 1067 Mazagine St
New Orleans 504 524-0688
Mass Electronic Control Systems Box 166
Northborough 617-756-9278
Mich Uni-Rep 29431 Southfield Rd
Southfield 313-358-4358
Minn Edw J Doyle Co 3024 S Minnehaha Ave
Minneapolis 612-721-3393
Mo Ensco 6716 Vernon Ave St Louis 314-726-2233
NY Terryberry Engineering Sales Co Box 32
Buffalo 716-632-7404
NC Mac Guire & Crawford Inst Co Box 11322
Charlotte 704-366-3454
Ohio W R Robinson 112 Stockton
Indnpls Ind 317-253-8775
Ohio Thorrat & Hanmer Box 2945, Rocky River
Cleveland 216-333-5950
Okla Butler & Land Inc 1560 E 21st St
Tulsa 918-743-8921
Pa Electronic Control Systems Box 18308
Philadelphia 215-224-4909
Tenn Butler & Land Inc 3181 Poplar
Memphis 901-452-0039
Tex Butler & Land Box 8085 5538 Dyer St
Dallas 214 361-6631
Tex Butler & Land Inc 9186 Old Katy Rd
Houston 713-464-3838
Tex Butler & Land Inc 4009 Ave R
Lubbock 806-744-8449
WVa Instrument Services Inc 200 Washington St W
Charleston 304 343-5651
Wis Shelton F Boyd Co Inc 7127 N Green Bay Rd
Milwaukee 414-352-3180
Can E W Playford o, Ltd 5851 Upper Lachine Rd
Montreal Que 514-489-5383
Can E W Playford Co Ltd 20 Enterprise Rd
Rexdale Ont 416-248-0176
GB S K Instruments, Ltd Gillibrands, Skelmersdale
Lancashire

ELECTRONIC CORP OF AMERICA
5728 W WASHINGTON BLVD LOS ANGELES
CAL 90016 ....213 939-5826
W TAYLOR EMP 30 ENG 5 $500-$1,000M

ELECTRONIC COUNTERS INC 235 JACKSON ST
ENGLEWOOD N J 07631 ....201 567-5300
L ROSENDAHL EMP 25 ENG 5 $500-$1,000M

ELECTRONIC CREATIONS CO INC 445 S 10TH AVE
MOUNT VERNON N Y 10550 ....914 OW 92100
M PERLMUTTER EMP 175 ENG 1
$2,500-$5,000M

ELECTRONIC CRYSTALS CORP 2035 WASHINGTON ST
KANSAS CITY MO 64108 ....816 HA 1-1270
J COLBERT EMP 75 ENG 1
ADV PG 210
Cal Electro Service Sales Corp Box 4127
Panorama City 213-873-1193
Fla Mark Electronic Sales Co Box 291
North Miami 305-947-5080
Ill W F Hamilton Co 5130 N Elston Ave
Chicago 312 545-7576
Md J A Dougherty Sales Co 320 Hillen Rd
Towson 301 823-0431
NJ Marchand-Border Co Box 181
Cranford 201 272-5510

ELECTRONIC DESIGN LABS INC BOX 7837
PHILADELPHIA PA 19101 ....215 925-9500
EMP 20 ENG 5 $250-$500M
Cal Stark Instrumentation Sales 2125 Louis% Ave
Arcadia 213-445-3756
Den Intelec A/S Holbergsgade 14 Dk 1057
Copenhagen K
Swed Amerikanska Teleproducter AB
Nybohovsgrand 56 Stockholm 18-29-30
Isrl Ramon Ltd 133 Katzenelson St Givataim 739240

ELECTRONIC DEVELOPMENT CORP
423 W BROADWAY BOSTON
MASS 02127 ....617 268-9696
R ROSS EMP 20 ENG 3 $250-$500M
Ala NBS Inc 205 Homewood Dr Huntsville . . 205-881-3175
Cal Garner Laine Electronics 825 San Antonio Rd
Palo Alto 415-328-1717
Cal W K Geist Co 1205 Air Way Blvd
Glendale 213-245-9501
Colo A L S Electronics 1932-14th St
Boulder 505 447-2436
Conn Applied Msmts, Inc 2531 Whitney Ave
Hamden 203 288-5288
Fla NBS Inc Box 2147 Winter Haven 813-293-5003
Ga NBS Inc 893 Church St Marietta 404 926-6324
Kan Impala 3141 Merriam La Kansas City . . 913-831-3933
Md G L Brown Assoc 5801 Annapolis Rd
Bladensberg 301-779-1500
Mass Applied Measurements, Inc Box 306
Acton 617 646-7250
Mo Impala, Inc 47 Vlg Sq Shop Ctr
Hazelwood 314-837-3100
NJ Hansen Assoc 215 Brookside Ave
Hohokus 201 652-7055
NJ SONCO Crystal Brook Prof Bldg
Eatontown 201 542-1441
NM A L S Electronics Wayside Prof Bldg, Box 11626
Albuquerque 505 268-9600
NY Ossmann Instruments, Inc 101 Pickard Dr
Syracuse 315 454-2461
NY Ossmann Instruments, Inc 3100 Monroe Ave
Rochester 716-586-0380
NY Ossmann Instruments, Inc Vestal Pkwy E
Vestal 607 785-9947
NY Ossmann Instruments Inc
Wappingers Falls 914 297-7777
Pa Sonco 107 Town Ctr Rd King of Prussia . 215 265-3250
Pa SONCO Park Place Office Bldg
Camp Hill 717 761-0577
Tex I B L Eng & Sales Inc 3403 Audubon
Houston ....713 JA 3-8360
Utah ALS Electronics 3385 S 2770 E
Salt Lake City 801-363-2921
Can Burlec Ltd 125 Nantucket Blvd
Scarborough, Ont 416 757-5151
Den S/C Metric Naerum Hovedgade 1212
Naerum 2850
Fr Radio Television Franciase 73 Ave de Neuilly
Neuilly, Paris
GB Electrautom Ltd 408 Finchley Rd London NW 2
Neth Winjhaven 36 Rotterdam 1
Nor Henaco A/S Cort Adelers Gate 16 Oslo
SAfr Bernard K Server Co Box 7616 Phila Pa
Ind Internation Trade Agencies Abid Rd Ayderadad 1
Isrl Iscamex Co Ltd 25 Arlozorov St Tel Avia

ELECTRONIC DEVELOPMENT LABS INC
19 NEWTOWN RD PLAINVIEW
N Y 11803 ....516 293-8997
S NERENBERG EMP 23 ENG 2
Cal Rex Engineering Box 39702 Los Angeles

ELECTRONIC DEVICES INC 7660 RACE RD
NORTH RIDGEVILLE OHIO 44035 ....216 777-3867
G DIEHL EMP 75 ENG 5 $500-$1,000M
Fla Service Reps Assoc Box 12056
Palm Beach Gardens 305 848-8687
NY HRC 390 Plandome Manhasset 516-627-4644
Ohio G Ford 1333 E Third Dayton 513-461-4784

ELECTRONIC DEVICES INC (INCL TRANS SIL DIV)
21 GRAY OAKS AVE YONKERS N Y 10710
TWX 710 560 0021 ....914 YO 54400
G BARD EMP 135 ENG 6 $1,000-$2,500M
Ariz Mercury Engrg Sales Box 3130
Scottsdale 602 945-1927
Cal Repex 2015A Latham St Mountain View . . . 969-9200
Cal M A Stolaroff Co 4622 W Slauson Ave
Los Angeles 295-7781
Cal Industrial Prods Sales Box 357
Lemon Grove 298-4850
Conn Glenn M Hathaway Elctns Ducillo Bldg
Canaan 824-7215
Fla Massey Assoc Box 13577 St Petersburg 347-6183
Fla Massey Assoc Box 1201 Winter Park 855-4510
Fla Massey Assoc Box 877 Jupiter 746-4591
Ill Rozner Sales Co 4720 N Central Ave
Chicago 283-0022
Iowa Reid Assoc Inc 526 MNB Bldg Cedar Rapids . 362-6302
Mass Glenn M Hathaway Elctns 7-11 Mystic St
Arlington 646-1380
Minn Kirkeby & Assoc Inc 821 2nd Ave N
Minneapolis 377-3239
Mo J C Mankus & Assoc 400 Brookes La
Hazel Wood 731-4334
NY Carlen Representatives 3650 James St
Syracuse 437-2921
NY LRC Assoc 2616 Jerome Ave Bronx 298-8964
Ohio Ema Inc Box 191 Dayton 433-2800
Ohio Ema Inc Box 275 Aurora 247-4488
Pa Be-Mar Assoc 7208 Rising Sun Ave
Philadelphia 728-6333
Tex Dunbar Assoc Box 30511 Dallas 239-7151
Va Be-Mar Assoc Box 556 Falls Church 762-8880
Wash C Lyle Reeve Mktg Assoc Box 7087 Seattle . 542-5889
Fr Radio Equipments
Boite Post 66 92-Levallois-Perret Paris
Ger Alfred Neye Enatechnik
14 Schillerstr 2085 Quickborn Hamburg
GB Walmore Electronics Ltd Drury La London W C 2
Neth Rodelco NV Box 1030 Koninginnegracht 44
The Hague
Ital S F E R A Via Asmara 72 Rome
Swed Elmetric Box 433 S-121 04 Johanneshov 4
Isrl Giveon Agencies 105 Hahashmonain St Tel Aviv
Mex Compa Aptdo M-10771 Bolivar 34 Mexico 1 D F

ELECTRONIC ENCLOSURES DIV WYLE LABS
7825 AIRPORT WAY PENNSAUKEN
N J 08109 609-665-6810
R BARTHOLF EMP 65 ENG 4 $1,000-$2,500M
Cal Electronic Enclosures 225 S Aviation Blvd
El Segundo 213-679-0181
Colo Brooks-Feeger Assoc 1309 S Inca
Denver 303-744-3301
Conn H Belanger Assoc 38 Woolsey Ave
Trumbull 203-268-5352
Md G King Assoc 13215 Grenoble Dr
Rockville 301-933-1586
Mo Mike Harvey Assoc 10600 Kahlmeyer Dr
St Louis 314-426-7282
NY Reed Elctns 2815 Monroe Ave
Rochester 716-473-2767
Ohio Deo Volente & Assoc 4240 Eaglehurst Rd
Toledo 419-TU2-2830
Tex Jim Lee Sales Co 2838 Posey Dr Irving . 214-BL5-5043
Wash Rush Drake Assoc 6133 Maynard Ave S
Seattle 206-EM3-0550

ELECTRONIC ENGINEERING CO OF CAL
1601 E CHESTNUT AVE BOX 58 SANTA ANA
CAL 92702 TWX 910-595-1547 ....714 547-5501
P CADIGAN EMP 495 ENG 50 OVER $10,000M
Ala Col-Ins-Co Inc 2109 Clinton Ave Huntsville . . 539-1771
Cal Electronic Engineering Co
10601-103 Saratoga-Sunnyvale Rd
Cupertino 253-5951
Colo Hytronic Measurements Inc 4940 E 39th Ave
Denver 388-4081
Fla Col-Ins-Co Inc 1313 44th St Orlando 423-7615
Ga Col-Ins-Co Inc 200 Carrington Way
Marietta 422-8327
Ill Torkelson Assoc 540 W Frontage Rd
Northfield 446-8450
Ind Torkelson Assoc 3512 Rockville Rd
Indianapolis 244-7868
Kan Palatine Engineering Sales 7520 W 63rd St
Overland Pk 262-5643
Md Electronic Engineering Co 5801 Annapolis Rd
Bladensburg 779-3636
Mass Electronic Engrg Co 181 West St Waltham . 899-6360
Mich Bob Hocker & Assoc 26847 Grand River Ave
Detroit 531-1403
Minn Torkelson Assoc 4820 W 77th St
Minneapolis 920-1046
Mo Palatine Engineering Sales 8622 St Chas Rock Rd
St Louis 426-7055
NJ Hansen Assoc Box 339 Ridgwood 652-7055
NM Hytronic Measurements Inc 205 San Pablo SE
Albuquerque 268-3941
NC Col-Ins-Co Inc Box 5597 Winston-Salem . . . 765-3650
Ohio Bob Hocker & Assoc 1400 Devereux Dr
Dayton 298-8638
Tex Robert R Thomas Co 8616 Northwest Plaza Dr
Dallas 363-8591
Wash Blair Hirsch Co 4013 Leary Way NW
Seattle 783-3423
Can Willer Eng & Sales Co 1800 Avenue Rd
Toronto 783-3373
Can Willer Engineering & Sales Co 1179 Decarie Blvd
St Laurent, Montreal, Que 747-9316

For Industrial Electronics
89-2 La 75 Nanking E Rd, Box 22423
Taiwan ....44257 Taipei
Den E V Johansen A/S 1, Scherfigsvej
Copenhagen ....(01) 29-5622
Fr Technitron 20, rue deBoulainvilliers Paris ..527-49-65
Ger Technitron Sonnenstr 14 Munich 5578-32
GB Technitron Walmgate Rd Middlesex 01-997-2981
Neth Technitron N V Bldg 64, Schiphol Airport
Amsterdam ....(020) 72-7823
Ital Technitron Via Flaminia 443/A Rome 877-047
Swed Telenco AB Industrigatan 4 Stockholm K .08/54 61 40
Fin Into O/Y 11 Meritullinkatu Helsinki 11 123
Aust Jacoby, Mitchell & Co 469-475 Kent St
Sydney, N S W......................26-2651

ELECTRONIC ENTERPRISES INC 65 7TH AVE
NEWARK N J 07104..................201 485-8500
E FRIELING EMP 110 ENG 8 $1,000-$2,500M
Kan T Modricin Assoc Inc 5450 Buena Vista Dr
Shawnee Mission 362-7825
Tex IBL Eng & Sales 6170 Sherry La Dallas...EM 3-2921

ELECTRONIC FUTURES INC DIV KMS INDUS INC
57 DODGE AVE NORTH HAVEN CONN 06473
TWX 710-465-3077 ....203 239-5341
R SUTTON EMP 163 ENG 14 $2,500-$5,000M

ELECTRONIC HARDWARE CORP 180-80 LIBERTY AVE
JAMAICA NY 11433 ....212-JA-6-0551
J FELDMAN EMP 85 ENG 3
ADV PGS 291,324,326
Ariz Richard A Strassner Co 55 E Thomas Rd
Phoenix 602-277-3921
Cal Richard A Strassner Co 3003 Glendale Blvd
Los Angeles 213-666-4040
Colo Action Sales 70 W 6th Ave Denver 303-222-6056
Fla Geartner Assoc 350 Lincoln Rd
Miami Beach 305-531-0200
Ill Saffro & Assoc Skokie 312-588-0905
Kan Vasen Sales Co Leawood 816-842-1760
La Gordon V Peck Co New Orleans 504-282-1553
Mich Willard Spenser Co Oak Park 313-398-8005
Minn P L Coppini Sales Minneapolis........612-FE-9-2719
NY Meg Electronic Sales 220 Jericho Tpk
Mineola 516-741-1270
NY Al Perkins Co Manilus 315-682-5005
NC Jake Rudisill Assoc 1225 Harding Pl
Charlotte 704-377-6901
Okla Gordon V Peck Co Tulsa 918-585-5853
Tex Gordon V Peck Co 210 Casa Linda Plaza
Dallas 214-DA-8-3511
Can A Deskin Sales Corp 1565 Louvain St
Montreal 610-421-3793

ELECTRONIC HOMES CO 200 CLAREMONT AVE
NEW YORK N Y 10027 ....212 MO 2-1129
G SADDLER EMP 29 ENG 4 $250-$500M
Tex C C S Butt Box 18045 Houston..........JA 6-3101

ELECTRONIC IDEAS INC READING TERMINAL
WYNCOTE PA 19095.................215 TU 6-4770
B COLE EMP 6 ENG 2 UP TO $100M
Cal S D Ungar 8810 Rayford Dr
Los Angeles ....213 OR 0-1560
Ill W L Holst 2753 W North Ave Chicago .312 SP 2-9455
Pa Denco Data Engrg Co 500 A E Godfrey Ave
Philadelphia ....215 RA 5-9000
Va M E Whitney Assoc 1400 N Uhle St
Arlington 703 524-5642
For Singer Products Co Inc 95 Broad St
New York, NY ....WH 4-8700

ELECTRONIC INSTRUMENT DIV GEN ATRONICS
CORP 1200 E MERMAID LN PHILADELPHIA
PA 19118 TWX 215-242-1295 ....215 CH 8-3700
J COMMINS EMP 250 ENG 40 $2,500-$5,000M
Cal L & M Engineering 3242 McKinley Dr
Santa Clara 243-6661
DC Eastern Instrumentation Inc
2600 Virginia Ave, NW Washington......333-8880
NY Eastern Instrumentation 350 Northern Blvd
Great Neck 466-9505
Ohio Frederic L Ohmer & Assoc Box 2013
Dayton...............................434-1454
Pa Eastern Instrumentation 613 Cheltenham Ave
Philadelphia ....WA 7-6269
Can Electromechanical Prods Box 156
Agincourt, Ont ....AX 3-7011

ELECTRONIC INSTRUMENT & SPECIALTY CORP
BOX 24 WINCHESTER MASS 01890 ....617 729-1202
R PAINTER EMP 16 ENG 2 $100-$250M
Cal L&M Sales 2404 S Redwood Dr
Anaheim.........................714-774-0492
Cal Grosken Inc 330 Phelan Ave San Jose ..408-293-2259
DC W F Satterthwaite & Co Box 51
Kensington Md 301-942-1700
Fla Spartak Inc 410 Phelps Ave S
Winter Park 305-644-3023
Ill Repwood Inc 260 Sunset Ave Glen Ellyn .312 469-2344
Mich Elko Sales Corp 2151 Beausait
Grosse Point 313-884-7893
NJ D J Fisher Co 50 Franklin Tpk
Ho-Ho-Kus.......................201-652-0090
NY Midstate Rsch Sales 327 Wellesley Rd
Syracuse 315-478-8314
NC R Jackson 100 N Canterbury Rd
Charlotte 704-366-6678
Ohio Electro Com 8761 Snow Rd Cleveland ..216-886-2404
Pa W F Satterthwaite & Co 237 N Lansdowne Ave
Lansdowne 215-623-5100
Tex Texas Special Elctn Components 7024 Mapleridge
Houston 713-666-5871
Fr TEMI 18 Rue De La Pepiniere Paris 8 522-77-00

ELECTRONIC MACHINE PARTS INC
128-11 18TH AVE COLLEGE POINT
N Y 11356 ....212 IN 1-8850
A HANDAL

ELECTRONIC MEASUREMENTS CORP
625 BROADWAY NEW YORK N Y 10012
M LIEBLICH

ELECTRONIC MEASUREMENTS DIV ROWAN
INDUSTRIES INC 2 CRESCENT PL OCEANPORT
N J 07757 TWX 710 722-6592 ....201 229-5000
R SCHLOTE EMP 1000 ENG 110 OVER $10,000M
ADV PGS 445,446,475,480
Ala Lee Assoc 2400 W Clinton Huntsville ...205 539-0761
Ariz Dorton Enterprises Box 1297
Scottsdale 602-946-6575
Cal G B H Assoc Box 1150 Mountain View ..415 969-9770
Cal RDP Instruments Inc 1338 S Atlantic Blvd
Los Angeles 213-263-9441
Colo P L S Assoc 7895 E Prentice Ave
Englewood 303 771-0140
Fla Lee Assoc 200 E Marks St Orlando 305 241-4445
Ill Bard Assoc LaGrange Ind Park
La Grange 312-354-0660
Ind Bard Assoc 4000 Meadows Dr Indpls ..317-547-3113
Iowa Engineering Service Co 1026 Third Ave SE
Cedar Rapids.....................319 366-1591
Kan Engineering Service Co 7924A State Line
Prairie Village 913 649-4000
Md Lee Assoc 12250 Wilkins Ave Rockville .301 949-4800
Mass New England Mktg Assoc 55 Salem St
Lynnfield.........................617 245-9530
Minn Bard Assoc 4640 W 77th St
Minneapolis 612-922-8233
Mo Engineering Service Co 6717 Vernon Ave
St Louis 314 726-2233
NJ Hansen Assoc Box 339 Ridgewood 201 652-7055
NM P L S Assoc 4200 B Silver Ave NE
Albuquerque 505 255-2330
NY R W Mitscher Co 496 Ellicott Sq Bldg
Buffalo.........................716-854-2518
NC Lee Assoc Inc 825 Burke St
Winston-Salem 919 724-2406
Ohio R G Sidnell & Co Inc 14701 Detroit Ave
Cleveland 216 221-1313
Ohio R G Sidnell & Co 3300 S Dixie Dr
Dayton 513 293-1194
Pa Holdsworth & Co 8 Smedley La
Newton Square 215 356-8550
Tex Industrial Equip Co 6831 Navigation Blvd
Houston 713 928-3463
Tex Industrial Equip Co 4914 Greenville Ave
Dallas 214 368-8087
Wash Ray Johnston Co Inc 1011 NE 69th St
Seattle 206 524-5170
Can Instronics Techno-Prods Ltd Box 100
Stittsville Ont.....................613-836-4411

ELECTRONIC MEMORIES INC 12621 CHADRON AVE
HAWTHORNE CAL 90250 ....213 772-5201
E FARRIS EMP 2000 ENG 50 OVER $10,000M
Cal Electronic Memories Inc 1161 N Tustin Ave
Orange.............................639-5811
Fla Electronic Memories 999 Woodcock Rd
Orlando 305-841-2482
Ill Ropek-Cahill Inc 5439 W Division St
Chicago 287-7292
Mass Electronic Memories Inc 11 Chestnut St
Andover 475-2101
Mich W R Hummon & Assoc Box 501 Farmington .474-0661
Minn Electronic Memories 7615 Metro Blvd
Mnpls.........................612-941-2404
NJ Electronic Memories 1430 Bergen Blvd
Fort Lee.........................201-461-6360
NY Tech-Mark Inc 101 Jefferson Ave Endicott .748-7473
Ohio Jay Engineering Co 1721 E 3rd St Dayton..CL 3-2151
Pa Electronic Memories, Inc 26 Summit Grove Ave
Bryn Mawr ....LA 5-6897
Tex Kenneth S Riddle First Bank & Trust Bldg
Richardson 214-231-7207
Utah Arrowhead Sales Corp Box 15386
Salt Lake City 801-487-3444
Den A/S Nordisk Electronik Danasvej 2
Copenhagen ....EVA 8285
GB Munzig Intl Inc McGraw-Hill House
Maidenhead Berks ....MAI 20260
Jap Munzig Intl Japan Inc
15-1, Nishi Shimbashi, 1 -chome
Minato-ku, Tokyo
Swed Ingenjorsfirman Nordisk Elektronik AB
Stureplan 3 Stockholm..............08/24 83 40
Swit Munzig Intl Inc 6 Av de Frontenex
1207 Geneva 35 84 14

ELECTRONIC MODULES CORP BOX 141 TIMONIUM
MD 21093 TWX 710-862-2638 ....301 666-3300
R VOGEL EMP 265 ENG 15 $5,000-$10,000M
Cal Cardinal Assoc 16024 Ventura Blvd
Encino 213 788-4540
Colo Inland Assoc 1136 Pearl St Boulder....303 442-1336
Conn Applied Measurements Inc 2531 Whitney Ave
Hamden 203 288-5288
Ill Actronic Sales Eng Inc 4750 N Milwaukee Ave
Chicago 312-286-1037
Kan Inland Assoc 6047 Howe Dr Mission 913 362-2366
Mass Applied Measurements Inc Box 316
Acton.........................617-263-2766
Mich Satullo Co 4514 N Woodward Ave
Royal Oak.........................313-549-3910
Mo Inland Assoc 453 N Lindbergh Blvd St Louis
NY Guidi & Beane Inc 135 New York Ave
Huntington 516 271-8850
NC Datatech Inc 5950 Fairview Rd
Charlotte 704-366-5302
Ohio Satullo Co 16801 Euclid Ave Cleveland .216-486-2800
Pa Hilliard Assoc 766 Old York Rd
Jenkintown.......................215-884-6100
Tex Carey & Assoc 3315 W 12th St
Houston 713 869-3623
Va Datatech Inc 4906 Fitzhugh Ave
Richmond 703-358-6925
Wash Fred H Haight Co 3212 East Lake Ave
Seattle.........................206-322-1818

Can Wm Pass Assoc 172 Ellis Park Rd
Toronto Ont 705-767-0950
Ger Techmark Corp Barelli Str 18 8 Munchen 19

ELECTRONIC NAVIGATION INDUSTRIES INC
1337 MAIN ST E ROCHESTER NY 14609 ..716-288-2420
L SALMEN EMP 5 ENG 4 $100-$250M
ADV PG 34

ELECTRONIC PARTS MFG CO INC 508-10 25TH ST
UNION CITY N J 07087 ....201 865-4028
C DADAIAN EMP 2 ENG 0 UP TO $100M

ELECTRONIC PRECISION CIRCUITRY INC
39 MANTON AVE PROVIDENCE
RI 02909...........................401 521-2114
R TIERNEY EMP 25 ENG 2 $100-$250M
NJ M & S Assoc 31 Tanner St Haddonfield .609 429-7055
NY L L Malis 160 E 84th St New York 212 744-3771

ELECTRONIC RESEARCH ASSOCIATES INC
67 SAND PARK RD CEDAR GROVE
N J 07009 ....201 CE 9-3000
P GRECO EMP 140 ENG 10 $2,500-$5,000M
Ala Mekco Assoc Holiday Office Ctr Huntsville...881-3721
Ariz Tech Ser Inc 1805 E Indian School Rd
Phoenix 265-3629
Cal Tech-Ser Inc Box 10544 San Diego 222-1121
Colo Kelley Enterprises 336 E 4th St Loveland ..NO 7-1376
Fla Triflex Inc 1400 Hillcrest Ave Orlando ..305-841-1632
Ill Magnuson Assoc 5639 W Fullerton Ave
Chicago 622-6322
Kan Leemark Engrs Inc 4518 W 89 St
Prairie Village 648-0149
Md Scientific Mktg Assoc 8817 Hunting La
Laurel 301-776-5130
Mass Hobart Assoc 223 Crescent St
Waltham 617-899-6230
Mich W R Hummon Assoc Box 501 Farmingham ..474-0661
Minn Magnuson Assoc 1246 W 7th St St Paul ...227-8495
Mo Leemark Engrs Inc 9623 St Charles Rock Rd
St Louis...........................423-8700
NY Martin P Andrews Inc 319 Mott Rd
Fayetteville ....NE 7-3144
NC Electro-Rep Assoc 128 W 30th St
Charlotte...........................333-0451
Ohio G & H Sales Corp 7215 Market Pl
Cincinnati 513-761-6185
Pa Lewis Slubin & Co 2305 Fairmount Ave
Phila ....CE 6-2072
Tex G Weinreich & Assoc 11554 E Northwest Hwy
Dallas.............................DA 1-2800
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 389-5914
Can Electrodesign Ltd 83 Arthur St
Ottawa 4, Ont 233-8815
Can Electrodesign Ltd 3433 Bathurst St Toronto

ELECTRONIC RESEARCH CO, A TEXTRON CO
10000 W 75TH ST OVERLAND PARK KAN 66204
TWX 910-749-6477 ....913 ME 1-6700
H DANZIG EMP 350 ENG 10 $1,000-$2,500M
ADV PGS 182,210,262,402,415,639
Cal Shephard Stern Co 4109 Burbank Blvd
Burbank...........................849-6671
Cal J S Heaton Co 3695 Haven Ave
Menlo Park 415 369-4671
Colo Cummings & Assoc Box 1112
Englewood 303-789-3449
Fla G F Bohman Assoc 7040 Lake Ellenor Dr
Orlando 305-855-0274
Ill Whitmore Assoc Inc 535 N Michigan Ave
Chicago 321-1503
Md Harry J White Co 320 Hillen Rd Towson....VA 8-6373
Mass Stan Pierce, Inc 24 Linden St Norwood 762-3164
Mo Florence & Meyer, Inc 406 W 34th St
Kansas City ....LO 1-7282
NJ Harry J White Co 801 N Marlton Pike
Cherry Hill 428-2304
NJ Comp Tech Sales Box 50 Riverdale 835-0332
NY Comp Tech Sales Box 384 Lynbrook.......593-2628
NY Floring & Murray Dewitt PO Box 11
Syracuse 315-446-5555
Tex Texelec Inc Box 1209 Richardson 214-235-3821
Wash Allied Agencies 1818 Westlake N
Seattle 206 284-4082

ELECTRONIC RESOURCES INC TASKER INDUS
4561 COLORADO BLVD LOS ANGELES CAL 90039
TWX 910-497-2264...................213-246-6767
T ATHERTON EMP 17000 ENG 1000
OVER $10,000M
Ala Aironic Accessory Co 2516 N Memorial Pkwy
Huntsville 205-539-7211
Ariz Circle Sales Box 2626 Phoenix 967-1044
Del T Wright Egypt Rd Rd 2 Newark......301-398-3748
Fla Spartak Inc Box 915 Winter Park 644-3023
Ga Aironic Accessory Co Inc 6427 Roswell Rd
Atlanta 404-255-8422
Ind Larry Berberich & Assoc 4130 Linden Ave
Dayton.........................213-222-9981
Md Aironic Accessory Co 102 N Main St
Bel Air 301-838-9292
Mo Harris-Hanson Co 7916 Paseo St
Kansas City 444-9494
NM Space Sys Sales & Engr 1401 Valencia S E
Albuquerque.......................255-7058
NY Aironic Accessory Co 161 Orinoco Dr
Brightwaters 666-6510
Pa ARA Electronics Inc 301 York Rd
Jenkintown.........................887-5250
Tex Allied Components Co Box 38009
Dallas.........................214-348-6660
Can Sterling Aircraft Prods Ltd 472 Victoria Ave
St Lambert Que
Ger Eliktro-Metall Jagerhofstr 29 4 Dusseldorf ...483041
Jap Sumitome Shoji Kaisha Ltd
8 1-Chome Marunouchi
Chiyoda-Ku Tokyo 211-0111

Aust Haramel Intl Pty Ltd 157 Greville St
Prahran 3181 Vic

ELECTRONICS & ALLOYS INC 145 S DEAN ST
ENGLEWOOD N J 07631 ....201 568-6820
A RICCARDO EMP 32 ENG 5 $500-$1,000M
Cal J Delaney 3324 E Vine Ave Orange 714-639-4744

ELECTRONICS COMMUNICATIONS DIV ATLANTIC
RESEARCH CORP SHIRLEY HWY AT EDSALL RD
ALEXANDRIA VA 22314 ....703 354-3400
M REESE EMP 300 ENG 100 $500-$1,000M
Ala Atlantic Research Corp 2109 W Clinton Ave
Huntsville 534-3694
Ariz Atlantic Research Corp 4625 E Broadway Tucson
Cal Atlantic Research Corp 999 N Sepulveda Blvd
El Segundo 772-1583
Mass Atlantic Research Corp 950 Boylston St
Newton Highlands 244-5180

ELECTRONICS CORP OF AMERICA 1 MEMORIAL DR
CAMBRIDGE MASS 02142
TWX 710-320-0359 ....617 UN 48000
J PHILLIPS EMP 650 ENG 30 OVER $10,000M
Cal ECA 833 Mahler Rd Burlingame 415-697-0590
Ill ECA 100 S Wacker Dr Chicago 312-322-6364
Mo ECA 911 Main St Kansas City 816-471-1646
NY ECA 200 Park Ave New York 212-867-7668
Ohio ECA 100 Erieview Plaza Cleveland 216-522-1344
Pa ECA 1500 Walnut St Philadelphia 215-735-5796
Tex ECA Exchange Park Dallas 214-358-2577

ELECTRONIC SEALS CO INC 13766 SATICOY ST
VAN NUYS CAL 91402 ....213 781-0540
H ADELMAN EMP 25 ENG 4 $250-$500M

ELECTRONIC SERVICE CO 201 LINDEN AVE
VERONA N J 07044 ....201 239-0303
W ZILINSKY EMP 6 ENG 2 UP TO $100M

ELECTRONICS INC OF PA 2440 MARYLAND AVE
WILLOW GROVE PA 19090 ....215 OL 9-6666
J ARNOLD EMP 45 ENG 2 $250-$500M

ELECTRONICS MISSILES & COMMUNICATIONS INC
BOX 116 WHITE HAVEN PA 18661 717-443-9575
R SWAIN EMP 46 ENG 5 $500-$1,000M
Ala Signal Engrg & Sales Inc Box 30127
Birmingham 595-5855
Ariz Elsco of Ariz 4533 N Scottsdale Rd
Scottsdale 946-4658
Cal Effective Communications West
1842 E University Ave Fresno 916 383-4641
Colo L B Walker Radio Co 100 N Victoria Ave
Pueblo ....LI 2-1924
Haw Intelect Inc 30 N School St Honolulu 566-366
La ATI Inc 633 Government St Baton Rouge ...348-4962
Mich American Microwave Commun
204 Natl Bank Bldg Alpena 356-1510
Minn K & M Elctns Co 7360 Ohms La Mnpls 941-1330
NJ Synctronics Technology Inc 7150 Airport Hwy
Pennsauken 609 663-4840
NC Electronic Wholesalers Inc 938 Burke St
Winston-Salem ....PA 5-8711
Ohio Electronic Prods Corp 1231 Main St
Cleveland 621-2100
Okla Video Electronic Sys 3234 E 15th St
Tulsa ....WE 9-2291
Ore Progress Electronics Co 5652 N Lagoon Ave
Portland 285-8388
Pa Effective Communications Systems Box 98
White Haven 443-9850
Tex Video Systems Inc 13206 Kit La Dallas .806 323-4116
Utah Electronic Sales Corp 2275 SW Temple
Salt Lake City 466-8631
Can Canadian Commun Equip Ltd
5203 8th Ave Rosemount Montreal P Q ...727-3727

ELECTRONIC SPACE PRODUCTS INC
DEPT E, 854 S ROBERTSON BLVD LOS ANGELES
CAL 90035 ....213 657-5540
N KERN

ELECTRONIC SPECIALTIES CO DIV FIDELITONE
525 N RIVER ST BATAVIA ILL 60510 ...312 970-5495
W KESLER EMP 46 ENG 2 $1,000-$2,500M
Ark Seiferd Sales Co 653 National Ave
Memphis 901-324-2066
Cal Pendleton Co Box 509 Menlo Park 234-2067
Colo P R Spencer Co 4201 Brighton Blvd
Denver 801-534-3293
Mass W Withers 30 Ericson Rd Weymouth ...617-337-3474
Minn Shearer-Offerman 262 Sexton Bldg
Minneapolis 612-339-0391
Mo Midwestern Sales 7819 Wornall Rd
Kansas City 816-363-1169
Neb John A Hourigan 518 S 118th St
Omaha 402-334-1032
Nev R S Ebbert Co 1120-A S Cypress
La Habra Cal 694-1871
NJ W Robinson Co Tompkins Tidewater Term
So Kearny 201-643-0511
NC Zimmerman-Evans Inc Box 10026
Greensboro 919-299-9331
Tenn Seiferd Sales Co 653 National Ave
Memphis 901-324-2066
Utah P R Spencer Co 58 E Truman Ave
Salt Lake City 303-466-3406
Wash Larrabee & Assoc 2117 Second Ave
Seattle 206-682-2358
Can Owl Lite Equip Ltd Helena St Fort Erie
For Skokie Int'l 2530 Crawford Ave Evanston

ELECTRONIC SPECIALTY CO, CONN DIV
401 WATERTOWN RD THOMASTON CONN 06787
TWX 710 475-0537 ....203 283-5801
A BLUM EMP 225 ENG 7

ELECTRONIC SPECIALTY CO PORTLAND ELCTNS
DIV 18900 N E SANDY BLVD PORTLAND
ORE 97220 TWX 910-469-8782 503-665-0121
H HALES EMP 620 ENG 20 $5,000-$10,000M
Ariz F Schoeffler Assoc 6912 E Horseshoe Rd
Scottsdale 602-948-3470
Cal Westrep 9519 Telegraph Rd
Pico Rivera 213-949-2551
Cal Mauldin Co 441 W California Ave
Palo Alto 415-326-5291
Fla Spartak Inc Box 915 Winter Park 305-644-3023
Ind Larry Berberich & Assoc 1415 E State St
Fort Wayne 219-483-7722
Kan Ensco 7924a State Line Prairie Village .913-649-4000
Md L D Lowery Inc 6200 Annapolis Rd
Hyattsville 301-773-4977
Mass Gerald Rosen Co Inc 563 Worcester Rd
Natick 617-655-2211
Minn Countryman Assoc 1821 University Ave
St Paul 612-645-9151
Mo Ensco 6717 Vernon Ave St Louis 314-726-2233
NY O F Masin Inc 140 Boston Post Rd
Larchmont 914-834-7500
NY Graydon-Sherman Inc Davis Bldg
Fayetteville 315-637-9861
Ohio Larry Berberich & Assoc 4130 Linden Ave
Dayton 513-252-9981
Pa L D Lowery Inc 2801 W Chester Pike
Broomall 215-356-5300
Tex Robt R Thomas Co 8616 N W Plaza Dr
Dallas 214-363-8591
Wash R R Chase & Assoc Box 548 Kirkland ..206-454-2514
Ger Elektro-Metall Export Gmbh
Jagerhofstr 29 4000 Dusseldorf
Jap Sumitomo Shoji Kaisha Ltd
1 Kandamitoshiro-Cho Chiyoda-Ku Tokyo

ELECTRONIC TRAINING AIDS CO BOX 53
CAMBRIDGE MASS 02141 ....617 BR 2-4288
D GARDNER EMP 6 ENG 1 UP TO $100M

ELECTRONIC TRANSFORMER CORP
460 TOTOWA AVE PATERSON
N J 07509 ....201 279-4445
M GORMAN EMP 60 ENG 4 $500-$1,000M
Cal Sentech Co 821 Glenhaven Dr La Habra 697-7614
Mass Todino Engrg Sales Co Box 201
Needham Hgts 444-7925
NJ Martin E Klein Assoc Box 92 Hillsdale ..201-664-8711
NY Lenard Co 132 Burnett Ave Syracuse GR-9-9191
Ohio S Tetelbaum 3100 Valerie Arms Dr Dayton ..276-5808
Pa Foley Assoc Box 155 Moorestown NJ ..609-663-4545

ELECTRONIC TRANSISTORS CORP
153-13 NORTHERN BLVD FLUSHING
N Y 11354 ....212 LE 9-6700
M BYRNES EMP 75 ENG 6 $1,000-$2,500M
Cal Win W Tompkins 3944 El Camino Real
Palo Alto ....DA 6-7940
Iowa Koenig-Myers Assoc 7603 Dennis Dr Des Moines
Kan Koenig-Myers Assoc Box 374
Shawnee Mission ....HE 2-8300
Mich W Scroggs 2221 Harbor Hills Rd Jackson
NY Minthorne International Co Inc
64-14 Woodside Ave Woodside 899-8888
NC Bemar Assoc Inc 4213 Barrett Dr
High Point 883-9218
Pa Bemar Assoc Inc 7217 Rising Sun Ave
Philadelphia ....RA 8-6333
Va Bemar Assoc Inc 809 W Broad St
Falls Church 534-1004
Can Manis Assoc Reg'd 7365 Mountain Sights
Montreal 731-7748

ELECTRONIZED CHEMICALS CORP S BEDFORD ST
BURLINGTON MASS 01803
TWX 710-332-0502 ....617 272-2850
C BROWN JR EMP 120 ENG 10 $1,000-$2,500M
Ala Compar Southern 904 Bob Wallace Rd
Huntsville 205 539-8476
Ariz Compar Rocky mtn 84 W First St
Scottsdale 602 947-4336
Cal Compar San Fran 1815 Bayshore Hwy
Burlingame 415 697-6363
Cal Stratos Inc 6730 San Fernando Rd
Glendale 213-245-8914
Colo Compar Rocky Mtn 300 E Hampden Ave
Englewood 303 781-0912
Conn Compar New England 2341 Whitney Ave
Hamden 203 288-9276
Fla Compar Florida Box 13109 Orlando ...305 855-3964
Ga Brownell Inc 3026 Commerce Way
Hapeville 404 767-9301
Ill Russ Diethert Co 2030 W Montrose Ave
Chicago 312 561-7627
Ind Russ Diethert Co 5420 N College
Indianapolis 317 255-6169
Iowa R W Farris Co Inc 517 5th Ave
Des Moines 515 244-8243
Md Compar Chesapeake 7 Church Lane
Baltimore 301 484-5400
Mass Compar N E 88 Needham St
Newton Highlands 617 969-7140
Mich C B Jensen Assoc 26711 Woodward Ave
Royal Oak 313 544-3700
Minn Compar Twin Cities Box 8095
Minneapolis 612 922-7011
Mo Coron Corp Box 1427
Maryland Heights 314-432-3444
NJ Compar Phila 15 Potter St Haddonfield .609 429-1526
NM Compar Rocky Mtn 2125 San Mateo Blvd NE
Albuquerque 505 265-1020
NY Wintronics Inc 48 Commerce Dr
Farmingdale 516-293-5166
NC Russ Diethert Co 903 E 2nd Ave
Gastonia 704 865-3771
Ohio Compar Ohio Box 4791 Fairview Park ..216 333-4120
Tex Compar Southwest 8609 NW Plaza Blvd
Dallas 214 363-1526
Wash Compar Northwest 6133 Maynard Ave S
Seattle 206 763-1711
Wis Russ Diethert Co 217 Wisconsin Ave
Waukesha 414 547-6575
Can Ideal-Hellermann Canada Ltd 33 Frankcom St
Ajax Ont
For AD Auriema Inc 85 Broad St
New York, NY ....212 BO 9-7750
Fr Deltec S A 30 Rue Des Amandiers 797-52-93
Ger Paul Hellermann GmbH 5 Siemens Str
Pinnenburg by Hamburg
GB Hellermann Electric Ltd Crawley Sussex
Neth High Voltage Europa Amstedamseweg 61
Amersfoort
Ital Auriema Italio SRL Via Cagnola 3 Milano 384 634
Jap Ad Auriema-Japan
c/o Midoriya Elect Co Ltd 3 2-Chome Kyobashi
Chuo-Ku Tokyo
Swed AB Elektroutensilier Akers Runo
Stockholm 0764 20110
Swit Otto Pfenninger AG Dufourstr 56
8008 Zurich 051/47 74 10
Belg AD Auriema-Europe SA 172a Rue Brogniez
Bruxelles 7 ....22 22 35
Spn Ad Auriema Spain Paseo De Gracia 69
Barcelona 9
Aust Auriema (Australasia) Pty Ltd 443 Kent St
Sydney N S W 296485

ELECTRON MACHINE CORP. BOX M UMATILLA
FLA 32784 ....904 669-3101
G WILLIAMS EMP 35 ENG 7 $500-$1,000M
Cal Devoe Engineering Co 1462 Skyline Dr
Fullerton 871-8076
NY W S Stamp 127 So Long St Buffalo ...716 634-2240
NC Mac Guire Instrument Co 4425 Randolph Rd
Charlotte 366-3454
Ore Donelson & Courtney Inc Box 68446
Portland 654-3137
Pa Penn-Del Instr Sls Inc 709 Bethlehem Pike
Phila ....CH 7-7389
Can Industrial Projects Ltd 3300 Cavendish Blvd
Montreal Que 489-5769
Fr Nucleofrance 30 Rue Raspail Argenteuil 95
GB Bendix Elctns Ltd High Church St
New Basford Nott
Neth N V Technische Handelsonderneming
Coimex-Vlaardingen Veldweg 11
Jap Columbia Import & Export Co LTD
3-1 Chome, Kanda-Sarugakucho
Chiyoda-ku Tokyo
Swed Aden Co AB Regeringsgatan 89 Stockholm C
Aust Ronald J T Payne PTY LTD 385 Bridge Rd
Richmond

ELECTRON-OHIO INC 1278 W 9TH ST CLEVELAND
OHIO 44113 ....216 621-5377
J LIGHTBODY EMP 50 ENG 6 $100-$250M
RI Gaskill Industries 229 Georgia Ave
Providence 401 467-3980
Can Technitron Assoc 769 Lasoie Ave
Doival Que 514 631-6859

ELECTRON-RADAR PRODUCTS
4806 W CHICAGO AVE CHICAGO
ILL 60651 ....312 ES 9-1232
J BAILEY EMP 31 ENG 5 OVER $10,000M

ELECTRONS CO 127 SUSSEX AVE NEWARK
N J 07103 ....201 621-9666
R ROBERTS EMP 100 ENG 8 $1,000-$2,500M

ELECTRON TECHNOLOGY INC 626 SCHUYLER AVE
KEARNY N J 07032 ....201 998-8100
G PERRY EMP 60 ENG 7 $1,000-$2,500M
Pa Emlen-Peterson Co Montgomery Lane
Radnor ....MU 8-0151

ELECTRO-NUCLEAR LAB INC
115 INDEPENDENCE DR MENLO PARK
CAL 94025 415-322-8451
J MANLEY EMP 30 ENG 8 $500-$1,000M

ELECTRO OCEANICS INC 2000 S SANTA FE AVE
COMPTON CAL 90221 ....213 537 2430
B E MARSHALL EMP 50 ENG 3 $500-$1,000M
Cal Ocean Science Services 709 First St
Coronado 714-459-4882
Cal Ocean Science Services 600 E Ocean Blvd
Long Beach 213-436-3205
Cal Ocean Science Services 437 California Ave
Palo Alto 415-328-6262
Conn Lindgren Assoc Box 61 Wilton 261-7937
Fla John L Marsh & Assoc 341 W Indiantown Rd
Jupiter 305 746-4911
Ill Olson Engrg & Sales 1921 N Harlem Ave
Chicago 312-622-9777
Mass Lindgren Assoc 223 Crescent St
Waltham 617 891-8045
Mo Zeppenfeld & Co Box 3763 Kirkwood ..314 TA 2-2333
NY Lindgren Assoc Box 473
Huntington Station 516 261-7937
Ore Ocean Science Services Box 02031
Portland 503-654-0495
Pa Stein Instrument Co 413 Johnston St
Jenkintown 215 885-2370
Tex Fleming & Co 7001 Glen Hill Rd
Ft Worth 817-AT 4-9609
Wash Ocean Science Services 705 Northlake Way
Seattle 206-632-9370

ELECTRO OPTICS ASSOC 974 COMMERCIAL ST
PALO ALTO CAL 94303 ....415 327-6200
V MET EMP 29 ENG 4 $250-$500M
Ala Technical Assoc Box 4088 Huntsville ...205 881-8494
Cal A-F Sales Engrg Inc 94 S Los Robles Ave
Pasadena
Colo PLS Assoc 7895 E Prentice Ave
Englewood 303 771-0140

Conn Instrument Assoc 234 Murphy Rd
Hartford 203 525-9367
Fla Technical Assoc 2319 E South St
Orlando 305 424-5681
Mass Instrument Assoc 30 Park Ave
Arlington 617 648-2922
NJ SBM Assoc 1519 Stuyvesant Ave Union . 201 687-8737
NM PLS Assoc 4200 B Silver Ave SE
Albuquerque 505 255-2330
NY SBM Assoc 800 Linden Ave Rochester . . 716 381-8330
Tex Noakes Engr 2128 W Alabama Houston . 713 529-6213
Va Dresden & Co 801 N Pitt St
Alexandria 703-683-1268

ELECTRO-PACIFIC INC 5782 THORNWOOD DR
GOLETA CAL 93017 ....805 964-4878
J LINDBERY EMP 20 ENG 3 $100-$250M
Cal Halbar Assoc 1805 W 3rd St
Los Angeles 213 387-8283
Ill Olson Engrg & Sales Corp 1921 N Harlem Ave
Chicago 312-788-2606
Mass Telemetry Systems Engrg 93 Main St
Andover 617-475-4086
Ohio EV Swenson & Assoc 1112 Talbott Tower
Dayton 513 223-4279
Pa L C Fuller Jr 32 Rittenhouse Pl
Ardmore 215-642-2468

ELECTRO POWERPACS CORP 253 NORFOLK ST
CAMBRIDGE MASS 02139 ....617 876-9220
R HORTON EMP 75 ENG 12 $500-$1,000M
Cal Johnson Assoc 260 Sheridan Ave
Palo Alto 415 327-1700

ELECTRO PRODUCTS LABS INC POWER SUPPLY
DIV 6125 W HOWARD ST CHICAGO
ILL 60648 ....312 647-8744
E JASIK EMP 100 ENG 3 $250-$500M

ELECTRO PRODUCTS LABS INC TRANSDUCER DIV
6125 W HOWARD ST CHICAGO
ILL 60648 312-647-8744
E JASIK EMP 100 ENG 6 $1,000-$2,500M
Ala Vesco Box 1369 Huntsville 881-8830
Ariz Cosmic Controls 5045 N 12th St
Phoenix 602-266-7661
Cal Logan Sales Co 463 Brewster Ave
Redwood 415-369-6726
Cal Technisales Co 3820 E Colorado Blvd
Pasadena 213-792-5111
Colo Walter-Powers Assoc 880 Bonnie Brae Blvd
Denver 303-777-5585
Conn Coakley Boyd & Abbett Inc 6 Gaywood Dr
Waterbury 756-8766
Fla Vesco Box 250 Cocoa Beach 784-0784
Mass Coakely Boyd & Abbett Inc 1424 Highland Ave
Needham 444-5470
Mich Electro Mation Assoc 1137 Cole St
Birmingham 564-6517
Minn Automation Service Corp 4815 W 77th St
Minneapolis 922-7587
Mo Jack M Gilbert Co 131 E 70th St
Kansas City 333-8830
NJ Sensory Inc 1 Kennedy Rd Morris Plains 538-7661
NY Ossmann Instruments Inc 3100 Monroe Ave
Rochester 586-0380
NC Systems Service Corp Box 17525 Charlotte . 377-3407
Ohio Fred R Sharp Co Inc 12417 Cedar Rd
Cleveland 462-2770
Pa Bollinger & Bradford Box 8088 Pittsburgh . . 561-2340
Tex Whitson Engineering Co 1323 Levee St
Dallas 748-0492
Wash Fred H Haight Co 3212 Eastlake Seattle . . . 322-1818
Wis Automation Engineering Co
12740 N River Rd 43W Mequon 242-1520
Can Atlas Instrument Corp 50 Wingold Ave
Toronto 781-6174

ELECTRORACK PRODUCTS CO
1742 S CLEMENTINE AVE ANAHEIM
CAL 92802 ....714 776-5420
A HOUGH EMP 50 ENG 4 $500-$1,000M

ELECTRO-RENTS INC 4131 VAN OWEN PL
BURBANK CAL 91504
TWX 910-498-2238 ....213 843-3131
C MOTZKO EMP 30 ENG 3 $1,000-$2,500M
Ariz Electro-Rents Inc 2535 W Camelback Rd
Phoenix 602-264-1279
Cal Electro-Rents Inc 2351 De La Cruz Blvd
Santa Clara 408 244-3871
Colo Electro Rents Inc 2785 N Speer Blvd
Denver 303-477-3461
NJ Electro-Rents Inc 17 Park Pl Paramus . 201-265-7500
NM Electro Rents Inc 3707 4th NW
Albuquerque 505-344-3575
Tex Electro-Rents Inc 312 N Central Expwy
Richardson 214-231-8106

ELECTRO SCIENCE LABS INC 1133 ARCH ST
PHILADELPHIA PA 19107 ....215-LO-3-2215
R RINGER EMP 30 ENG 12
Ariz Shefler-Kahn Co 2017 N 7th St Phoenix . . . 258-7893
Cal Ruby Sales Corp Box 487 Santa Clara 243-1694
Cal Biztek 10639 Riverside Toluca Lake 766-4890
Colo Inland Assoc 2991 Peak Ave Boulder . . . 303 443-8213
Ill Raymond Klipp Assoc 389 Center St
Grayslake 223-4837
Kan Inland Assoc 6047 Howe Dr Mission . . . 913-362-2366
Md Jadelectronic Assoc Box 115 Greenbelt 474-8161
Mo Inland Assoc 453 N Lindbergh
Creve Coeur 314 993-0301
NJ D & R Assoc 248 Lorraine Ave
Upper Montclair 744-8378
NM Shefler-HKahn Co 408 Penna Ave
Albuquerque 265-7077
Ohio R G Sidnell & Co Inc 74701 Detroit Ave
Cleveland 216 221-1313
Pa Jadelectronic Assoc Inc Box 5735
Philadelphia ....GL 5-3355
Tex Ruby Sales Corp Box 9894 Dallas . . . . 214 TA 7-6630
Can R G Sidnell & Co Inc 140701 Detroit Ave
Cleveland 216-221-1313
Fr Salies S A 11 Rue Leon Morane Paris 15 . . . 842-5256
GB Eurolectron Station Road Workingham Berks
Neth Eurolectron Box 70 Bilthoven 03402
Jap Hakuto Co Ltd Box 25 Tokyo Central

ELECTRO SCIENTIFIC INDUSTRIES INC
13900 NW SCIENCE PARK DR PORTLAND
ORE 97229 ....503 646-4141
P LINTNER EMP 190 ENG 21
Ala D Dickinson Box 4127 Huntsville 205 536-4451
Cal Tom White 999 Commercial St
Palo Alto 415 327-1571
Cal A Wakelin & W Lyon Box 3097 Orange . 714 633-4703
Ill Carter Elctns 4919 W 63rd St Chicago . 312-585-5485
Ind Carter Elctns 6333 Hollister Dr
Indianapolis 317 293-0696
Mass D Erickson 190 Lexington St Waltham . 617-899-6633
Minn Carter Elctns 2401 W 66th St
Minneapolis 612 869-3261
NJ K Scherzer Box 88 Bergenfield 201 385-9493
Ohio Instrumentation Systems Inc 3481 Office Park Dr
Dayton 513 293-8095
Can Instronics Ltd Box 100 Stittsville Ont 836-4411
For Omni Ray Ag Zurich
Technische Beratung Wien Molla
A-1060 Wien Austria
For Intl Electronic Engr Ltd
Huerfanos 521 Casilla 10482 Santiago Chile . . 34439
For Arturo Brom Cerro Cora Y Yegros
Asuncion Paraguay
For Taiwan Development Co Ltd 45-3 Changan E Rd
Sec 2 Taipei Taiwan 52320
For Coasin Uruguay S A Cerrito 617 P 4 Esc 403-4
Montevideo Urug
Den Metric A/S Naerum Hovedgade 121
2850 Naerum 01 80 42 00
Fr Tranchant Electronique S A
19 Rue Madam De Sanzillon 92 Clichy 270-2255
Ger Wenzel Elektronik Lamontstr 32
8 Munchen 27 ....48 65 58/59
GB D A Pitman Ltd Mill Wks Jessamy Rd
Weybridge Surrey ....Wey 46327
Neth Ingenieursbureau Kempff
Laan Van Meerdervoort 762
Den Haag 070-68 56 56
Ital Silverstar Ltd Via Dei Gracchi 2d Milano 46 96 551
Jap Hakuto Co Ltd Box 25 Tokyo Central . 503 3711-3719
Nor Morgenstierne & Co A/S PB 6688 Rodelokka
Oslo 5 ....(02)37 29 40
SAfr F H Flanter & Co Pty Ltd 43 Somerset Rd
Cape Town 2-9711
Swed Teleinstrument A B Box 14
Vallingby 1 Stockholm 870345
Swit Omni Ray A G Dufourstr 56 Zurich 8 . . . . 051 47 82 00
Arg Coasin S A Virrey Del Pino 4071 Buenos Aires . 52-3185
Belg Regulation-Mesure Sprl 22 Rue Saint-Hubert
Bruxelles 15 ....71 20 20
Braz Ambriex S A Av Graca Aranha 226-6
Rio De Janeiro CZ-00 42-7990
Ind Electronic Enterprises
46 Karani Bldg New Charni Rd Bombay 75376
Isrl Landseas (Israel) Ltd 29 Bezalel St Box 16166
Tel Aviv 24-4311
NZ Sample Electronics (NZ) Ltd
Box 13258 Onehunga 6 Auckland 667-356
Spn Ataio Ingenieros Enrique Larreta 12
Madrid 16 ....235 3543
Fin Teratron Puistokaari 12 Parksvangen
Helsinki 20 Helsingfors 67-2998
Aust Sample Electronics (Vic) Pty Ltd
9-11 Cremorne St Richmond E 1 Victoria . . 42-4757

ELECTROSIL LTD BOX 37 PALLION
SUNDERLAND DURHAM ENGLAND 71481
L MCCANN EMP 450 ENG 30 $5,000-$10,000M

ELECTRO-SONIC-CONTROL 1625 N MAIN ST
MANTECA CAL 95336 ....209 823-7694
R ARWINE EMP 21 ENG 2 $250-$500M
Ill Schrade Batterson Co 5253 W Belmont Ave
Chicago ....AV 2-0204
Mo Industrial Process Co 2812 Locust St
St Louis 314-JE-3-4050
Ohio S B Reese Sales Co 3219 Hyde Park
Cleveland Hts ....YE 2-8079
Ore Food Engrg Service Rood Bridge Rd
Hillsboro 503 648-3800
Pa Walter Koenig Co Box 57 Allentown 215 433-6061
Tex D Jack Fair Co 5014 Rexton Dallas 348-0217
Jap Electrosonic Sale Co Hotel New Japan Tokyo
Aust Electronic Relay Co 17 Dickson Ave
Artarmon NSW

ELECTRO-SONICS, INC 10 MAIN ST SPOFFORD
N H 03462 ....603 363-4701
F FRENCH EMP 43 $250-$500M
Conn Ray Perron & Co 36 Louis St Trumbull . 203-268-9631
Conn Ray Perron & Co 10 Briarwood Rd
Farmington 203-673-4825
Ill Production Sales Co of Ill 1925 N Harlem Ave
Chicao 312 237-8920
Ind Hoemig Sales Co 3405 Butler Ct
Fort Wayne 483-6913
Mass Ray Perron & Co 159 Morse St
Norwood 617-762-8114
NH Ray Perron & Co 1 Elm St Dover 603-742-2321
NY R W Mitcher Co, Inc Ellicott Sq Bldg
Buffalo 854-2517
NY Willgold Elctn Sales Corp 100 N Village Ave
Rockville Centre 516-764-4022
NC R W Mitscher Co Inc Box 10541
Raleigh 919-828-0575
Ohio Hiltebrant-Greenleaf Co 20412 Center Ridge Rd
Cleveland 216-333-5480
Pa Oberlies Sales Co 34 Harcourt Rd
Hatboro 215-672-6633
Tenn R W Mitscher Co Inc 2508 Stone River Ct
Nashville 615-883-2220
Va R W Mitscher Co Inc 3100 Basin
Virginia Beach 703-464-0500

ELECTROSPACE CORP 956 BRUSH HOLLOW RD
WESTBURY NY 11590 997-7000
N JACOBSON EMP 450 ENG 30 $1,000-$2,500M
Cal Sodaro Co 3753 S Robertson Blvd
Culver City ....UP 0-6001
Va George Gill 1101 17th St, NW
Washington, d c 296-7997

ELECTRO SPACE FABRICATORS INC CENTRE AVE
TOPTON PA 19562 215-682-7181
C TEEL EMP 31 $500-$1,000M

ELECTRO-STANDARDS LABS INC
3560 N W 34TH ST MIAMI FLA 33142 . . 305-633-6975
B GREEN EMP 15 ENG 1 $250-$500M
For Southern Int Sales Co GPO Box 1896
San Juan PR 723-3879

ELECTRO-STYLUS MFG CO 31 CHEYENNE BLVD
COLORADO SPRINGS COLO 80906 ...... 303 633-5969
L MURRAY EMP 10 ENG 2

ELECTRO SWITCH CORP KING AVE WEYMOUTH
MASS 02188 TWX 388-0377 .... 617 335-5200
H GREY EMP 210 ENG 12 $2,500-$5,000M
Cal Willard Nott & Co 1485 Bayshore Blvd
S F 415 467-0547
Cal Westrep 626 W Commonwealth Ave
Fullerton 714 879-4090
Colo Cummings & Assoc 4772 So Kalamath St
Englewood 303 789-3449
Conn John E Drake Co 129 Oenoke Ln
New Canaan 203 966 2580
Fla Buchanan & Abrams Assoc Inc
1512 E Concord Ave Orlando 305 423-8995
Ill Rockford Controls Co 21W181 Hill Ave
Glen Ellyn 312 469-6016
Md Naudain Assoc Box 1
Lutherville-Timonium 301 252-5378
Mich Hilltronics, Inc 13720 Puritan Ave
Detroit 313 342-3242
Minn E A Dickinson & Assoc 18827 Kingswood Ter
Excelsior 612 474-5273
Mo H J Weisler & Assoc, Inc 2050 Woodson Rd
St Louis 314 428-3934
NY Frank Tylinski Co 338 Northern Blvd
Great Neck 516 466-9070
NY T Ferguson Sales Inc 228 Winton Rd N
Rochester 716 235-4577
NC L G White Southern Inc 1014 Brookstown Ave
Winston-Salem 919 725-3612
Ohio Hiltebrant-Greenleaf Co 20412 Center Ridge Rd
Cleveland 216 333-5480
Pa Naudain Assoc 1032 Suburban Sta Bldg
Philadelphia 215 564-3194
Pa Covert & Newman Co 300 Mt Lebanon Blvd
Pittsburgh 412 563-0303
Tex Brice Co 1402 Dunlavy St Houston 713 526-3197
Wash C B Parsons & Co 5319 Fourth Ave S
Seattle 206 762-7373
Wis E A Dickinson & Assoc Inc 3612 N Green Bay Ave
Milwaukee 414 264-1080
Can George M Fraser Ltd 1670 Bayview Ave
Toronto 416 487-5436
For Norcon Div Intrade Inc Thomaston 203 283-5563

ELECTRO-TEC CORP BOX 667 ORMOND BEACH
FLA 32074 ....305 677-1771
J RILEY EMP 475 ENG 12 $5,000-$10,000M
ADV PG 526
Cal Technical Prods Sales Corp 6850 Van Nuys Blvd
Van Nuys 213-989-3970
Fla Technical Prods Sales Corp 100 E Granada
Ormond Beach 904-672-2314
Mich Technical Prods Sales Corp 1119 Barton St SE
Grand Rapids 616-245-0511
NJ Technical Prods Sales Corp Box 876, Athenia Sta
Clifton 201-471-5802
Va Technical Prods Sales Corp 1600 N Main St
Blacksburg 703-552-2111

ELECTRO-TEC CORP, VIRGINIA OPERATION
1600 N MAIN ST BLACKSBURG
VA 24060 703-552-2111
T WHOLFORD

ELECTRO-TECHNICAL LABS DIV MANDREL INDUS
INC 6909 SOUTHWEST FRWY HOUSTON
TEX 77036 ....713 MO 7-6561
Z DENNISON EMP 462 ENG 37 $2,500-$5,000M
Can Mandrel Industries Ltd 303 Forge Rd SE
Calgary, Alb 252-1106
Fr Mandrel Cie 77 Chemin du Perimetre
Annecy Haute Savoie 454986

ELECTRO TECHNIC PRODUCTS
4642 N RAVENSWOOD AVE CHICAGO
ILL 60064 ....312 561-2349
EMP 30 ENG 4 $250-$500M

ELECTROVAC RAMPENGASSE 5 VIENNA AUSTRIA
TWX 07-4617 36-15-55
J BRADA EMP 700 ENG 20 $2,500-$5,000M
Den Industrial Elctn Rosenvaengets Alle 23/25
Copenhagen TRIA-2100
Fr Electrovac-Paris 23 Rue Des Ecoles
94 Creteil 899-19-51
Ger Electrovac-Passau d-8391 Salzweg
Passau 0851-4483
GB Joseph Elctns Ltd Warwick St 23-24
London W 1 01-437-8531
Ital Volta AG Wangergasse 41 I-39100 Bozen 27082
SAfr L Electronic Pty Ltd 141 Pritchard St
Johannesburg 22-3363

ELECTROVERT INC 86 HARTFORD AVE MT VERNON N Y 10553 TWX 1-37483 .... 914 664-6090
F FARRELL EMP 65 ENG 6

Ala	Space Engineering Sales, Inc 4306 Governors Dr SW Huntsville	205 837-6060
Alas	John P Bagoy & Assoc 3116 Commercial Dr Anchorage	277-0911
Ariz	E J Foley & Assoc 3840 N Jokake Dr Scottsdale	602 945-2666
Cal	Electrovert Inc 822 N Hollywood Way Burbank	213 849-7833
Colo	Franklin Sales Co 2149 S Clermont Denver	303 757-1371
Conn	Gerber Sales Co Inc 29 Whalley Ave New Haven	203 777-6279
Fla	H R Gross Co 314 S Missouri Ave Clearwater	813 446-6649
Ga	Grady Duckett Sales Co Box 29067 Atlanta	404 451-3529
Ill	Hill-Gray Assoc Inc 821 Garfield St Oak Park	312 383-0373
Ind	Hoemig Sales Co 3405 Butler Ct Fort Wayne	219 483-6913
Kan	Louis E Bruns Co 2210 N 50th Ter Kansas City	913 AT 9-5242
Md	Ansell Engineering Co 816 Thayer Ave Silver Spring	301 JU 8-4222
Mass	Contact Assoc 7 Cypress Dr Burlington	272-5051
Mich	M A Percival Co 25511 Southfield Rd Southfield	313 356-5710
Minn	James Lee Co 4241 Toledo Minneapolis	612 920-1525
Mo	Louis E Bruns Co 514 Parkwood Ave Kirkwood	
NJ	J P Dearie Co 60 Midvale Rd Mountain Lakes	201 334-4848
NY	Leonard D Allen Inc PO Box 205 Syracuse	315 458-7470
NC	Bill Henry Assoc 1043 Providence Rd Charlotte	704 375-8958
Ohio	Joseph B Clough Co 4614 Prospect Ave Cleveland	216 431-2700
Pa	NEBco Assoc Inc 1974 Gregory Ave Monroeville	412 824-2111
Tex	P J Scanlon Co 724 S Sherman St Richardson	214 AD 1-4661
Wash	Bill Waddell Co 10211 NE 31st Pl Bellevue	206 VA 2-3660
WVa	NEBco Assoc Inc 1 Spotwood Ct Charleston	304 344-1111
Wis	Electrovert, Inc 6055 W Fond du Lac Ave Milwaukee	414 463-7750
Can	D I Snell, Ltd 2150 Ward St Montreal 9, Quebec	748-9646
Fr	DELTEC S A 30 Rue des Amandiers Paris 20e	522-24-14
GB	Allied Int'l 59/61 Union St London SE 1	HOP 4567
Jap	Nippon S T Johnson Sales Co Ltd 3-5, Uchikanda-3Chome Chiyoda-ku Tokyo	252-1251
SAfr	Specialized Electronics Box 15552 Siemend, Johannesburg	
Ind	Forbes, Forbes, Campbell & Co Ltd Home St Bombay	268081
Aust	K G LukeGroup Indus, Ltd 505 St Kilda Rd Melbourne, Vic	

ELECTRO-VOICE INC SUB GULTON INDUSTRIES 600 CECIL ST DEPT EBG BUCHANAN MICH 49107 TWX 820-321-4823 616-695-6831
H DURBIN EMP 1300 ENG 60 OVER $10,000M

Ala	Maitland K Smith Co 3258 Cahaba Hgts Rd Birmingham	967-3080
Ark	Dick Bellew Sls 1005 W 4th St El Dorado	UN 3-8325
Cal	Carter & Rossney Assoc 2600 W Olive Ave Burbank	843-3292
Cal	Meyer/Ross & Fleming 113 Tenth St San Francisco	HE 1-0652
Colo	McLoud & Raymond Sales 2151 S Grape Denver	756-1589
Conn	Michael Scott Co 46 Rockefeller West Haven	934-0261
Fla	Jack Sproch Sales 3520 W Broward Ft Lauderdale	587-3792
Ga	Maitland K Smith Co 5375 N Peachtree Rd Chamblee	457-1931
Haw	Wm Kolans 158 Nokauea Honolulu	811-628
Ill	J D Boswell Sales 7623 W Main Belleville	274-0560
Ind	Blind & Assoc 1635 Gent St, N Indianapolis	ME 5-6291
Iowa	Electronic Sales Co 3300 Williams Des Moines	266-1283
La	Dick Bellew Sls 3017D 18th St Metairie	833-6496
Md	Brothers & Conneen 6302 Lincoln Baltimore	RO 4-7189
Mass	Michael Scott Co 20 Walnut Wellesley Hills	CE 5-0102
Mich	Riley & Petchell Elect Sales 16515 Schoolcraft Ave Detroit	VE 8-9100
Minn	Fisher Sls, Inc 4820 W 77th St Minneapolis	920-6577
NJ	Brothers & Conneen 3108 Pheasant Run Dr Cinnaminson	829-9325
NY	Carduner Sls Corp Box 900 Westbury	333-8170
NY	LSM Assoc Orchard Park Phelps	548-4891
NC	Maitland K Smith Co 1605 Chatham Charlotte	FR 6-5951
Ohio	C L Pugh Co 2144 Riverside Columbus	486-9678
Pa	Brothers & Conneen 131 Harned Rd Springfield	543-8641
Tex	Crockett Sales Co 2204 Griffin Dallas	RI 8-8209
Wash	Wm R Lanphear Sales 4031 Stoneway N Seattle	ME 3-4900

ELECTRO WINDERS CO INC 854 W FRONT ST COVINA CAL 91722 TWX 213-686-6741 .... 213 ED 2-6207
G PAYNE EMP 150 ENG 7 $1,000-$2,500M

Ariz	Gramer & Co 444 W Camelback Rd Phoenix	CR 9-1231

ELECTRO WINDINGS & COMPONENTS INC 725 FEDERAL AVE KENILWORTH N J 07033 .... 201 245-3200
D MACMILLAN EMP 85 ENG 4 $500-$1,000M

Conn	John E Drake Co Box 507 New Canaan	966-2580
Mass	John E Drake Co 99 Cambridge St Burlington	245-0699
NJ	Howard Kagan Assoc 18 Tilghman Dr Wayne	684-7682
NY	Louis Ackerman Assoc 150-08 87th Ave Jamaica	OL 8-8881
Ohio	Walter Brauer Assoc 29029 Euclid Ave Cleveland	943-0601
Pa	Walter J Brauer Assoc Box 8466 Pittsburgh	921-3213

ELESTA LTD ELECTRONICS ELESTASTRASSE BAD RAGAZ SWITZERLAND TWX 74298 .. 085 9-25-55
P BERWEGER EMP 600 ENG 30 $2,500-$5,000M

Mass	Machinery Electrification, Inc 56 Hudson St Northboro	393-2451
For	Elesta Elektronik Gmbh Marktgasse 5 A-6800 Feldkirch	34-34
Den	Sophus Berendsen A/S Amaliegade 10 Kopenhagen	CE 85 00
Fr	Elesta France S a r l 1, Avenue Herbillon F-94 St-Mande	328 0730
Ger	E-G Hannemann Gutleutstrasse 11 D-6 Frankfurt a M 1	231594
GB	Britec Ltd 17 Charing Cross Rd London, WC 2	WHI 3070
Neth	Handelscompagnie N V Waalhaven O Z 1 Rotterdam	29-20-55
Ital	I R T A Spa Via Salaino 7 Milano	439 051
Nor	Skandinavisk Elektronikk A/S Ebbellsgt 1, Postboks 129 Oslo	20-79-35
Swed	Ingeniorsfirma Hugo Tillquist Sodra Langgatan 21 Solna 3	83 01 00
Belg	Electro Appareils SA 556 Av De La Couronne Bruxelles 5	49-21-24
Gr	N Moraitinis U Co Anagnostopoulou Str 34 Athens 136	619-680
Isrl	M Kochn 12 Shamai St Jerusalem	22862
Spn	Sanchez-Ramos Y Simonetta Av Jose Antonio 27 Madrid 13	222-56-40
Fin	Suomen Sahkotarvike Oy Aleksanterinkatu 15 b Helsinki 10	61806
Aust	Warburton-Franki 220 Park St South Melbourne	690151

ELGAR CORP 8159 ENGINEER RD SAN DIEGO CAL 92111 .... 714 279-0800
W BARKER EMP 18 ENG 3

Ala	James L Highsmith & Co 3322 S Memorial Pkwy Huntsville	881-3294
Ariz	T Louis Snitzer Co 15 N 40th Pl Phoenix	273-1673
Cal	T Louis Snitzer Co 9005 Exposition Blvd Los Angeles	836-6170
Cal	T Louis Snitzer Co 10320 Saratoga-Sunnyvale Rd Cupertino	257-8333
Cal	T Louis Snitzer Co 1150 Camino Del Mar Del Mar	454-2191
Colo	D E Bond Assoc 2149 S Clermont St Denver	756-1234
Conn	Howard J Schuft Co 965 Dixwell Ave New Haven	865-1365
Fla	James L Highsmith & Co 2543 Industrial Blvd Orlando	293-5202
Ill	Megatek Inc 1915 N Harlem Ave Chicago	889-1277
Ind	Megatek Inc Rte 1 Freetown	317-988-7002
Iowa	Engineering Services Co 1026 3rd Ave SE Cedar Rapids	366-1591
Kan	Engineering Services Co 7924-A State Line Prairie Village	649-4000
Mass	Howard J Schuft Co 815 Washington St Newtonville	527-5304
Mich	Megatek Inc 26847 Grand River Ave Detroit	531-1403
Minn	Megatek Inc 6810 Irving Ave S Minneapolis	866-9769
Mo	Engineering Services Co 6717 Vernon Ave St Louis	726-2233
NJ	Louis A Garten & Assoc 375 Passaic Ave Fairfield	226-7800
NM	D E Bond Assoc Box 11331 Albuquerque	255-7634
NY	KLM Assoc 1 Nouvelle Park New Hartford	735-8525
NY	KLM Assoc 8 Bear Hill Dr Palmyra	597-9776
NY	KLM Assoc 201 S Main St N Syracuse	458-6214
NC	James L Highsmith & Co 3733 Monroe Rd Charlotte	333-7743
Ohio	Megatek Inc 1400 Devereux Dr Dayton	298-8638
Ohio	Megatek Inc 221 Garfield Rd Aurora	734-4433
Pa	Louis A Garten & Assoc 947 Old York Rd Abington	927-1200
Tex	Arnold Barnes Co 740 S Sherman St Richardson	235-4541
Tex	Arnold Barnes Co 3230 Mercer St Houston	622-3620
Tex	Arnold Barnes Co D416 Petroleum Ctr San Antonio	828-1328
Va	W A Brown & Assoc 325 1st St Alexandria	836-1800
Va	W A Brown & Assoc 82 Huxley Pl Newport News	245-8272
Wash	Dewar & Assoc 6361 1st Ave S Seattle	763-2233
For	Trans World Trade Box 1037 Santa Monica, Cal	472-0444

ELGENCO INC 1550 EUCLID ST SANTA MONICA CAL 90404 TWX 910-343-6475 .... 213 451-1635
J DONE

Ariz	Windsor Dynamics Inc 3300 S Mill Ave Tempe	602-967-3222
Cal	Windsor Dynamics Inc 307 Parkman Ave Los Angeles	213-387-8224
Cal	Windsor Dynamics Inc 195 Greer Rd Woodside	415-854-4870
Conn	Instruments Reps Inc Box 165 Glastonbury	203 633-0777
DC	Ron Davies Assoc Washington	301-593-4900
Fla	Conley May Assoc Box 668 Oviedo	305 365-3283
Ill	Chandler Assoc Box 229 Geneseo	309 944-2010
La	Mitchell Speairs Co New Orleans	WX 3161
Md	Ron Davies Assoc 11215 Oak Leaf Dr Silver Spring	301 593-4900
Mass	Instruments Reps Inc 1046 Massachusetts Ave Arlington	617 646-1034
Mich	Chandler Assoc 32401 W 8 Mile Livonia	313-476-5800
NM	Schmidt Sales 9611 Acoma Rd S E Albuquerque	505 298-2415
NY	Harvey J Krasner Assoc, Inc 33 Great Neck Rd Great Neck	516-487-0690
Pa	Kastle Assoc 354 N Main St Doylestown	215-348-4466
Tex	Mitchell Speairs Co 3881 S Hills Circle Ft Worth	817-923-4657
Can	Alan Crawford Assoc Ltd 65 Martin Ross Ave Downsview, Ont	416-636-4910
Can	Alan Crawford Assoc Ltd 6999 Cote des Neiges Rd Montreal	514-739-6776
Den	Intelec AS Holbersgade 14 Copenhagen K	15 28 80
Fr	Antares 9 Rue Ernest-Cognacq 92 Levallois-Perret	
GB	Claude Lyons Ltd Valley Works Hoddesdon, Herts	Hod 67161
Neth	Koopman & Co Electronica NV Stadhonderskade 6 Amsterdam	020-182821
Swed	Amerikanska Teleprodukter AB Nybohovsgrand 56 Stockholm SV	18 29 30
BC	Allan Crawford Assoc 721 Aldford Ave New Westminster	604-524-1161
Belg	Electronic Instr SPRL 21 Ave Paul Hymans Bruxelles 15	02 70 55 00
Ind	Electronic Enterprises New Chatni Rd Bombay	375376
Fin	Nores & Co Fabianikatu 32 Helsinki 10	13360

ELGILOY CO 853 DUNDEE AVE ELGIN ILL 60120 .... 312 695-1900
B RICE EMP 75 ENG 2 $1,000-$2,500M

Ariz	ANP Sales Co 5323 E Mockingbird La Scottsdale	602 948-6195
Cal	Marketek, Inc One 1st St Los Altos	941-0882
Colo	George Lovering Co Box 636 Edgemont Br Golden	237-1406
Ga	Davis Metals Ind 595 Wimbledon Rd Atlanta	TR 5-0911
Ind	John Sears Sales Box 18053 Indianapolis	546-7883
Ky	R D Brockmeier Co Box 7222 Louisville	897-1200
Mich	Donigan & Assoc 1486 West Maple St Troy	313 642-5050
Minn	R O Bittrick Co 183 S Chatsworth St Paul	226-6178
Mo	Robert L Luck Co 2201 Grand Ave Kansas City	HA 1-1444
NY	Plantec Corp 3923 Harlem Rd Buffalo	716 839-1777
Ohio	Apex Sales Agency 12920 Triskett Rd Cleveland	216 941-9000
GB	Gilby-Brunton 47 Whitehall, S W I London	
Swit	Institute Dr Ing R Straumann Waldenburg Canton of Basil-land	

ELGIN ELECTRONICS INC 2035 W 12TH ST ERIE PA 16505 TWX 510-696-6689 .... 814 452-6773
D SAWTELLE EMP 600 ENG 31 $5,000-$10,000M

Cal	Costello Little & Co 8737 Venice Blvd Los Angeles	
Conn	N E Shenk 58 Pine Ridge Rd Wilton	762-7012
Fla	Reynolds & Assoc P O Box 1043 Eau Gallie	
Minn	R F Lugo 5907 Upton Ave, N Minneapolis	335-0030
NJ	D-G Sales Co Box 67 Bellmawr	
NJ	Winter Assoc Box 104 Holly La Boonton	
Pa	L C Stuller 3317 Cindy La Erie	452-6773
Va	Tom Davis Marketers 4210 Daniels Ave Annandale	

E & L INSTRUMENTS INC 61 FIRST ST DERBY CONN 06418 203-735-8774
R PORTUGAL EMP 12 ENG 2 $250-$500M

Cal	RDP Assoc 999 Commercial St Palo Alto	415-328-6616
Conn	E-P-R Inc 281 Vera Rd Bristol	203-584-0077
Mass	Stickney Eng Assc 12 Priscilla Rd Lynnfield	617-334-3085
Mo	Airborne Electronic Co 7759 Loma Vista Dr Kansas City	816-221-0312
NJ	L & M Assoc 511 Victor St Saddle Brook	201-843-8700
NY	L & M Assoc 7 Mayflower Ct Brentwood	516-231-8363
Pa	L & M Assoc 9650a Bristol Pike Andalusia	215-639-3100
Utah	Instrumentation Res & Devel Corp 265 Cross Road Sq Salt Lake City	801-487-2581
Va	Nine Assoc Inc 7753 Patriot Dr Annandale	703-256-9105
Wis	O Meara Co 800 N Marshall Milwaukee	414-273-8467
Can	Stark Electronix 180 Station St Ajax Ont	942-2120
Can	Cardinal Ind Elctns 14310-118th Ave Edmonton Alb	403-455-4122
For	Elbar Electronic Corp 433 Liberty St Schenectady	518-372-5841
BC	Rae Industrial Elctns Ltd 1350 East 4th Avenue Vancouver B C	253-8494

ELIT-ELETTRONICA ITALIANA S R L VIA GADAMES 100 20151 MILAN ITALY 30 47 84
V SAVELLI EMP 60 ENG 3 $500-$1,000M

For	Telectra Sarl Rua Rodrigo da Fonseca 103 Lisboa 1	686072
Den	Tage Olsen A/S 1, Roennegade Copenhagen	294800
Nor	Morgenstierne & Co A/S Konghellgt 3 Oslo	372940
Swed	Erik Ferner AB Box 56 Bromma, Stockholm	252870
Gr	E Devletoglou 20, Voukourestiou St Athens	623426
Fin	Orbis Oy Kalannintie, 52 Helsinki	434219
Aust	RCA Ltd 11 Khartoum Rd North Ryde NSW	618541

ELJAY CORP 9062 OLD ANNAPOLIS RD COLUMBIA MD 21043 301-737-8450
J SHARAR EMP 30 $250-$500M

ELLIOTT CO, B K BOX 3240 PITTSBURGH PA 15230 .... 412 471-3660
E DOBERSTYN EMP 200 ENG 2 $5,000-$10,000M

Ala	B K Elliott Co 25 W Oxmoor Rd Birmingham	786-2833
Cal	M Yoh 244 Jackson St San Francisco	982-5629
Fla	B K Elliott Co Box 5081 Orlando	424-3027

Ind D G Bowman RR 1 Box 224BB Carmel 632-7534
Mass B K Elliott Co 281 Billerica Rd Chelmsford ..256-6172
Mich B K Elliott Co 10136 Puritan Ave Detroit ...863-0822
NY B K Elliott Co 37 Franklin St Buffalo 854-5266
Ohio B K Elliott Co 4551 Willow Pkwy Cleveland ..441-0441
Va A J Buettner 5034 Waggaman Circle McLean 356-7142

ELLISON INSTRUMENT DIV DIETERICH STD CORP
GRAND AVE, BOX 96 NEW BUFFALO
MICH 49117 ....616 469-0110
P DIETERICH EMP 35 ENG 2 $500-$1,000M
Ala Gauggel Eng Co Inc Box 9065 - Crestline Hts Br Birmingham 205 871-4684
Alas Du Alaska Co 3939 Spenard Spenard 272-0814
Ariz Hennesy Sales Co 3841 N 15th Ave Phoenix
Cal Jensen Instrument Co 1919 Beverly Blvd Los Angeles 231-388-9525
Colo Robert F Gardner 4061 W 74th Ave Westminster 303-429-1104
Fla Control Center Inc Box 6268 Orlando ..305 841-3781
Ill Frabimor Equip & Controls Co 5300 McDermott Dr Berkeley 312 449-6530
Ind Law Instrument Co Box 95 Angola 219-665-6016
Iowa Deco Engrg Prod 1112 Locust St Des Moines 515 288-5721
Kan Valvtrol Inc 4049 Penna Ave Kansas City 816-931-5995
La Eggelhof Engineers Inc Box 7578 Metairie 504 888-3541
Md H P Rodgers, Inc 100 W 25th St Baltimore 301-467-1761
Mass G K Kerisher Co 108 E Dedham Boston .617-542-1050
Mich Anscor, Inc 17254 Greydale Ave Detroit 313-534-6700
Mo Cox Valve Specialties Inc 9567 Page Blvd St Louis ....314 HA 3-0700
NJ Charles C Phelps Co, Inc 700 New York Ave Union City 301-867-9150
NY Heston Owens Inc 218 Hartsdale Ave Hartsdale..................914 SC 5-4011
Ohio Control Components 1515 E 40th Cleveland 216-881-0166
Okla Eggelhof Engineers, Inc 5024 S Quaker Tulsa 918-743-7927
Ore Martig's Inc 5741 NE Glisan Portland..503-232-1949
Pa M S Jacobs & Assoc, Inc 810 Noblestown Rd Pittsburgh
Tenn Dickey Engineering Co Box 3508 Knoxville 615-524-8641
Tex Eggelhof Engineers, Inc 4801 Gulf Frwy Houston 713-923-9461
Utah Pace-Turpin Co 726 3rd W Salt Lake City..................801 521-3740
Wash R E Le Riche 442 Central Bldg Seattle .206-623-6622
WVa M S Jacobs & Assoc, Inc Box 523 Charleston 304-343-8906
Wis Process Equip & Controls Co Box 8185 Milwaukee..................414 352-6690
Can Palmer Therm Co, Ltd 52 Hyde Ave Toronto, Ont..................416-763-2859
For Ellison Instr Div 38 S Dearborn St Chicago 312-332-1228
BC Instrument Service Lab 29 West Broadway Vancouver..................604 876-3361

ELMAG CORP 54 CLARK ST NEWARK
N J 07104 ....201 481-1600
I BLACK EMP 25 ENG 1 $250-$500M
NJ Bob Cameron Assoc 3 Elaine Ct Hillsdale....664-2525
NY K B C Engineering 300 Northern Blvd Great Neck 516 466-5711
Ohio John O Olsen Co 16201 Shaker Blvd Cleveland 216-752-5444
Pa Samuel A Jeffries Inc 105 Forest Ave Narberth ....MO 4-8500

ELMEK DIV ELECTRO MECHANICS INC
160 WHITING ST NEW BRITAIN
CONN 06051 203-225-3521
D ROBOTHAM EMP 200 ENG 7
Cal Electric Motor Specialists Box 517 Westminster 213-564-7372
Conn Bobker Bearings Inc 130 E Service Rd Hartford
Fla W R Lehmann Co Box 20275 Orlando
Ill Maher Engrg Co 13 Broadway Des Plaines
Mass Gemco Electrical Co 365 Kilburn St Fall River
NJ Bobker Bearings Inc 132 Getty Ave Clifton
NY Bobker Bearings Inc 29-02 39th Ave LIC
Ohio Thorrat & Hanmer Box 2945 Rocky River
Pa Electrol Assoc 711 Spring Lane York

ELMWOOD SENSORS INC 1655 ELMWOOD AVE
CRANSTON R I 02907
TWX 701-381-6413 ....401 781-6500
A NATHAN EMP 120 ENG 7 $1,000-$2,500M
ADV PG 640
Cal David H Ross Co 434 El Camino Real San Carlos 415-591-4411
Colo O'Brien Sales Agency 2785 N Speer Blvd Denver 303 447-4713
Ga K & E Assoc Blue Springs Park Kennesaw..................404-974-4264
Ill Technical Reps Inc 2701 W Howard St Chicago 312 465-1441
Ind Industrial Components Co 2701 W 16th St Indianapolis
Md J A Maguire & Co 5716 York Rd Baltimore 301 433-2613
Mich L T Martensen Co 46 Ridge Rd Pleasant Ridge 313 543-3633
Minn Carl A Listug Sales Co 6309 Wyoming Ave N Minneapolis 612-537-6704
Mo Jack M Gilbert Co 131 70th St Kansas Cty 816 333-8830
NJ J A Maguire & Co 721 Market St Camden 609 966-3118
NY G M Moch Co New York City 212 279-6758
Ohio Allied Enterprises Inc 7281 Pearl Rd Cleveland 216 234-2606

RI G H G Forman 21 Stratford Rd Edgewood 401 941-3477
Wash Martin Poggi Co Box 786 Bellevue.....206 454-2026
Wis R C Zingler 2406 E Shorewood Blvd Milwaukee..................414 332-3452
Can Lake Engineering Sales Ltd 123 Manville Rd Scarborough, Ont 416 751-5980
For Dkfm Gunther Haase A-1151 Wien - Box 39 Haidmannsgasse 4 ....0222 83-64-56
Den E V Johanssen A/S Scherfigsvej 1 Copenhagen
Fr Intertechnique SA 78 Plaisir Paris 951-01-20
Ger Hans G Werner & Co Box 2867 Forststr 60 7 Stuttgart 1..................07-11 62-66-46
GB M L Industrial Prod Ltd 292 Leigh Rd Trading Est Slough Bucks ....SLOUGH 23838
Neth N V Handelmaatschappij van Santen Heregracht 555 Amsterdam 65238-232113
Ital ReeR di Brunetti & C Via Catania 22 10153 Torino..................280-947
Swed Aktiebolaget Elektroholm Dalvagen 12 Fack Solna 1 82-02-80
Swit W Siegrist & Co CH 4000 Basel 5 .....061 33-13-54
Isrl Co-Da Ltd 4 Hashuk St Tel-Aviv 81170

ELNA-FOX ELECTRONICS CO LTD
2-25 2-CHOME NISHI-GOTANDA SHINAGAWA-KU
TOKYO JAPAN 0466-36-8171
Y TAMURA EMP 2000 ENG 100 OVER $10,000M

ELPAC INC 18651 VON KARMAN AVE IRVINE
CAL 92664 TWX 910-595-1513 ....714 833-1717
J RIDDELL EMP 200 ENG 15 $2,500-$5,000M

ELPAC INC, COMPONENTS DIV
18651 VON KARMAN AVE IRVINE CAL 92664
TWX 910-595-1513 ....714 833-1717
A HUMMEL EMP 45 ENG 2
Ariz Carl Hower Box 1627 Scottsdale
Cal W E C San Diego 8861a Balboa Ave San Diego
Colo Brown Technical Inc 830 S Lipan St Denver .935-4052
Fla Young & Lawrence Fort Orlando
Ill Edward Schmeichel Co 5968 W Chicago Ave Chicago ....ES 8-2070
Mass Todino Engineering 50 Kearney Rd Needham Heights 444-7925
Mich Elko Sales Corp 970 N Oxford Grosse Pointe Woods 313 884-7893
Minn Beta Engineering 128 Jackson Ave N Hopkins..................612 938-2551
Mo PEM Sales Co 9537 Lackland Rd St Louis .HA 7-7200
NJ Technical Elect Dist 20 Foster St Bergenfield
Ohio Sales Coordinators Box 325 Wickliffe......942-3487
Tex Universal Elctns Supply Co Box 36134 Houston
Wash Testco Engineering Boeing Fld Seattle.....PA 3-9000

ELPAC INC RF/MICROWAVE DIV
18651 VON KARMAN AVE IRVINE CAL 92664
TWX 910-595-1513....................714-833-1717
R HARTENSTINE EMP 8 ENG 3 $500-$1,000M
Cal Crown Elctns 5653 Lankershim Blvd N Hollywood 213-873-1266

ELPAC INC SYSTEMS DIV DATA
18651 VON KARMAN AVE IRVINE CAL 92664
TWX 910-595-1513 ....714 833-1717
A HUMMEL EMP 44 ENG 6 $5,000-$10,000M
Fla Carlisle Dent 1355 Stewart Winter Park....644-2823

ELPA MKTG INDUSTRIES INC
THORENS & ATLANTIC NEW HYDE PARK
N Y 11044 ....516 PI 6-3002
A ACTISDANO EMP 50 ENG 4 $2,500-$5,000M
Cal Koessler Sales Co 2010 W Burbank Blvd Burbank..................849-5716
Cal Evans Marketing 845 Malcolm Rd Burlingame 415 697-6575
Colo R Bowen & Assoc 1440 S Santa Fe Denver ..744-2501
Conn R S Reiss Assoc 70 Jessie Dr West Haven ..WE 3-8542
Ga Paul Igou & Assoc 4599 Northside Dr NW Atlanta 255-0396
Ill E N Seversen & Assoc 11435 Circle Dr La Grange ....CH 6-4054
Kan Zimmer Sales Co Box 329 Shawnee Mission .432-8900
Minn H M R Inc 9 East 22nd St Minneapolis 335-7734
NJ Moyer-Johnson Co 220 Haddon Ave Haddonfield ....HA 9-7792
NM Lee Davis Co 1415 Richmond Dr NE Albuquerque..................256-1749
Ohio F Ohman Inc 2590 Post Rd Twinsburg 425-7445
Tex Wyborny Sales Corp 7209 Scyene Rd Dallas ....214 EV 1-4645
Wash Wm K Wood Co 5908 Calif Ave SW Seattle..................206 WE 5-9400

EL-RAD MFG CO 4300 N CALIFORNIA AVE CHICAGO
ILL 60618....................312 478-7300
J CLARK EMP 250 ENG 20 $1,000-$2,500M
Fla Hanson Assoc Box 26 Melbourne 727-7474
Ill C J Saberson Box 1108 Evanston 274-9668
Ind Frederick & Meily Co 1601 S Hanna Fort Wayne 744-0641
Md Faion Lott & Co Box 534 Glen Burnie......744-4611
Minn Ray Ripley Co 11040 Goodrich Cir Mnpls ...881-8282
NY Megatone Corp 202 Woodspath Dr Liverpool 652-7491
NY Andrews & Andrews 140 E Main St Huntington..................692-8686

ELZEE METAL PRODUCTS CO INC 779 39TH ST
BROOKLYN N Y 11232 ....212 435-5000
C BAKER EMP 100 ENG 3 $1,000-$2,500M

EMCEE ELECTRONICS INC
177 OLD CHURCHMAN RD NEW CASTLE
DEL 19720 ....302 EA 8-1354
M CORZILIUS EMP 30 ENG 3 $250-$500M

EMC TECHNOLOGY INC 1300 ARCH ST
PHILADELPHIA PA 19107 ....215 563-1340
S ROLLIN EMP 50 ENG 8 $500-$1,000M

Cal Manufacturing Assoc 1738 Colorado Ave Santa Monica ....GR 9-8884
Colo I W Strong & Assoc 635 Canosa Ct Denver ..292-6900
Conn Optronics Boggs Hill Rd Newton 203-426-5531
Ill Communications Eng 7106 N Western Ave Chicago 312-761-0548
Mass Reptron 110 Great Rd Bedford 617-272-8585
NY Gray & Reed Assoc 9 Dunford St Huntington Station ....GE 3-3333
Pa Jadelectronic Assoc Box 5735 Phila ......GL 5-3355
Tex Texas Avionics Co 4515 Prentice St Dallas . EM 8-3566
Fr Salies S A 65-67 Ave Jean Jaures 91-Palaiseau 920-40-10
Ger Neumueller Co GMBH 8 Muenchen 13 Schraudolph Str 2a 299724
GB C T (London) Ltd 27 Ashley Pl Westminster London, S W 1 01-828-8631
Jap Hakuto Co Ltd Box 25 Tokyo 503-3711-9

EMD COMPONENTS INC 1450 E 289 ST WICKLIFFE
OHIO 44092 ....216 943-2424
J PATZ EMP 75 ENG 8 $1,000-$2,500M
Conn B J Clark 120 Liberty St Newington 666-6650
Fla Harry Tapp 717 Solar Isle Ft Lauderdale ..JA 3-8785
Ill Applied Eng Sales Co 4750 Milwaukee Ave Chicago 777-4341
Mich Elko Sales Corp 970 N Oxford Rd Grosse Pointe Woods 313 884-7893
Minn E E Rempfer & Assoc 4725 Olson Memorial Hwy Minneapolis 544-9301
Mo Wells-White Co 7607 Page Blvd St Louis ...726-2511
NJ Seaboard Assoc 725 St Georges Ave Roselle .241-7373
NY Larry Dawson Box 255 Waterloo 585-9923
Ohio J R Cronin 1028 Delta Ave Cincinnati 321-2644
Wis Motors-Controls Co Box 91 Mequon 377-7003

EMELOID CO INC 1239 CENTRAL AVE HILLSIDE
N J 07205 ....201 EL 2-1944
G EMERSON EMP 150 ENG 4

EMERSON & CUMING INC CANTON MASS 02021
TWX 710-348-1324 ....617 828-3300
W CUMING EMP 300 ENG 30 $5,000-$10,000M
Cal Emerson & Cuming Inc 604 W 182nd St Gardena ....FA 1-6650
Colo Franklin Sales Co 2149 So Clermont Denver . 757-1371
Fla DBM Research Corp Stoddard Bldg Cocoa Beach ....SU 3-2438
Ill Emerson & Cuming Inc 3450 Commercial Ave Northbrook 272-6700
Md Emerson & Cuming Inc 2446 Reedie Dr Silver Spring 949-2777
Minn Electro-Serv Co 1455 W Lake St Minneapolis 827-2907
NY Emerson & Cuming Inc 315 Walt Whitman Rd Huntington ....HA 1-3430
Ohio Emerson & Cuming, Inc Box 7035, Sta B Dayton..................278-0311
Pa Emerson & Cuming Inc 1340 E Washington La Philadelphia..................VI 8-2040
Tex Emerson & Cuming Inc 921 Bowser Richardson..................235-7394
Wash Minor B Brown & Assoc 4703 Lake Washington Blvd S Seattle ...932-5855
Can Willer Eng & Sales Co 1800 Avenue Rd Toronto, Ont 783-3373
Den Harold Skov Sotoften 31 Copenhagen-Gentofte..................GE 6868
Fr Emerson & Cuming France SA 65 Ave Gambetta Paris 20e 366-59-86
Ger Emerson & Cuming, GmbH 7023 Stuttgart-Echterdingen Lochwaldweg No 9..................791819
GB Emerson & Cuming U K, Ltd 828, Harrow Rd Sudbury Town Wembley 01 904 9391
Ital Emerson & Cuming Italiana SpA Viale Romagna 14 20133 Milan.........73-85-676
Jap Munzig Intl Japan K K 15-1 1-Chome Nishi-Shimbashi Minato-ku Tokyo 503-4751
Swed Aktiebolaget Galco Gavlegatan 12A Stockholm..................23 76 20
Swit Rolf P Praxl Zurich 38 ....91 53 64
Belg Emerson & Cuming Europe N V Nijverheidsstr 24 Oevel 014 59 326
Aust Wm J McLellan & Co Pty Ltd The Crescent, Kingsgrove Sydney, NSW ...50-0111

EMERSON PLASTICS CORP 1383 SEABURY AVE
BRONX NEW YORK 10461 ....212 SY 2-4400
A MARGOSIAN EMP 40 ENG 3 $500-$1,000M
Ind Ralph J Haffey Co 4127 N Clinton Fort Wayne 748-1159
Md P Mangini 6630 Baltimore Natl Pike Baltimore..................744-1991
Ohio C J Voneman & Co 18522 Detroit Ave Cleveland 221-2800
Wis B A Flatley & Assoc 324 E Wisconsin Ave Milwaukee 276-9121

EMI ELECTRONICS CANADA LTD BOX 1005
DARTMOUTH N S CAN TWX 014-42244 .902-466-7491
D LOADER EMP 500 ENG 65 $5,000-$10,000M
DC B L Robinson 2020 F St NW Washington 202-296-2978
Can Corporation House Ltd 160 Laurier Ave W Ottawa 613-CE5-4306

EMI ELECTRONICS LTD HAYES
MIDDLESEX ENG 01-573-3888
J SHARPE EMP 8500

EMIHUS MICROCOMPONENTS LTD
BATH RD, CRANFORD HOUNSLOW MDSX
ENGLAND TWX 23613 ....759 9584/9961
J CHAMBERS EMP 600 ENG 25 $5,000-$10,000M
Cal Hughes Microelectronics Div Newport Beach

E & M LABS 5388 STERLING CENTER DR
WESTLAKE VILLAGE CAL 91360
TWX 910-494-1953 213-889-1470
G UNDERBERGER EMP 150 ENG 30
$2,500-$5,000M
Ala Beacon Electronic Assoc Inc Box 3127 Huntsville 536-5065
Ariz Jarko Assoc 2032 N 27th Ave Phoenix 272-2684
Colo Hyer Electronics 7895 E Prentice Ave Englewood 771-5285
Fla Beacon Electronic Assoc 540 S Maitland Ave Maitland 647-3498
Ga Beacon Electronic Assoc Box 29201 Atlanta 636-7526
Ill Communications Engrs 7106 N Western Ave Chicago 761-0548
Ind Communications Engrs 418 E Berry St Ft Wayne 743-9866
Kan Simpson Enterprises Box 3066 Wichita 943-0502
Md C L Malinow & Co 3618 Briarstone Rd Randallstown 992-2092
Mass Zieco Inc 18 Muzzey St Lexington 861-8300
Mo Simpson Enterprises 514 Parkwood Blvd Kirkwood 965-115
NJ Central Assoc 44 N Dean St Englewood 568-0808
NM Hyer Electronics 130 Alvarado Dr NE Albuquerque 265-5767
NY Naco Electronics 119 Luther Ave Liverpool .. 474-7481
NC Beacon Elctn Assoc Box 503 Jamestown ... 454-1010
Pa Dolan-McCloskey Assoc 16 Spring St Red Bank 747-3270
Tex Sterling Electronics Corp 13808 Brookgreen Dr Dallas 231-0278
Utah Hyer Electronics 445 E Second S Salt Lake City 363-6773
Wash Cane-Topp Co Inc PO Box 250 Bellevue 746-5750
Can Canadian Micronics Ltd Box 6157 Sta J Ottawa 233-5129
Den Intelec Akieselobah Holbergsgade 14 Copenhagen
Fr Cerel 14-16 Rue Des Lilas Paris
Ger Nucletron Vertriebs GMBH 60 Gartner Str Munich 546081
GB James Scott, Ltd Carntyne Ind Est Glasgow
Ital Metroelittronica Viale Cirene N18 Milan
Jap Seki & Co, Ltd 92-Chome Ni Honbashi Tokyo
Swed Amerikanska Teleprodukter Nybohovsgrand 56 Stockholm
Ind Electronic Enterprises 46 Karani Bldg Bombay
Isrl M Kochn Box 1147 Jerusalem
Aust Jacoby Mitchell & Co, Ltd 469-475 Kent St Sydney

EMP ELECTRONICS INC 1231 W 23RD ST TEMPE
ARIZ 85281 TWX 910-950-1944 .... 602 967-8604
M HUBKA EMP 75 ENG 5 $1,000-$2,500M
Ala Lew Wright Assoc Box 4305 Huntsville . 205-741-2950
Cal Whitney Engnrg 8720 Woodley Ave Sepulveda 213-894-2261
Conn Eastern Technical Sales Box 122 Norwalk 203-846-9133
Kan Aerotronics Inc Box 3425, West Sta Wichita 316 264-7925
Minn L J Erger Box 85 Waysata 612 471-9423
Mo Aerotronics Inc Box 6236, Lambert Fld St Louis .... 314 HA 6-4060
NJ JJS Assoc Box 1205 Mountainside 201-233-4562
Pa Diversified Devices Box 241 King of Purssia 215-265-7925
Tex Aerotronics Box 1466 Arlington 817-261-9221

EMPIRE ELECTRONICS CO INC 60 SPRUCE ST
PATERSON N J 07501 .... 201 274-8282
M SURASKY EMP 40 ENG 1 $500-$1,000M

EMPIRE SCIENTIFIC CORP 1055 STEWART AVE
GARDEN CITY N Y 11530 516-742-7200
E TOOMBS EMP 115 ENG 7 $1,000-$2,500M
Cal C L Repp Co 12121 Wilshire Blvd Los Angeles 879-0358
Ill Dwight Smith Assoc Inc 32 S River St Aurora 896-0828
Mass Associated Elctns Inc 45 Kirk St Lowell . 617 454-4206
NM A L S Electronics Box 11626 Albuquerque .. 298-2575
NY Marsey Sales Inc 206 Park Ave Rochester .. 442-9700
Tex Techno Assoc 2621 Manana Dr Dallas 357-9213
Can Empire Scientific Corp Ltd 1476 Eglinton Ave W Toronto 787-5211
Jap Asahi Trading Co Ltd C P O Box 49 Tokyo .. 262-4321

EMPORIUM SPECIALTIES CO INC
530 WASHINGTON ST CHAGRIN FALLS
OHIO 44022 814-647-8640
M OSBORN EMP 165 ENG 4
Ariz G Cullom Box 15566 Phoenix 602-947-6480
Cal M Haase 8647 Arbor Dr El Cerrito 415 527-2604
Cal R D Dahl 1931 Orchard LaCanada 213-790-6111
Fla T Pridmore Box 2095 Melbourne 305-723-9140
Ga P Jackson Box 955 Atlanta 404-753-0111
Ill Karl D Engle Co 3621 W Devon Ave Chicago 312 539-1820
Ind T Tuohy 5072 E 10th St Indianapolis .. 317-356-3001
Kan H Thompson 10019 W 55th St Merriam 913-432-8678
Mass First Natl Elctns Inc Lakeside Park N Ave Wakefield 617 245-6240
NY Geo Scott 6 W Stuart Dr Glen Cove ... 516-OR 6-2088
Ohio J M Palmer 88 N Hayden Pkwy Hudson . 216-653-6222
Tex R Marston Box 1006 Richardson 214-AD 5-3577
Va H Temple 75 Bayview Dr Oakdale 516-567-1064

EMPRO MFG COINC BOX 26064 INDIANAPOLIS
IND 46226 317-823-4478
D HUGHES EMP 15 ENG 1 $250-$500M
ADV PG 569
Ala Electro-Tech Inc 106 Jordan La NW Huntsville 205-539-3718
Conn Mancib Co Randolph Rd & Co Ave Middletown 203-347-5629
Fla Electro-Tech Inc 307 27th St Orlando . 305-423-5589
Ga Electro-Tech Inc 3020 Commerce Way Atlanta 404-767-8761
Ill Pacific Indicators Co 5924 W Madison St Chicago 312-C01-1330
Md Sunshine Scien Instr Inc 5600 Main St Elkridge 301-796-5600
Mass Mancib Co A St at Middlesex Tpk Burlington 617-272-9450
NY Tobias & Co 48-15 31st Ave Long Island City 212-726-4551
NC Electro-Tech Inc 5141 Belhaven Blvd Charlotte 704-392-7451
Ohio Weschler Electric Corp 4250 W 130th St Cleveland 216-251-4609
Pa Sunshine Scien Inst Inc 1810 Grant Ave Philadelphia 215-OR3-5600
Can Stark Electronic Inst Ltd 540 Finley Ave Ajax Ont 416-942-2120

EMR COMPUTER 8001 BLOOMINGTON FRWY
MINNEAPOLIS MINN 55420 .... 612 888-9581
EMP 500 ENG 100 OVER $10,000M
Cal EMR Computer 505 W Olive Sunnyvale . 408 245-3694
Ga EMR Computer 1409 Peach Tree St NE Atlanta 404 892-1471
Ill EMR Computer 119 E Ogden Hinsdale .. 312 323-0450
Md EMR Computer 1320 Fenwick La Silver Spring 301 588-7515
NY EMR Computer 68 Van Bomel Oakdale . 516 589-5010
Tex EMR Computer 3616 Richmond Ave Houston 713 622-9610
For Schlumberger Overseas GmbH A1120 Vienna Tivoligasse Vienna 83-54-91
Fr EMR Computer 33 Ave Victor Hugo 9B Paris 727-8148
Ger Schlumberger GmbH 8000 Munchen 15 Bayerstr 558201
GB Solartron Elctn Group Ltd Farnborough Hampshire 44433
Ital Schlumberger Italiana Spa Via Veniero 7 Milan 321-544
Swed Schlumberger Svenska AB Vesslevagen 2-4 Lidingo Stockholm 765-28-55
Swit Schlumberger Instrumentation SA 8 Ave de Frontenex Geneva 35-99-57
Aust Solartron Australia Box 138 Kew Vic 86-9535

EMR DIV WESTON INSTRUMENTS INC BOX 223
PRINCETON N J 08540 TWX 843-457 ... 609 924-9100
EMP 1600
Cal EMR Telemetry Sales 5959 W Century Blvd Los Angeles 776-3335
Fla EMR-Telementry Box 3041 Sarasota 958-0811
Ill EMR Computer Sales 119 E Ogden Ave Hinsdale 323-0450
Md EMR Aerospace 5012 College Ave College Park 864-6340
Minn EMR-Computer 8001 Bloomington Frwy Minneapolis 888-9581
NY EMR Computer Sales 19 W 44 St New York . 679-5954
Ohio EMR 815 S Main St Dayton 223-8846
Pa EMR-Hatboro E County Line Rd Hatboro 215-672-1240
Tex EMR Computer Sales 8888 Dyer St El Paso . 751-2344
Fr Ste D'Instr Schlumberger 241 Ave Gambetta Paris 20 797-57-69
Ger Schlumberger Overseas 8000 Munich 15 Bayerstr 13 .... 0811/558201-05
GB Solartron Electronic Group Ltd Victoria Rd Farnborough Hamp 44433
Ital Schlumberger Italiana Spa Via Veniero 7 Milano 321 544
Jap Marubun Co Ltd 1 2-Chome Odenmacho Nihonbashi Chuo-K Tokyo 662-8151
Swed Schlumberger Svenska AB Vesslevagen 2-4 Lidingo 1 Stockholm 652855
Aust Solartron Australia Box 138 Kew Victoria 86 9535

EMR-HATBORO DIV WESTON INSTS INC
COUNTY LINE RD HATBORO PA 19040
TWX 510-665-6589 .... 215 OS 2-1240
B THOMPSON EMP 120 ENG 44
Cal EMR 11562 S Anaheim Blvd Orange 538-9694
Fla Truex Assoc 211 E Robinson Orlando 422-1293
Ga EMR 1700 Golden Gate Dr NW Atlanta 876-6898
Md Brimberg Assoc 814 Thayer Ave Silver Spring 301 588-7790
Mass Daner Assoc 684 Commonwealth Ave Newton Centre 617 969-4650
Ohio EMR 815 S Main St Dayton 513-223-8846
Wash Western Electro Dynamics Co 584 Dexter Horton Bldg Seattle .... MU 2-8412

EMR TELEMETRY BOX 3041 SARASOTA FLA 33578
TWX 810-864-0406 813-958-0811
P GERMOND EMP 1000 ENG 300 OVER $10,000M
Cal EMR Telemetry 5959 W Centry Blvd Los Angeles 213-670-7012
Md EMR Telemetry 1320 FenwickLa Silver Spring 301-588-8200
Tex EMR Telemetry 4150 Rio Bravo St El Paso 915-533-4287
Can ROR Assoc 21 Rolark Dr Scarborough 291-7121
Den Danbridge A/S 45 Brigadevej Copenhagen
Fr Soc D'Instr Schlumberger 296 Ave Nap Bonaparte 92 Rueil-Malmaison
Ger Schlumberger Overseas MV Gmbh 8000 Munich 15 Bayerstr 13 0811-55
GB Solartron Elctn Gr Ltd Victoria Rd Farnborough . 44433
Neth N V Peekel Alblasstr 1 Rotterdam 010-14-27-22
Ital Schlumberger Italiana S P A Via Veniero 7 Milano 321-544
Jap Marubun Co Ltd 1 2-Chome Odemmacho Tokyo 661-8151
Nor Morgenstierne & Co A/S Box 6688 Rodelokka Oslo 02-37-2940
Swed Schlumbergger Svenska Vesslevagen 2-4 Stockholm 65-28-55
Swit Schlumberger Instr SA Box 189 1211 Geneva
Spn Schlumberger Espanola S A Calle Rosario 45 Barcelona 6
Fin Schlumberger AB Wallininkuja 5 Helsinki 71-87-22
Aust Solartron Australia Box 138 Kew Victoria

EMTEC INC, EMPIRE SPRING DIV 140 OLIVE ST
ELYRIA OHIO 216 323-3287
R WOLFE EMP 135 ENG 10 $2,500-$5,000M
Ariz Sam O Rush 4315 St Josephs Way Phoenix . 959-3594
Cal Emtec Inc, Griffin Spring Div 5217 Industry Ave Pico Rivera 685-7378
Minn Fred Wagner 542 S Snelling Ave St Paul 698-033
NY N A Throm 36 Monterey Rd Tonawanda 264-3705
Tex J S Palmer 1308 Lake St Ft Worth 336-3279
Va T D Marketers Inc 4210 Daniels Ave Annandale 941-2313

EN-CER INC 16850 S STATE ST SOUTH HOLLAND
ILL 60473
N HUPPERT, SR EMP 15 ENG 2 UP TO $100M

ENCLOSURE CORP 1701 INDUSTRIAL BLVD
PENNSAUKEN N J 08110 .... 609 665-4321
R EDELMAN EMP 40 ENG 4 $500-$1,000M
Conn J & J Assoc 953 Dixwell Ave Hamden .. 203 624-7800
Fla CE Snow 2400 E Oakland Pk Blvd Fort Lauderdale 305 563-2448
Md Brimberg Assoc 814 Thayer Ave Silver Spring 301 588-7790
Mass J & J Assoc 225 Crescent St Waltham . 617 899-0160
NY C & M 6 Joan La Monsey .... 914 EL 2-0787
Pa C E Snow 258 N Main St Ambler ..... 215 CH 4-2626

ENDEVCO CORP 801 S ARROYO PKWY PASADENA
CAL 91109 TWX 910 588-3272 .... 213 681-2401
J BORST EMP 350 ENG 50 $5,000-$10,000M
Cal W Zuckert 3921 E. Bayshore Rd Palo Alto 415 969-3212
Fla L E Drake 783 Northlake Blvd North Palm Beach 305 848-3819
Ill R L Karlson Box 444 Crystal Lake 815-459-7226
Mass C Nicolino Box J Bedford 617 969-8063
NJ L E Leopold 6 S Haddon Ave Haddonfield 609 428-5285
Ohio H N Gilmore 1578 Akron-Peninsula Rd Akron 216 929-3811
Can Megatronix Ltd 954 Wilson Ave Downsview Ont 416-630-7672
Den Danavia A/S Strandgade 48 Copenhagen K .... ASTA 7071
Fr Comptoirs Imex-France 2, Rue Navoiseau Montreuil Seine 808-19-20
Ger Bavaria Elektronik GmbH 8000 Munchen 90 Chiemgaustr 187 0811-409390
GB Endevco, U K Branch Kneesworth St Royston, Hert .... ROY 3376
Neth Koning En Hartman, NV Koperwerf 30 The Hague 685450
Jap Marubun Co Ltd 1, 2-chome, Odemmacho Nihombashi, Chuo-ku, Tokyo 662-8151
Nor ESTRONIC Tollbugt, 4 IV Oslo 1 .... 42 27 42
SAfr F H Flanter & Co Ltd 43 Somerset Rd Cape Town 2-9711
Swed Erik Ferner AB Snormakarvagen 35, Box 56 Bromma 25 28 70
Swit ENDEVCO S A 1 place St Gervais 1201 Geneva 022 35 55 20
Belg Koning & Hartman Stanleystr 38 Ixelles, Bruxelles 482655
Gr Andromeda 11 Voukourestiou St Athens 134 . 627-236
Ind W J Alcock & Co Ltd 7 Hastings St Calcutta .. 23-3019
Isrl Eastronics Ltd 75 Haifa Rd Tel Aviv 446060
Aust Brown & Dureau Ltd Kavanagh & Ireland Sts S Melbourne, Vic 61-3411

ENDICOTT COIL CO INC 24 CHARLOTTE ST
BINGHAMTON N Y 13905 .... 607 797-1263
R BEEBE EMP 110 ENG 3 $1,000-$2,500M
ADV PG 141
Ill Dessco Box 356, 133 Sioux St Carpenterville
Mich Dort Mfg Co G-3283 S Dort Hwy Flint
NY Tech-Mark Inc Professional Bldg Endicott .. 748-7473
Ohio Technical Assoc Inc Box 388 Fairborn 878-2484
Pa H C Johnson Agencies 8 Los Robles St Williamsville NY 716-632-7880

ENERGY BEAMS INC 1141 RINGWOOD AVE
HASKELL N J 07420 201-835-3535
C RICHARD
Cal Loren Patrick Assoc 201 Town & Country Vlg Palo Alto 321-6065
NJ Friedman Assoc 110 Halsted St East Orange 673-2500
Pa Tyler Griffin Co 46 Darby Rd Paoli 644-7710

ENERGY CONVERSION DEVICES INC
1675 W MAPLE RD TROY MICH 48048 .. 313 549-7300
L ROBBINS EMP 72 ENG 14
Cal W E Starr & Co 5440 Pomona Blvd Los Angeles 213 685-5670
Ill Lightner Assoc 6322 N Milwaukee Ave Chicago .... 312 SP 4-1500
Mass Kitchen & Kutchin, Inc 17 Waltham St Lexington .... 617 VO 2-8230
Mo Ozark Elctn Mktg Inc 2573 Woodson Rd St Louis .... 314 HA 3-7200
NJ Sunday-O'Brien 15 Potter St Haddonfield 609 429-4013
Utah Oscar Salme & Assoc 5762 S 1050 E Salt Lake City 801 262-0235
Wash Seatronics, Inc 5931 4th Ave S Seattle . 206 747-4330

ENERGY CONVERSION SYSTEMS CORP
ENERCON PARK GRAFTON WIS 53024 .. 414 377-0800
R BERTLING EMP 30 ENG 3
Cal electric Motor Engrg, Inc 6515 Sunset Blvd Los Angeles 469-7393
Ill Lenhurt Sales Co 540 W Frontage Rd Northfield 312 446-7460

Kan D D Darnell & Co, Inc 6005 Martway
mission 722-1736
Md L G White & Co Inc 880 Bonifant St
Silver Spring 585-3141
Minn Electric Sales Corp 9 E 22nd St Minneapolis . 335-7734
NJ Clarfield-Stollmack Assoc 175 Westwood Ave
Westwood 666-8989
NY Reagan Electronics, Inc 419 Central Ave
Albany 436-9649
NC L G White & Co, Inc Box 2356
Winston-Salem 725-3612
Ohio Compar Ohio Box 388 Fairborn 878-2631
Pa L G White & Co, Inc 100 N Essex Ave
Narberth 664-6505
Wis Strehlow Co 6227 W Greenfield Ave
Milwaukee 476-4004
Can Electrodesign, Ltd 9124 St Lawrence Blvd
Montreal 389-5914

ENERGY LABS INC 58-09 32ND AVE WOODSIDE
N Y 11377 .... 212 726-1833
G KASE EMP 20 ENG 4 $500-$1,000M
Ill Jr Sales Engrg 7132 N Harlem Chicago . 312 774-8550
Iowa Jr Sales Engrg 3550 Cottage Grove Ave SE
Cedar Rapids 319 365-5259
NY Regulus Ind Sales Corp 7 High St
Huntington 271-7966
Tex W Pat Fralia Co 6100 Camp Bowie
Ft Worth .... PE 8-2394

ENERGY SYSTEMS INC 3180 HANOVER ST
PALO ALTO CAL 94303
TWX 910 373-1238 .... 415 326-1640
R ASHCROFT EMP 100 ENG 20 $2,500-$5,000M
Cal RF Assoc 1621 Pontius Ave Los Angeles 478-1586
Conn George Gregory Assoc 9 S Main Cheshire ... 272-5040
DC James R Eberly Co 1207 Potomac St, N W
Washington 338-2277
Fla Truex Assoc 3165 McCrory Pl Orlando . 305 422-1293
Md James R Eberly Co 3618 Briarstone Rd
Randallstown 922-2092
Mass George Gregory Assoc 7 Erie Dr Natick 655-1330
NJ Bonn Assoc Box 178 Metuchen 549-9573
NY NACO Electronics 119 Luther Liverpool 474-7481
Pa Bonn Assoc 7217 Rising Sun Ave
Philadelphia 428-6390
Tex Alpha Assoc 753 S Sherman St Richardson . AD 1-0416

ENGELHARD HANOVIA INC 100 CHESTNUT ST
NEWARK N J 07105 .... 201 242-2422
M KASHMIRY
Can Engelhard Hanovia of Can Ltd 512 King St E
Toronto, Ont 362-3211
GB Engelhard Hanovia Lamps Bath Rd, Cippenham
Slough, Bucks .... Bucks 500
SAfr Engelhard Hanovia of S A Pty Ltd Box 9123
Johannesburg 838-4081

ENGELHARD MINERALS & CHEMICALS CORP,
ENGELHARD INDUS DIV 113 ASTOR ST NEWARK
N J 07114 TWX 201-621-7813 .... 201 242-2700
C JOHNSON
Cal J P Blackwell 760 Market St San Francisco . 421-1447
DC A P Holl 1700 Penn Ave, NW Washington ... 296-7077
Fla T E Neal 90 E Livingston St Orlando 423-0521
Ill S P Musco 8131 Monticello Ave Skokie 673-1900
Tex W B Ely 2810 Lemmon Ave E Dallas 521-0490
Wash W Skeen 3203 Fremont Ave N Seattle 632-7122
Can G H Scott 512 King St E Toronto, Ont 362-3211
Den Engelhard Industries A/S Vimmelskaftet 42
Copenhagen .... PALAE 7395
Fr Engelhard Industries France 48, Ave Victor-Hugo
Paris 16e .... KL 82 05
GB Engelhard Industries Ltd St Nicholas Rd
Sutton, Surrey .... MEL 4721
Ital Industrie Engelhard SpA
Via di Salone, 245 Settecamini Rome 619004
Jap P C Stryker 10-16 Akasaka 8-Chome
Minato-Ku, Tokyo 404-5791
Swed Engelhard Industries AB
Hamngatan 13 Norrmalmstorg
Stockholm 08/21-70-01
Swit Engelhard Industries AG Talacker 42
Zurich 051 25 0930

ENGELMANN MICROWAVE CO SKYLINE DR
MONTVILLE NJ 07045 TWX 710-987-8344
C SCHRAUFNAGL
Cal Carlson Assoc 521 6th St
Manhatten Beach 213-374-2326
Ga Spartec Assoc Box 372 Tucker 404-436-5160
Ill Midwest Microwave 6414 W Belmont Ave
Chicago 312-283-1051
Md Scientif Marketing 8817 Hunting La
Laurel 301-776-5130
Mass Instr Consultants Inc Box 25 Waban ... 617-969-3372
Mo R R Burton 1016 Baltimore Ave
Kansas City 816-471-2850
NJ Dolan-McCloskey Assoc 16 Spring St
Red Bank 201-747-3270
NY J A Reagan Co 41 Woodberry Rd
New Hartford 315-471-7274
Tex Jack Morgan Co Box 35887 Dallas 214-FL8-2431
Wash Ray-Over Sales Box 593 Bellevue 206-454-4551
Can Dage 757 Main St Stamford Conn 203-324-3123

ENGINEERED COMPONENTS CO
2134 W ROSECRANS AVE GARDENA
CAL 90249 213-321-6565
E INNES EMP 40 ENG 4

ENGINEERED PLASTICS INC 213 CHASE ST
GIBSONVILLE N C 27249
TWX 510 992-6376 .... 919 449-4121
S MOORE EMP 120 ENG 1 $1,000-$2,500M
SC Engineered Plastics Inc Pleasantburg Ind Pk
Greenville 803 239-3528
Va Engineered Plastics Inc 1910 Byrd Ave
Richmond 703 288-9340

ENGINEERED TECHNICAL PRODUCTS BOX 1465
PLAINFIELD N J 07061 201-756-2160
A SOPROU EMP 4 ENG 1 UP TO $100M
Cal R E Henriks & Assoc 4900 Double Dr
El Monte 213-442-1820
Conn Hybritek Engineering Box 17
Candlewood Isle 203-743-2618
Fla GPI Instr Inc Box 536 Winter Park 305-647-5722
Ill R W Venn Co Rte 2-Box 660 Lake Villa . 312-395-5353
NJ D & R Asso 248 Lorraine Ave
Upper Montclair 201-744-8378
Pa C W Middlestead Co 53 Long La
Upper Darby 215-JA8-5092

ENGINEERING ASSOCIATES 434 PATTERSON RD
DAYTON OHIO 45419 .... 513 293-1662
C LITTELL EMP 5 ENG 1 UP TO $100M

ENGINEERING & ELECTRONIC DEVICES INC
1024 N MCCADDEN PL LOS ANGELES
CAL 90038 .... 213 463-4175
A ALEXANDER EMP 20 ENG 5 $250-$500M
Ala Space Engineering Sales, Inc
4306 Governors Dr, SW Huntsville 837-6060
Colo Walter Engrg Assoc 880 Bonnie Brae Blvd
Denver 707-5585
Ill Morton L Friedman Co 4749-51 N Rockwell Ave
Chicago 561-4257
NY Irv Morse Sales 150 Broadway New York .. CO 7-2913
Can Willer Eng & Sales Co 1800 Avenue Rd
Toronto, Ont 783-3373

ENGINEERING MODEL LAB INC ASHLAND
MASS 01721 .... 617 881-1460
J RUSSETT EMP 25 ENG 3 $250-$500M

ENGIS EQUIPMENT CO 8035 N AUSTIN AVE
MORTON GROVE ILL 60053
TWX 2-53058 312-966-5600
A YOUNG EMP 110 $5,000-$10,000M

ENGLER INSTRUMENT CO 250 CULVER AVE
JERSEY CITY N J 07305 .... 201 332-5353
C ENGLER EMP 100 ENG 3 $1,000-$2,500M

ENGLISH ELECTRIC VALVE CO, LTD CHELMSFORD
ESSEX ENGLAND .... CHE 61777
R COULSON EMP 2000
NY Calvert Electronics Inc 220 E 23rd St
New York .... OR 9-1340
Can English Elec Valve Co (Can) Ltd 24 Ronson Dr
Rexdale, Ont 249-8548
Den Sophus Berendsen A/S Amaliegade 10
Copenhagen .... (01) 14-8500
Fr Tranchant Electronique SA
19-21 Rue Madame de Sanzillon
Clichy Seine 270-22-55
Ger Willy List Franz Rucker Allee 42
Frankfurt, Main 77 30 68
Ital Marconi Italiana SpA Via A Negrone Genoa . 47 32 51-5
Jap Cornes Holdings (Overseas) Ltd CPO Box 158
Tokyo 272 5571
Nor Norsk Marconikompani A/S
Ryensvingen 5, Box 50 Manglerud, Oslo 67 04 86
SAfr Marconi (S Afr) Ltd Cor Van Dyke & Falkirk Rds
Ind Sites, Benoni 52-5961-4
Swed Svenska Radioaktiebolaget Stockholm 22 31 40
Swit Roschi Telecommunication AG Spitalgasse 30
3000 Bern .... (031) 22 55 33

E N M CO 5306 W LAWRENCE AVE CHICAGO
ILL 60630 .... 312 282-8787
N POLYDORIS EMP 40 ENG 6
Ark L C Byrne Co 632 Champagnolle El Dorado . UN 3-3935
Cal Hansen & Hartfield Box 328 Freemont 797-3263
Cal Hansen & Hartfield 1663 Blake Ave
Los Angeles 225-8114
Colo De Bond Assoc 2149 S Clermont Denver 756-1234
Fla R F Carlson Co 491 NW 42nd Ave
Ft Lauderdale 581-2950
Ga Hooker Reid Co Box 11754 Atlanta .... CE 7-9385
Kan Thro Ind Sales Co Box 7241
Kansas City Mo 362-2533
Mass Representatives Corp 10 High St Boston 426-0541
Minn J B Wright & Assoc 200 Lumber Exchange
Mnpls 938-3615
Mo R F Carlson 8721 Manchester Rd St Louis . WO 1-4485
NJ M Carter Box 112 Barrington 547-4691
NM D E Bond Assoc Box 11331 Albuquerque ... 247-3442
NY Niagara Electric Sales Co 505 Delaware Ave
Buffalo 886-4000
NY Sam Assoc 150-08 87th Ave Jamaica 658-8881
NC Hooker Reid Co Box 10941 Raleigh 828-8669
Tex Glidden Engineering 4924 Greenville Ave
Dallas 363-6539
Tex Glidden Engineering 3802 Winchester
Houston 224-6471
Tex Glidden Engineering 1909 Martel A,e
Ft Worth 332-9593
Wash Hansen & Hartfield 4020 NE 59th Ave
Vancouver 228-1683
Wis F C Du Bois & Assoc 2364 N 117th St
Milwaukee 774-3100
For Acme Supply Inc Box 9532 Santurce PR ... 724-4939

ENSCO MEDICAL DIV FLUIDICS PROD & SLS INC
3100 ELDREDGE ST SALT LAKE CITY
UTAH 84115 .... 801 485-9162
F LONGSON EMP 20 ENG 3 $250-$500M
Utah Medical Instr & Fluidics 3100 Eldredge St
Salt Lake City

ENSIGN COIL CO 2520 S PULASKI RD CHICAGO
ILL 60623 .... 312 277-4141
J ENSIGN EMP 240 ENG 2 $2,500-$5,000M
Mass Comp Rep Assoc 1116 Great Plains Ave
Needham 617 444-2484
NJ Kaygar Assoc Box 98 Haddonfield 609 795-0550
NY B H Tollefson Assoc 110 Allens Creek
Rochester 716-381-2500

ENTERPRISE DEVELOPMENT CORP
5149 E 65TH ST INDIANAPOLIS
IND 46220 .... 317 CL 1-1231
L KOPERNAK
Cal Henry Feldman Co Box 66367 Los Angeles .. 719-8803
Ga Hollingsworth & Still Inc 22 Executive Pk W NE
Atlanta 634-6373
Ill Mike Bermann Sales 8631 E Prairie Rd
Skokie 679-2293
Ind Leslie Devoe Co 665 E 61st St Indnpls 283-1395
Mass Coakley Boyd & Abbett, Inc 1424 Highland Ave
Needham 444-5470
Minn Dick Swanson Co 2655 Brighton Ave NE
Minneapolis 789-5636
Mo R J Throckmorton Sales Co
306 Bright Meadows Dr Baldwin 227-7222
NJ Art Cerf & Co 512 Bloomfield Ave Caldwell .. 226-2263
NY Callahan-Ferguson Co 107 Greenhedge Dr
Camillus 682-9301
Ohio Thos Shelby & Co 17 S Walnut St
New Bremen 629-6511
Tex G E Anderson Co Inc 1700 S Ervay St
Dallas 428-3731
Wash Larrabee Assoc 2127 1st Ave Seattle 623-2521
Can A C Simmonds & Sons, Ltd 285 Yorkland Blvd
Willowdale Ont 445-9111

ENTHONE INC BOX 1900 NEW HAVEN
CONN 06508 .... 203 934-8611
J EISELE EMP 70 ENG 20 $5,000-$10,000M
Conn Edwin Crandall 821 Old Turnpike Plantsville . 628-6803
Ga T W Hutchins 2571 Shallowford Rd NE
Atlanta 634-3958
Ill Enthone, Inc 5000 West 73rd St Chicago .. PO 7-2015
Ind M Les Reynolds 6110 Burlington Ave
Indianapolis 255-1807
Mass Louis V Gagnon 136 Florissant St
Framingham 877-2580
Mich W S Garwood 22054 Olmstead Dearborn ... 562-3768
NJ Albert J Kolb 340 Hillside Ave Allendale 327-1242
NY L Dervin 31 King St Freeport 379-4370
NC Walter A Bantle 3219 Edenwood Dr
Greensboro 275-4610
Ohio Enthone, Inc 1210 W 69th St Cleveland 281-0909
Pa James E Lafferty Main St Ext
New Freedom 235-4550
Wis Harvey McClellan 702 E Capitol Dr Hartland . 367-2306

ENTRON INC 2141 INDUSTRIAL PKWY
SILVER SPRING MD 20904 .... 301 622-2000
A TARANTO EMP 80 ENG 7 $2,500-$5,000M

ENVIRCO DIV BECTON, DICKINSON & CO BOX 6098
ALBUQUERQUE N M 87107 .... 505 345-3561
B WILLEY EMP 65 ENG 10 $2,500-$5,000M

EON CORP 175 PEARL ST BROOKLYN
N Y 11201 212-858-0250
H KALISMAN EMP 65 ENG 20 $500-$1,000M

EONETICS 3800 COHASSET BURBANK
CAL 91504 .... 213 849-2157

EON INSTRUMENTATION INC 15547 CABRITO RD
VAN NUYS CAL 91406 213-781-2185
R JONES EMP 20 ENG 6 $250-$500M

EPCO PLASTICS CORP 59 SEA CLIFF AVE
GLEN COVE NY 11542 516-676-6330
H JONES EMP 15 ENG 1 $100-$250M

EPCO PRODUCTS INC BOX 298 WALLKILL
N Y 12589 .... 914 TW 5-2034
D UNGER EMP 65 ENG 3 $500-$1,000M
NJ D Unger 141-40 73rd Ave Flushing, NY ... WA 5-4850

EPD INDUSTRIES INC 2055 E 223RD ST
LONG BEACH CAL 90810
TWX 910-345-6266 .... 213 SP 5-7141
C FORD EMP 50 ENG 4 $500-$1,000M
NY EPD Industries Inc 39 Hutcheson Pl
Lynbrook 516-599-4875
Can Aero Sales Eng Co 4 Racine Rd Rexdale Ont . 249-9139
For Machine & Prdts Export Sales 52 Wall St
New York .... 212 Wh 4-4370

EPEC INDUSTRIES INC NEW BEDFORD IND PK
NEW BEDFORD MASS 02745 .... 617 995-5171
R ZENS EMP 175 ENG 6 $1,000-$2,500M
Cal Smart Supply Co 2040 Davie Ave
Los Angeles 213-723-3621
DC Treck PhotoGraphic Inc Box 8028
Washington 202-737-3200
Fla Jackson Camera Stores 145 N W 36th St
Miami 757-2911
Mass L W Smith Westwood 617-762-4539
Mich G Neely 14142 Penrod Ave Detroit 313-273-5950
Minn Precision Ind Equip 2446 University Ave
St Paul 612-645-9301
NY Auto Mated Teaching Ctr 14 Northern Blvd
Greenvale 516-MA1-2377
Pa Treck PhotoGraphic Inc 810 Parish St
Pittsburgh 412-922-4900
Can Arbell Equip Co Box 215
Burlington Ont 416-634-9408
Fr Deltex 30 Rue des Amandiers Paris 20
GB Technical Rep Ltd Arkwright 12 Runcorn Cheshire
Aust Cannon Plugs Ltd Box 22 Melbourne Vic

EPIC INC 150 NASSAU ST NEW YORK
N Y 10038 .... 212 349-2470
P LETICA EMP 7 ENG 1 $250-$500M

EPOXYCAST ELECTRONIC CASE CO
46 PROSPECT ST YONKERS N Y 10701 . 914 YO 3-5900
J WILENTCHIK EMP 20 ENG 1

EPOXYLITE CORP 1428 N TYLER AVE
SOUTH EL MONTE CAL 91733 .... 213 444-9514
L REJDA EMP 60 ENG 15

Ala A S Bradburn 118 Brookhaven Tuscaloosa
Ariz J Nicassio Box 232 Phoenix 252-2107
Cal Epoxylite Corp 1428 N Tyler Ave
S El Monte 444-9514
Colo J Dunn 2026 Arapahoe St Denver 244-4588
Fla J Carr 1905 Premier Row Orlando 855-7100
Ga G Lloyd Schoen 1255 Collier Rd NW Atlanta .355-1651
NY A Herreras 42 Breckenridge St Buffalo.....883-2525
Ore J W McLean 2360 NW Quimby St Portland .227-3601
Wash C D Flood 2442 1st Ave S Seattle 682-3434
Wis R C Kotraschek 17370 Sierra La Brookfield .781-6573
Can F Ken King 614 St James St W Montreal, Que
Spn J T Mulherin Gran Via 18-3 D Buzon 7, Bilbao

EPOXY PRODUCTS CO DIV ALLIED PROD INC
166 CHAPEL ST NEW HAVEN
CONN 06513..........203 562-2171
EMP 75 ENG 10 $500-$1,000M
Ariz E J Foley & Assoc 3840 N Jokake Dr
Scottsdale..........WH 5-2666
Cal N Nesbitt Assoc 602 S Euclid anaheim 535-2814
Ill P Brunswick 135 S La Salle Chicago ...312 263-2667
Minn C R Bergquist Co 3529 Webster Ave S
Minneapolis..........612 929-6082
Ohio N Perme 3570 Warrensville Ctr Rd
Shaker Heights 216 283-0122
Swit Ciba Corp Basle

EPPLEY LAB INC 12 SHEFFIELD AVE NEWPORT
R I 02841 ....401 847-1020
G KIRK EMP 65 ENG 12 $1,000-$2,500M
Cal W K Geist Co Box 5004 Glendale 245-9501
Ill Laub Engineering Box 8 Northfield 446-4166
Mass Mancib Co Middlesex Tpk at A St
Burlington 864-2494

EPSCO INC 411 PROVIDENCE HWY WESTWOOD
MASS 02090 TWX 710-348-0484 ......617 329-1500
L TARSA EMP 350 ENG 92 $5,000-$10,000M
Ala Epsco, Inc 904 Bob Wallace Ave Huntsville ..534-0653
Cal Epsco Inc 10760 Burbank Blvd
No Holleywood 213-980-3968
Ill Laub Engineering 5144 Main St Skokie 679-4172
Mo Gordon Fixman Eng 8160 Stanford Ave
St Louis 314 725-5249
NY Garrettson Co Inc 99 Hillside Ave
Williston Pk 516-747-6610
Ohio Data-Tron 7016 Euclid Ave Cleveland ..216 391-8421
Can Electrodesign Ltd 9124 St Lawrence Blvd
Quebec..........514-389-5914
For Sassoon Sopher 630 5th Ave NY 212-246-0671
Neth Ingenieurs Bureau IR M Rietveld Westersingel 27a
Rotterdam
Jap Boswell International Azabu Crest Bldg
Tokyo 404-0621

EQUIPMENT & SERVICE CO 7118 ENVOY CT
DALLAS TEX 75247..........214 631-7450
J GREEN EMP 10 ENG 4 $100-$250M

EQUIPTO ENCLOSURE SYSTEMS DIV EQUIPTO
ELCTNS CORP 435 WOODLAWN AVE AURORA
ILL 60507..........312 897-4691
C PETERSON EMP 48 ENG 3 $500-$1,000M
Cal T Whychell Co 580 Spargur Dr Los Altos ...948-0355
Cal Kendall-Welco 1504 W Commonwealth Ave
Fullerton 870-4110
Conn Edcom Inc 965 Dixwell Ave New Haven.....865-1365
Fla W Ben Wimberly Co 532 S Fort Harrison Ave
Clearwater..........446-7072
Ga Floyd Fausett & Co Inc 145 Spring St
Smyrna 436-5169
Ill Joseph Clark Co 501 W Hellen Rd Palatine ..358-5095
Iowa Thomas-Modrcin Assoc Inc 890 17th Ave
Marion..........377-6261
Kan Thomas-Modrcin Assoc Inc 5450 Buena Vista Dr
Shawnee Mission 432-2131
Md QED Electronics Inc 880 Bonifant St
Silver Spring 588-8134
Mass Edcom Inc 815 Washington St Newtonville ..969-9710
Mich Satullo Co of Mich 4514 N Woodward Ave
Royal Oak 549-3910
Mo Thomas-Modrcin Assoc Inc 47 Village Sq
Hazelwood 838-6446
NJ QED Electronics Inc 2916 Federal St
Camden 365-2450
NM Data Handling Co 209 San Pablo S E
Albuquerque..........268-0928
NY Qed Electronics Inc 500 Nuber Ave
Mount Vernon 664-0080
NY Labtronics, Inc 130 Pickard Bldg Syracuse..454-9314
Ohio Satullo Co of Ohio 16801 E Euclid Ave
Cleveland 486-2800
SC Floyd Fausett & Co Inc Stoney Point
Greenwood 451-7847
Tex Aymond Co, Inc 4340 N Central Expwy
Dallas 827-8043
Utah Peirce Bowthorpe Agency 143 S 4th E
Salt Lake City 328-8173
Wash Ray Johnston Co Inc 1011 NE 69th St
Seattle 524-5170

ERASER CO INC BOX 1342 OLIVA DR SYRACUSE
NY 13201..........315-454-3237
A RAZZONE EMP 18 ENG 1 $250-$500M
Ariz Engineering Sales Assoc Box 544
Scottsdale 602-945-5781
Cal Don Weaver & Assoc 4350 W Broadway
Hawthorne 213-679-3355
Fla Geo Embree Box 11371 Ft Lauderdale .305 564-2401
Ill EMF Co 6135 W Belmont Ave Chicago .312-889-8323
Mich J Zaiser 157 S Budlong St Hillsdale 437-4589
Minn Dick Swanson Co 2655 Brighton Ave NE
Minneapolis..........612 789-5636
NJ Pro Mark Inc 16 Sherman St Wayne ..201-696-5550
NY O G Lanzendorf 513 Cumberland Ave
Syracuse 472-4195
NC F G Speidel 2459 Medway Dr Raleigh 833-0147
Tex The M Loss Co 7919 Royal Lane Dallas .214-368-2758

Wash Westec Electronics Box 66521 Burien Br
Seattle 206 243-7070
Wis Wakefield-Krauthoff Co 3805 W Fond du Lac Ave
Milwaukee 871-3381
Can R Neill Co 91 Roselawn Ave Toronto, Ont ...489-1269
GB Garford Lilley & Bro, Ltd 3 Hampton Ct Parade
East Molesey, Surry
Swed Elmetric, A B Box 433 Johannashov 4 Stockholm
Arg Corte & Mon S R L San Juan 1301 Buenos Aires
Mex Gimbel Mexicana SA Ave Sonora 170
Mexico 11 DF
Aust Gem Brushware (Aust) Pty Ltd
258 Norton St, Leichhardt Sydney

ERCONA CORP 2121 BELLMORE AVE BELLMORE
NY 11710..........516-781-2770
C FRANK EMP 15 ENG 2 $500-$1,000M
Cal Osbourne & Bidwell 225 E Redondo Blvd
Gardenia 213-770-0300

ERDCO ENGINEERING CORP 136 OFFICIAL RD
ADDISON ILL 60101..........312 543-6733
H EADIE EMP 40 ENG 12 $1,000-$2,500M
Ala C & D Sales & Mfg Co Inc Box 3677
Birmingham 787-8691
Cal Wm R Kehoe Co 543 S Raymond Pasadena ..684-1934
Conn Etter Engineering Co Inc Box 5126 Hamden .288-3575
Ill Drager Co 6333 N Pulaski Rd Chicago 478-5022
Mass Osgood Engrg Co 576 Main St Woburn.....933-4744
NY J Arthur Moore Co 342 Madison Ave
New York ....MU 2-2420
NC Russ Poore Assoc Box 8556 Greensboro 299-5876
Ohio CKM Industrial Sales 3164 Linwood Rd
Cincinnati..........871-1413
Okla Quigg Process Equip Co 303 Center Bldg
Tulsa ....LU 7-0166
Pa Wm J Gallagher Co 510 Penna Ave
Ft Washington ....MI 6-5710
Tex Alpha Engineering Co Box 12345 Houston ..MI 4-1961
Wash Dale G Weber Co Weatherly Bldg Portland ..234-7671
Wis Mesa, Inc 6510 N Clark St Chicago 338-8388
Can Pyle-National (Can) Ltd 2560 S Sheridan Way
Clarkson, Ont..........274-3471

ERICSSON CENTRUM INC 16 E 40TH ST NEW YORK
N Y 10016 212-679-1001
W DWYER EMP 30 ENG 5 $2,500-$5,000M
Ill Ericsson Centrum Midwest 7040 N Moselle Ave
Chicago..........631-1489

ERIE ARTISAN CORP 11400 MADISON AVE
CLEVELAND OHIO 44102..........216 521-6173
T BURT EMP 105 ENG 11 $1,000-$2,500M

ERIE TECHNOLOGICAL PRODUCTS INC
644 W 12TH ST ERIE PA 16512
TWX 091-4435 ....814 GL 68592
J EURAVLEFF EMP 2400 ENG 165
OVER $10,000M
Cal Erie Tech Prods Inc 1000 E Walnut St
Pasadena 213 795-8801
Cal Erie Tech Prods Inc 460 California Ave
Palo Alto..........415 327-1520
Fla Erie Tech Prods Inc 205D W Fairbanks Ave
Winter Park 305 644-0954
Ill Erie Tech Prods Inc 3150 Des Plaines Ave
Des Plaines 312 299-8191
Ind Erie Tech Prods Inc 2924 S Calhoun St
Fort Wayne..........219 745-4931
Md Erie Tech Prods Inc 6630 Baltimore Nat'l Pike
Baltimore 301 744-1100
Mass Erie Tech Prods Inc 591 North Ave
Wakefield 617 245-7880
NJ Erie Tech Prods Inc 215 Union St
Hackensack..........201 489-7060
NJ Erie Tech Prods Inc 5425 Marlton Pike
Pennsauken..........609 665-4787
NY Erie Tech Prods Inc 181 Buckley Rd
Liverpool..........315 652-2814
NC Erie Tech Prods Inc 612 Pasteur Dr
Greensboro 919 299-1905
Ohio Erie Tech Prods Inc 1563 E Dorothy Lane
Dayton 513 293-6959
Tex Erie Tech Prods Inc 4300 N Central Expwy
Dallas..........214 827-4401
Can Erie Tech Prods of Can Ltd 1262 Don Mills Rd
Don Mills Ont 416-449-6376

ERIKSON SPECIALIZED TOOL CO BOX 424
PICO-RIVERA CAL 90660..........213 699-3719
J ERIKSON
Cal D & L Sales Co 1430 Callecita San Jose
Mich Central Electronic Sales 19217 Fairport Detroit
Ohio J W Lehner Co 367 Brynhild Rd Columbus

ERSA ERNST SACHS KG BOX 66 WERTHEIM/MAIN
W GERMANY 09342-5161
EMP 200 ENG 8 $2,500-$5,000M

ESSEX ENGINEERING CO INC BOX 28 ESSEX
CONN 06426 203-767-8221
S CISZEK JR EMP 55 ENG 3 $500-$1,000M
Cal Vic King Instrument Co Box 1039 Walnut Creek
Cal R S Hopkins Co 15016 Ventura Blvd
Sherman Oaks
Ohio Chas H Dolfuss Jr & Co 2108 Payne Ave
Cleveland
Tex Brice Co 1402 Dunlavy Houston
Wash Controlled Atmospheres 210 Boyd Bldg
Mercer Island

ESSEX INTERNATIONAL CONTROLS DIV
131 GODFREY LOGANSPORT IND 46947
TWX 219 541-8235 219-753-7521
R ERB EMP 1200 ENG 21
Cal Controls Div 14296 E 6th St Corona 737-3511
Colo Trans Dynamics 3402 S Bannock St
Englewood 761-0455
Ga Hollingsworth & Still 22 Executive Pk W NE
Atlanta 634-6373
Haw Earl Assoc 1638 Kona Honolulu 996-953
Ill Controls Div 3501 W Addison St Chicago ...478-9151
Kan Palatine Engrg 7520 W 63rd St
Overland Park 262-5643
Mass M Scott Co 20 Walnut St Wellesley Hills....235-0102
Mich Controls Div 100 Tudor Rd Berrien Springs ..473-4811
Minn Controls Div 3230 E Hennepin Minneapolis ..331-6370
Mo Controls Div 4343 Duncan Ave St Louis 371-2616
NJ Controls Div 199 Lee Place Hackensack 487-9272
NY Controls Div 4623 E Genesse St Dewitte....446-0800
Ohio Controls Div 2077 Embury Park Rd Dayton..277-8964
Ore Earl & Brown 2041 SW 58th Ave Portland ..292-9145
Pa Controls Div Railroad & End Sts
Conshohocken 825-0635
Tenn Controls Div 6526 Rolling Fork Dr Nashville .356-2510
Tex Controls Div 4924 Greenville Ave Dallas 369-6541
Wash Earl & Brown 422 1st Ave W Seattle 284-1121
Wis Controls Div 11225 W Blue Mound Rd
Milwaukee 774-4485
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 11, Que..........389-5914

ESSEX INT'L INC CONTROLS DIV STANCOR RBM
3501 W ADDISON ST CHICAGO ILL 60618
TWX 910-221-5466..........312-463-7400
F MULVIHILL
Ariz W Bert Knight Co 444 Camelback Rd W
Phoenix 264-3578
Cal W Bert Knight Co 112 Glasgow Ave
Inglewood 678-4711
Colo R G Bowen Co Inc 1440 S Santa Fe
Denver 303-722-4641
DC Chas Lienau Co 5121 Westridge Rd
Washington 202-654-2333
Fla Hollingsworth & Still Box 20655 Orlando ...277-6554
Ga Hollingsworth & Still 22 Executive P W N E
Atlanta 634-6373
Haw Earl Assoc 1638 Kona St Honolulu 568-677
Ill George Petitt Co Inc 349 N Ashland Ave
River Forest..........C01-0342
Iowa Thomas & Modrcin Assoc 890 17th Ave
Marion..........377-6261
Kan Thomas & Modrcin Assoc 5450 Buena Vista Dr
Shawnee Mission 432-2131
La Cartwright & Bean of Tenn Box 7336
Metairie 504-887-5225
Md Chas Lienau Co 11411 Amherst Ave
Wheaton 301-949-6464
Mass Michael Scott Co Inc 20 Walnut St
Wellesley Hills..........235-0102
Mich R C Merchant & Co 18411 W Mcnichols Ave
Detroit KE5-6000
Minn Nick J Laub Co 3749 W Broadway
Minneapolis..........588-4663
Mo Thomas & Modrcin Assoc 47 Village Sq
Hazelwood 838-6446
NM C T Carlberg & Assoc 2611 Quincy St NE
Albuquerque..........265-1579
NY R W Mitscher Co Inc 496 Ellicott Sq Bldg
Buffalo 854-2517
NC Hollingsworth & Still Box 15316 Charlotte ..523-3327
Ohio Mcfadden Sales Co 150 East Broad St
Columbus 221-3363
Ore Earl & Brown Inc 2041 S W 58th Ave
Portland 292-9145
Pa Chas Lienau Co 15034 Carter Rd
Philadelphia 464-8148
Tenn Cartwright & Bean of Tenn 560 S Cooper St
Memphis BR6-4442
Tex Robert E Nesbitt Co 2930 Merrell Rd Dallas .357-4601
Utah R G Bowen Co Inc 1380 W N Temple
Salt Lake City 364-4632
Wash Earl & Brown Inc 422 1st Ave W Seattle ...284-1121
Wis G Petitt Co Inc 928 E Wisconsin Ave
Pewaukee 691-0622
For Roburn Agencies Inc 431 Greenwich St
New York..........966-2130

ESSEX INTL INC, MAGNET WIRE DIV
1601 WALL ST FORT WAYNE IND 46804
TWX 219-241-4272 ....219 743-0311
J FISKE
Cal L A Lundstrom 1075 N Patt St
Anaheim 714 772-9300
Ill J R Burnett 3501 W Addison St
Chicago 312 583-3737
Mich Essex Wire Corp 6233 Concord Ave Detroit .925-6885
Mich Essex Wire Corp 170 E South St Hillsdale ..437-3376
Minn Essex Wire Corp 3230 E Hennepin Ave
Minneapolis 331-6370
Mo J K Casey 5959 St Louis Ave St Louis .314 EV 2-9000
NJ J S Kern 199 Lee Pl Hackensack 201 487-9272
Ohio S W Weidenbach 4500 Willow Pkwy
Cuyahoga Hts..........216-641-7550
Pa Essex Wire Corp Railroad & End St
Conshohocken 825-0545
SC H Winters Box 84 Bennettsville.......803-479-6211
Tenn W J Smith 2172 Wharf St Memphis ...901 948-6607
Wis F E Dickmeyer 2825 N Mayfair Rd
Milwaukee 774-4485

ESSEX INTL CORP, STEMCO CONTROLS
PLYMOUTH ST BOX 1007 MANSFIELD
OHIO 44903 ....419 884-1311
R STEVENS EMP 17000 OVER $10,000M
Cal Sales Engineers Ltd 15408 Cornet Ave
Santa Fe Springs..........868-0076
Ill E N Taylor & Assoc 6760 Stony Island Ave
Chicago ....FA 4-8532
Md Rothenenber & Co Inc 14211 Chesterfield Rd
Rockville 929-3388
Mass Representatives Corp 10 High St Boston....426-0541
Mo J Le Beau 4343 Duncan Ave St Louis......FR1-2616
NY H C Johnson Agencies 111 Mt Hope Ave
Rochester 232-2688
Pa Rothenehber & Co Inc 53 Cricket Ave
Ardmore..........MI 2-6911
Tenn E Morrotte 6526 Rolling Fork Dr Nashville ..356-2510
Tex R Bryan Box 64815 Dallas..........369-6541
Can R W Stark Box 185 Renfrew Ont ....HE 2-3631

ESSEX INTL CORP, TERMINAL SALES
3501 W ADDISON ST CHICAGO
ILL 60618..........................312 539-2000
R HADDEN EMP 130 ENG 6

ESTERLINE ANGUS DIV ESTERLINE CORP
BOX 24000 INDIANAPOLIS IND 46224
TWX 027-419..........................317 244-7611
H CAMERON EMP 328 ENG 35 $1,000-$2,500M
Ala James Spader Co Box 6074 Birmingham ...879-1366
Ariz BFA 4710 N 16th St Phoenix 264-6536
Ark L C Byrne Co 632 Champagnolle ElDorado .UN 3-9435
Cal Dynamic Assoc Inc 1011 E Cadillac Way
Burlingame 344-2521
Cal Esterline Angus 617 W Beverly Blvd
Montebello..........................721-5141
Colo Cliff Beabout Co 666 Sherman St Denver ...244-3151
Ga Hooker Reid Co Box 11754 Atlanta 237-9385
Ill Murphy & Dickey 10001 Derby La
Westchester..........................344-5660
Ind Electro Engr & Sales Co 6909 E 32nd St
Indpls 546-4053
Iowa Harry E Ferris, Co 1015 Polk Blvd
Des Moines 255-5008
La Mid-South Sales Box 13625 New Orleans...822-3030
Mass Esterline Angus Box 385 Holliston 235-5343
Mich George R Peters Assoc Box 1042 Berkley ...564-6325
Mich NWR Electronics Corp 1010 W Washington St
Marquette 906 226-7578
Minn Pinkney & Assoc Inc 957 Winnetka Ave N
Mnpls 544-3628
Minn NWR Electronics Corp PO Box 118
Virginia..........................218 741-5080
Mo C B Fall Co 11301 Bennington St
Hickman Mills ....SO 1-6545
Mo C B Fall Co 317 N 11th St St Louis ......CH 1-2433
NJ Esterline Angus 2005 US Rte 22 Union 687-4416
NM BFA 1238 Ortiz, S E Albuquerque 268-4387
NY Robert F Lamb Co Inc Box 661 Kingston ...338-8833
NY Robert F Lamb Co Inc Box 28 Syracuse 454-2469
NY Robert F Lamb Co Inc 1865 Kenmore Ave
Buffalo 874-4900
NC Ranson, Wallace & Co 116 1/2 E 4th St
Charlotte..........................334-4244
Ohio Waldrip, Blankenburg & Co 7650 Chippewa Rd
Brecksville..........................526-1100
Ohio Beedle Equipment Co Box 36061 Cincinnati .793-0140
Okla BFA Inc 3216 E21st St Tulsa 936-5295
Ore Shaffer & Nelson Inc 1001 SE Water Ave
Portland..........................BE 4-7437
Pa W H Bollinger Box 8088 Pittsburgh.......LO 1-2340
Pa Esterline Angus Rydal W The Fairway
Jenkintown..........................887-2268
Tenn George W Massey Co Box 10102 Knoxville ..577-9553
Tex BFA Inc Box 429 Euless 267-1505
Tex BFA Inc Box 50 Friendswood............482-7563
Utah Shaffer & Nelson Inc 805 W 2500 S
Salt Lake City 484-3382
Va Hildenbrand Co Box 1060 Fairfax 280-2330
Wash Shaffer & Nelson Inc Box 3343 Spokane ..FA 7-9528
Wash Shaffer & Nelson Inc 314 N E 72nd St
Seattle..........................LA 3-0664
WVa Vynock Engrg Box 363
South Charleston 304-722-3525
Wis Process Msmt & Control Co Box 7292
Milwaukee 774-3290
Wis T R Bickler Assoc Box 7245 Milwaukee .414 453-3772
Can Instro-Test Ltd 1024 Notre Dame St
Lachine, Que 637-1231
Can Showalter Agencies Ltd 2510 4th St SW
Calgary, Alb..........................269-6411
Can Ahearn & Soper Ltd 844 Caledonia Rd
Toronto 789-4325
For J M Carr Y Cia SAC Box 2439 Santiago, Chile
For Virgil C Applewhite Y Cia Apartado 2530
Caracas, Ven
Den Oltronix A/S Maltegaardsvej 18 Gentofte
Fr Ets Radiophon 148, Ave Malakoff Paris
Ger Neumuller & Co GmbH 8 Munchen 2 Karlstr 55
GB Perfection Parts Ltd 59 Union St London SE 1
Neth Hitma NV Jan Luykenstr 3 Amsterdam
Ital Ing S & Dr G Belotti Piazza Trento 8 Milano
Jap Moritani & Co Ltd 3,2-chome, Yaesu, Chuo-ku
Tokyo
Nor Gustav A Ring Maskiner A/S Sorkedalsun Oslo 3
SAfr A C Gowlett (Pty) Ltd Box 1257, Braamfontein
Johannesburg
Swed Firma Johan Lagercrantz KB Box 314 S-171 03
Solna 3
Swit Seyffer & Co AG Badenerstr 265 Zurich 3/40
Arg D F Olivella Florida 253 Buenos Aires
BC Ahearn & Soper Ltd 1234 Marine Dr
N Vancouver 988-6822
Belg M B L E Indus Control 80 Rue Des Deux-Gares
Bruxelles 7
Braz CIA Straub de Repr e Com Caixa Postal 30.318
Sao Paulo
Ind Motwane Private Ltd Box 1312 Bombay
Isrl STG Intl Ltd Box 1276 Tel-Aviv
Mex Sociedad Electro-Mecanica SA
Manuel Ma Contreras 25 Mexico 4 DF
NZ E C Gough Ltd Box 873 Christchurch
Spn H & O Wilmer Peligros 2 4o Madrid
Fin Havulinna Oy Vuorikatu 16 Helsinki
Aust Electrical Equip of Aus Ltd Box 4619 GPO
Sydney, NSW

ESTES ENGINEERING CO 543 W 184TH ST
GARDENA CAL 90247..........................213 321-9811
S ESTES EMP 18 ENG 1 $250-$500M

E-T-A PRODUCTS CO OF AMERICA
6284 N CICERO AVE CHICAGO
ILL 60646 ....312 KI 5-1553
E ROGER EMP 700 ENG 12
Cal A W Nash Co 8560 Roland St
Buena Park..........................714 521-6192
Cal P W Jasin 3506 Skylark Dr Concord ...415 686-0905
Colo Cummings & Assoc 4772 S Kalamath St
Englewood 303-789-3449
Conn Henry Lavin Assoc Inc Box 921
Meriden..........................203 BE 7-5527
Fla Buchanan & Abrams Assoc 1512 E Concord
Orlando..........................305 423-8995
Ill Midwest Elctn Sales 5707 W Division
Chicago 312-626-0030
Ind Midwest Elctn 5462 E 40th St
Indianapolis 317-547-3259
Mass Henry Lavin Assoc Inc 52 Pickering St
Needham ....617 HI 4-3446
Mich Hilltronics Inc 13720 Puritan Ave
Detroit 313 342-3243
Minn WENCO Sales Co 7728 Morgan Ave S
Minneapolis..........................612 866-3639
Mo M-C Sales Co 615 Wyandotte
Kansas City ....816 VI 2-4640
NJ Andrew A Foley Assoc Box 155
Moorestown..........................609 NO 3-4545
NJ Sydney Justin Assoc Box 1068
Fort Lee..........................201-947-4371
NY E A Kershaw & Co Inc 15 Canterbury La
E Aurora..........................716 652-1221
NY Sydney Justin Assoc 544 W 27th St
New York 212 279-8180
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 216 752-5444
Ohio John O Olsen Co 5539 Stokeswood Ct
Cincinnati 513 922-2589
Tenn Superior Products Co Box 7272
Nashville..........................615 244-1549
Tex M F Klicpera Co Box 4117 Dallas 214 742-2515
Va Mark-Lund Assoc 2828 Mary St
Falls Church 703 560-8400
Wash W J Stulgis Co Inc 608 W Crocket St
Seattle ....206 AT 2-7870

ETCHOMATIC INC 151 NEWTON ST WALTHAM
MASS 02154 ....617 893-2020
M LEVINE EMP 12 ENG 3 $500-$1,000M

ETC INC 990 E 67TH ST CLEVELAND OHIO 44103
TWX 216-574-9355 ....216 HE 2-0855
F HOYLE EMP 215 ENG 12 $2,500-$5,000M
Cal Peters-deLaet Inc 13845 S Hawthorne
Hawthorne..........................772-4226
Cal Peters-deLaet Inc 1606 Rollins Rd
Burlingame 697-1800
Colo Peters-deLaet Inc 1536 Wyn Koop St
Denver..........................534-6188
Conn Anchor Engrg Corp 6 Arrowhead Dr
West Simsbury..........................658-6261
Fla Young & Lawrence Assocs 601 N New York Ave
Winter Park..........................647-6929
Fla Young & Lawrence Assocs 300 31st St N
St Petersberg 894-0026
Ga V B Stepka 2514 Brookdale Dr NE Atlanta .892-0171
Ill A J Ellis Co 1607 W Howard St Chicago 262-0204
Ind OEM Sales Co Box 55232 Indianapolis 545-1267
Iowa L Carter 5200 N Manchester Kansas City...452-0205
Mass Anchor Engrg Corp 336 Washington St
Wellesley Hills..........................235-6330
Mich Doyle Sales Co 321 Bellaire Rd
Avon Lake Ohio 933-5435
Minn Hamilton, Grayden & Flemmer Inc Hamilton Rd
Hopkins 941-1120
Mo L Carter 5200 N Manchester Kansas City...452-0205
NY Friedman-Smith Elec Sales, Inc 519 S 5th Ave
Mt Vernon 664-4866
NY Marchese-Davis Assoc Inc 97 Park Ave
Rochester 342-7664
NC Byrel M Triggs & Assoc Box 17844
Charlotte..........................376-4619
Ohio Tom McCullough 990 E 67th St Cleveland ..432-0855
Ore Peters-deLaet Inc 5937 N Greeley Ave
Portland 285-7703
Pa Robt Brown Box 125 Uwchland 724-4344
Tex Compar Southwest, Inc 8609 NW Plaza Dr
Dallas 363-1526
Utah Peters-deLaet Inc 138 S 2nd St E
Salt Lake City 359-6108
Wash Peters-deLaet Inc 1708-10 Broadway
Seattle 322-2215
Wash Peters-deLaet Inc 1103 W Sprague
Spokane 623-8745
Wis Devos-Prinz Sales Corp 1819 E Kenilworth Pl
Milwaukee 272-0356
Can Douglas-Randall Can Ltd 1710 Midland Ave
Scarborough, Ont..........................751-7911

ETHYLENE CORP 755 CENTRAL AVE MURRAY HILL
N J 07974..........................201 464-2600
A BABB EMP 45 ENG 4 $1,000-$2,500M

EUBANKS ENGINEERING CO 225 W DUARTE RD
MONROVIA CAL 91016
TWX 910 585-3249 ....213 358-4531
E EUBANKS EMP 70 ENG 3 $500-$1,000M
Forest Engrg (PTY) Ltd 77 De Korte St
Braamfontein, Johannesburg ....n
Ala Powertronic Assoc Box 3384 Huntsville .205 852-6347
Cal Tool-Tronics 5 Fairchild Dr
Mountain View 415-967-5305
Conn Technical Instruments Inc 575 Broad St
Bridgeport 203-368-4582
Ill Marsland Distributing Corp 801 Skokie Hwy
Northbrook..........................312-498-0227
Mass Technical Instruments Inc 122 West St
Wilmington..........................617-944-3930
Mich Electro Enterprises Inc 10745 Morang Dr
Detroit..........................313-886-2281
Minn D A Schultz Co 801 SE 8th St
Minneapolis 612-339-7701
Mo Harlan J Weisler & Assoc 2050 Woodson Rd
St Louis 314 428-3934
NY Maloney Sales Co 115 Sunnybrook Dr
Syracuse 315-448-3440
NC Powertronics, Inc Box 403 Thomasville .919-476-4257
Ohio Electro Enterprises, Inc 2621 Mardon Dr
Dayton..........................513-426-6071
Ore Van Voorhees Assoc 4415 NE Sandy Blvd
Portland..........................503-287-6633
Pa Electro Enterprises, Inc 201 Penn Ctr Blvd
Pittsburgh 412-371-8947
Tex Sivright Co 10028 Monroe Ave Dallas ..214-357-6681
Utah Wright-Williams & Assoc 230 S 4th W
Salt Lake City 801-328-3641
Can Robert Neill Co 5200 A Yonge St
Toronto, Ont..........................416-225-5200
For ing Karl Wrba Weyrgasse 6 Vienna 111/40 A
Den E Friis Mikkelsen AG Krogshojvej 51 Bagsvaerd
Fr Vial et Cie 18 Rue Volney Paris 2e
GB Automation Ltd Bessemer Rd Cranbourne La
Basingstoke Hamphire
Neth Westmercuur Handelmij NV Singel 510
Amsterdam C
Ital Intertecnica SRL Via Elba 10 Milan
Jap Nippon S T Johnson Sales
No 3-5, Uchikanda 3-Chome
Chiyoda-ku, Tokyo
SAfr Hedge & Spargo (Pty) Ltd Box 10736
Johannesburg
Swed Abemi A B Faglbacksgatan IIe Malmo
Swit Almacoa AG Box 497 Zurich
Arg Rainbow Cangallo 315 Buenos Aires
Belg E M A S 70A Rue Des Quatre-Vents Brussels 8
Ind Electronic Enterprises 46 Karani Bldg Bombay
Spn Tecnix, S A Guzman El Bueno 121 Madrid
Aust Rutherford Electronics PTY Ltd Box 30-N Balwyn
Victoria

EUCLID ELECTRIC & MFG DIV HARVEY HUBBELL
INC 58 EDWARDS ST MADISON OHIO 44057
TWX 98-825..........................216 428-1161
W COLLART EMP 170 ENG 15

EUGENE ENGINEERING CO INC 50 CHURCH ST
ROCKLAND MASS 02370 ....617 878-4800
R BLANK EMP 100 ENG 4 $500-$1,000M

EUREKA X-RAY TUBE CORP DIV LITTON INDUS
3250 N KILPATRICK AVE CHICAGO
ILL 60641..........................312 545-3126
R MIES EMP 81 ENG 3 $1,000-$2,500M

EURO CEDAG VIALE MONZA 40 MILAN ITALY .28-50-183
A PERISSINOTTO EMP 6 ENG 2

EVANS ASSOCIATES BOX 5055 BERKELEY
CAL 94705 ....415 653-2616
M JUSTICE EMP 8 ENG 1 $100-$250M

EVERARD TAP & DIE CORP 215 E 144TH ST BRONX
N Y 10451 ....212 LU 5-1760
G ABBOTT EMP 20 ENG 1 $100-$250M

EVERLUBE CORP OF AMERICA
6940 FARMDALE AVE NORTH HOLLYWOOD
CAL 91605 ....213 875-0101
R WEIBLE EMP 45 ENG 3 $500-$1,000M
Ga Edw M Watkins & Assoc 225 Laredo Dr
Decatur 636-4141
Ill Accurate Andodizing Corp 1803-69 S 55th Ave
Cicero ....BI 2-2240
Ind Remote Controls, Inc 512 S Merrifield Mishawaka
Kan Kansas Plating, Inc 1110 N Mosley Wichita .FO 3-7853
Md Almag Chemical Corp 1800 Cherry Hill Rd
Baltimore
Mass Duralectra, Inc 61 North Ave Natick 653-7380
Mich Chemical Processing, Inc 5485 Concord St
Detroit ....WA 5-3400
Minn Plating, Inc 888 N Prior Ave St Paul 646-4871
Mo Aero Metal Finishing, Inc 89 Hwy 141
Valley Park..........................AC 5-5262
NJ Ward Industries, Inc 29 Porete Ave
No Arlington..........................991-8777
Ohio Russell Products, Inc 12128 Sprecher Ave
Cleveland 267-0880
Okla Southwest Metal Finish Co 424 S St Louis Ave
Tulsa ....LU 4-6474
Ore Electronic Specialty Co Box 7696 Portland
Tex Aeroprocess, Inc Box 4562 - Hicks Fld
Fort Worth..........................CE 2-0620
Utah Retep Corp 1410 Jefferson St Salt Lake City
Wash Northwest Plating Co 825 Dakota St
Seattle ....MU 2-6442
Ger Aconia G M B H & Co Tal 18 Munich
GB Stedall Mach Tool Co Ltd 192-204 Pentonville Rd
London
Swed Nordisk Maskin & Motorindustri AB
Drottninggatan 81 B Stockholm

EVER READY LABEL CORP 357 CORTLANDT ST
BELLEVILLE N J 07109..............201 759-5500
R HARTE EMP 160 ENG 1 $2,500-$5,000M

EVERSON ELECTRIC CO 1126 UNION BLVD
ALLENTOWN PA 18105 ....215 434-5211
T BOYER EMP 215 ENG 5 $2,500-$5,000M

EWALD INSTRUMENTS CORP ROUTE 7E KENT
CONN 06757..........................203 927-3278
L EWALD
Mass EPE Corp 6 Kane Ind Dr Hudson......617-562-9123
NY American Weldg & Ind Supply 775 Old Country Rd
Westbury 516-333-0110
Pa Essay Sales Assoc 201 Penn Center Blvd
Pittsburgh..........................412 242-5151
Tex Teamwork, Inc 2646 Andjon Dallas....214-352-7747
Can Arbell Equip Co Box 215
Burlington Ont 416-634-9408

EWEN-KNIGHT CORP OAK & PINE STS
EAST NATICK MASS 01760
TWX 710-386-6757..........................617-235-6550
P COYNE EMP 45 ENG 18 $500-$1,000M

EWING PRODUCTS INC 1014 W BURBANK BLVD
BURBANK CAL 91502 ....213 VI 9-4645
L SHARP EMP 6 ENG 1

EXACT ELECTRONICS INC BOX 160 HILLSBORO
ORE 97123 ....503 648-6661
R MACK EMP 27 ENG 4 $250-$500M
Ariz Measurement Consultants Box 11099
Phoenix 602-264-1279
Cal Abco Co 555 W 9th San Pedro 213-833-8333
Cal Mauldin Co 441 Calif Ave Palo Alto....415-326-5291
Colo D E Bond Assoc 2149 Clermont St
Denver 303 756-1234
Conn Instrument Reps Box 165 Glastonbury ..203 633-0777
Fla Beacon Elctn Assoc Box 1278 Maitland .305 647-3498
Ga Beacon Elctn Assoc 2285 Peachtree Rd NE
Atlanta 404-351-3654
Ill Bard Assoc Inc La Grange Ind Pk
La Grange 312-354-0660
Ind Bard Assoc Inc 4000 Meadows Dr
Indpls 317-547-3113
Md Scientific Mktg Assoc 8817 Hunting La
Laurel 301 776-5130
Mass Instrument Reps 1046 Massachusetts Ave
Arlington 617 646-1034
Mich Technitron Inc 13657 Grand River Ave
Detroit 313-838-7324
Minn Bard Assoc 4640 W 77th St
Minneapolis 612-922-8233
NM D E Bond Assoc Box 11331
Albuquerque 505-255-7634
NY Martin P Andrews Inc 319 Mott Rd
Fayetteville 315-637-6405
NY Measurement Technology, Inc 295 Northern Blvd
Great Neck 516-482-3500
NC Technical Mktg Assoc 5100 N Glen Dr
Raleigh 919 787-7244
Ohio Technitron Inc 23203 Lorain Rd
N Olmsted 216-734-0960
Okla Southwest Elctn Industries 2015-C S Lakewood
Tulsa 835-2481
Pa Letronix 251 W DeKaulb Park
King of Prussia 215-265-1020
Tex SEI Inc 621 Meadows Bldg Dallas 214-363-1671
Can Atlas Instrument Corp 50 Wingold Ave
Toronto 19, Ont 416 781-6174
For Ingl Markowitsch & Co Mariahilfer Str 133
Wien XV, Aust
For Coasin, S A Virrey Del Pino 4071 Buenos Aires
For Pentz & Cia Ltda Casilla 2839 Santiago, Chile
For Abdul Masih E Jwaideh 85 Saadun St
Bagdad, Iraq
For Pak-Land Corp Iqbal Rd, Pech Soc
Karachi 29, Pak
For Equip De Lab Ltda Rua Pedro Nunes, 47
Lisbon 1, Port
Den Oltronix A/S Maltegaardsvej 18 Gentofte
Ger Rohde & Schwarz Verts GmbH Hohe Str 160-168
Koeln
Neth C N Rood NV 11 Cort Van Der Lindenstr
Rijswijk, ZH
Ital Silverstar Ltd 20 Via Dei Gracchi Milano
Jap Midoriya Electric Co Ltd 3, 2-Chome, Kyobashi
Chuo-Ku Tokyo
Nor Metric AS Box 80 Bekkelagshgd Oslo
Swit OMNI Ray Ag Dufourstr 56 Zurich 8
Belg Regulation-Mesure Sprl 22 Rue St-Hubert
Bruxelles 15
Braz Importacio Ind E Comm Ave Grace Aranna 226-6
Rio De Janeiro
Gr M Dallezzio Repres 2 Alopekis St Athens (K)
Ind Electronic Enterprises New Charni Rd Bombay
Isrl Eastronics Ltd 75 Hafia Rd, Box 21029 Tel Aviv
Mex Fredin, SA Box 53-958 Mexico 17, D F
NZ W & K McLean Ltd 7 Anzac Ave Auckland
Spn Telco, S L Gravina 27 Madrid
Fin Into Y O Box 153, 11 Meritullinkatu Helsinki

EXACTEL INSTRUMENT CO DIV STATHAM INSTRS
INC 2230 STATHAM BLVD OXNARD CAL 93030
TWX 6-5923 805-487-8511
D CARRINGTON EMP 654 ENG 56 OVER $10,000M
Cal Statham Instr, Inc 1400 Coleman Ave
Santa Clara 408 246-2277
Cal Hickman Eng Co 499 Embarcadero
Oakland 415-832-5626
Cal Bushnell Ctls & Equip Co 113 Avondale Ave
Monterey Park 213-288-0383
Fla Statham Instr, Inc 601 New York Ave N
Winter Park 305 644-0632
Ill Memeco Inc 7760 W Devon Ave
Chicago 312-774-0919
Ill Equipsale Co Clarendon Hills 312-232-7663
Md Parr Eng Co 912 Thayer Ave
Silver Spring 301-585-8280
Mass Power Equip Sales Inc 77 Summer St
Boston 617-426-0696
NJ Wm Cohn 56 Brookdale Gdns
Bloomfield 201-748-0721
NM Lietz Equip Co Box 8011 Albuquerque .505-256-2843
NY Essco Controls Inc 19 W 44th St
New York 212-661-1925
Okla Barnard Equip Co Box 7002 Tulsa 918-742-2652
Pa Parr Eng Co P O Box 116
King of Prussia 215-265-5150
Tex Bryer Assoc Box 35841 Dallas 214-351-4350
Tex Gay Engrg & Sales Co Box 13232
Houston 713-869-3306
Wash Statham Instr, Inc 10701 NE 4th Ave
Bellevue 206-454-2257
Can Atlas Instr Corp Ltd 3333 Cavendish Blvd
Montreal, Que 489-8495
Can Atlas Instr Corp Ltd 50 Wingold Ave
Toronto 19, Ont 416-781-6179
For Rocke Intl Corp 13 E 40th St
New York, NY 212 689-0200
Aust Automation Inst Service 57 Birch St
Bankstown N S W

EXCEL ELECTRIC SERVICE CO INC
2101 S WESTERN AVE CHICAGO
ILL 60608 ....312 847-7220
R FERRARI EMP 50 ENG 2 UP TO $100M

Cal Brenner Fiedler & Assoc 7563 Melrose Ave
Los Angeles ....OL 1-4300
Cal Pacific Coast Instrument Co 1161 Folsom St
San Francisco ....MA 1-1753
Ga Hooker Reid Co Box 11754 Atlanta 237-9385
Ind R T Mathews & Assoc 1128 Bethany La
Ft Wayne 743-9908
Mich R T Mathews & Assoc 1415 Parker Ave
Detroit ....AD 1-9231
Mo Boutros Instrument Lab 12011 E 67th St
Kansas City
NH S W Stockwell R R 2 Concord ....CA 4-4503
Pa Linn O Morrow & Son Schaff Bldg
Philadelphia ....LO 7-6431
Pa Bollinger & Bradford Box 8088 Pittsburgh .LO 1-2340
Tex Texas Sales Reps Co 3701 Kirby Dr
Houston ....JA 3-6821
Can George M Fraser Ltd 180 Duncan Mill Rd
Don Mills 449-6600
For C H Stone 205 W Wacker Dr Chicago, Ill...RA 6-7725

EXCELLON INDUSTRIES INC 2917 W LOMITA BLVD
TORRANCE CAL 90503 ....213 325-8000
R HOGAN EMP 140 ENG 9 $5,000-$10,000M
Ariz AR/Tec Inc Box 727 Scottsdale 602 947-6304
Ga MacGregor Assoc 3479 Northlake Way
Atlanta 404 938-0681
Ill English Sales Co 411 S Oak St Ilasca ..312 773-9449
Kan Impala Inc 5424 N 95th Kansas City ..913-299-9622
Mass C J Klimoski 11 Trinity Cir Waltham......TW 3-5766
NY Alderman & Eckerson Drawer B Pittsford ...586-6020
NC MacGregor Assoc 2501 Starbrook Dr
Charlotte 704 366-9440
Ore Van Voorhues Assoc Box 4383
Portland 503-287-6633

EXECUTIVE ELECTRONICS INC.
HANGAR 5 STAPLETON INTL ARPRT DENVER
COLO 80207 303-534-7661
C LEPORE EMP 8 ENG 6 $250-$500M

EXECUTONE INC 47-37 AUSTELL PL
LONG ISLAND CITY N Y 11101 ....201 EX 2-4800
E BRODY EMP 500 OVER $10,000M

EXIDE POWER SYSTEMS DIV ESB INC
RISING SUN & ADAMS AVE PHILADELPHIA
PA 19120 TWX 215-725-7397 ....215-FI 2-8000
J CASSERLY EMP 8800 ENG 300 OVER $10,000M
Ala Exide Power Sys Div 512 N 18th St
Birmingham ....TR 9-5321
Ariz Exide Power Sys Div 4747 N 16th St
Phoenix 938-0323
Cal Exide Power Sys Div 286 Lawrence Ave
S San Francisco 589-9005
Colo Exide Power Sys Div 1515 Cleveland Pl
Denver 623-7793
Conn Exide Power Sys Div 3115 Main St
Stratford 378-9022
Del Exide Power Sys Div 2506 Teal Rd
Wilmington 994-1970
DC Exide Power Sys Div 4000 Albemarle St NW
Washington 362-5700
Fla Exide Power Sys Div Fla Nat'l Bank Bldg
Jacksonville 356-7506
Ga Exide Power Sys Div 1227 Logan Cir, N W
Atlanta 351-2722
Ill Exide Power Sys Div 5335 S Western Blvd
Chicago 925-9800
Ind Exide Power Sys Div 325 Banker's Trust Bldg
Indpls 635-6727
Iowa Exide Power Sys Div 612 Kahl Bldg
Davenport 323-0871
Ky Exide Power Sys Div 660 S 5th St Louisville .585-4500
La Exide Power Sys Div 822 Perdido St
New Orleans 525-6035
Me Exide Power Sys Div 142 High, Box 4152
Portland 775-0023
Md Exide Power Sys Div 111 W Susquehanna Ave
Towson 825-2611
Mass Exide Power Sys Div 315 Mystic Ave
Medford 785-7979
Mich Exide Power Sys Div 12717 Prospect St
Dearborn 581-0400
Minn Exide Power Sys Div 324 S 4th St Mnpls ...377-5770
Mo Exide Power Sys Div 5120 Northrup Ave
St Louis 773-1644
Mont Exide Power Sys Div Box 817 Missoula 549-1002
Neb Exide Power Sys Div 3555 Farnam St
Omaha 342-6528
NJ Exide Power Sys Div 744 Broad St Newark .642-0005
NY Exide Power Sys Div 25 W 43rd St
New York 279-8100
NC Exide Power Sys Div 519 E Trade St
Charlotte 375-7966
Ohio Exide Power Sys Div 2635 Hamilton Ave
Cleveland 241-6231
Ore Exide Power Sys Div 320 SW Stark
Portland 222-5652
Pa Exide Power Sys Div 650 Clark Ave
King of Prussia 265-6060
RI Exide Power Sys Div 703 Ind Bank Bldg
Providence 831-4060
Tenn Exide Power Sys Div 3294 Poplar Ave
Memphis 327-6236
Tex Exide Power Sys Div 318 N Pearl St Dallas..748-9977
Utah Exide Power Sys Div 138 S 2nd E
Salt Lake City 359-5766
Va Exide Power Sys Div 2915 W Moore St
Richmond 353-1026
Wash Exide Power Sys Div 500 Wall St Seattle ...623-1377
WVa Exide Power Sys Div 600 Princeton Ave
Bluefield 327-5187
Wis Exide Power Sys Div 3846 W Wisconsin Ave
Milwaukee 342-1222

EXTRUDONICS INC 1007 JERSEY AVE
NEW BRUNSWICK N J 08901 ....201 249-6867
H EARL

EXTRUDAPAK DIV VALOR INSTRUMENTS INC
2430 AMSLER TORRANCE CAL 90505 ..213-534-2533
A HALE EMP 25 ENG 4
Cal Avionics Liaison Inc 3235 Kifer Rd
Santa Clara 408 739-1991
Ill S C Blaker Co Box 129 Northfield 312-446-8777
NY Bassin Technical Sales, Co 52 Fayette Rd
Scarsdale 914-SC 3-3334

EYELEMATIC MFG CO INC SRAITS TPKE
WATERTOWN CONN 06795 ....203 274-8831
C MARSHALL EMP 30 ENG 2 $1,000-$2,500M
Ill J L Innes Box 31 Western Springs 246-2014
Pa Miller-Smith & Co Box 172 Wayne........687-0750
Va McLean Sales Box 250 Waynesboro 942-8678

EYELET TOOL CO 76 ROGERS ST CAMBRIDGE
MASS 02142 ....617 UN 4-8170
D SPENCER EMP 22 ENG 2 $100-$250M
Cal Fastener Supply Co 977 Howard St
San Francisco ....EX 2-6968
Kan Lomax Engrg 4200 W 99th St
Overland Park 913 649-0742
Md Oakmont Engrg 11161 New Hampshire Ave
Silver Springs
Mass D H Patterson 1 Mayo Rd Wellesley 235-9068
Mich K V Wiener 27252 Southfield
Lathrup Village 444-4130
Tex Teamwork Inc 2646 Andjon Dallas ...214 EM 1-1134

E-Z WAY PRODUCTS INC BOX 17196 TAMPA
FLA 33612 ....813 932-5321
A JESTER EMP 30 ENG 2 $250-$500M
Fla Murphy & Cota 712 W Vassar St Orlando...424-2407
Ga Murphy & Cota 586 Armor Circle Atlanta...876-3020
Ill A Quackenbush 535 N Michigan Ave
Chicago 321-1503
Ind F McSweeney 4123 N Keystone Ave Indpls..547-2112
La Scott Ormsby Sales 7121 Catina St
New Orleans 282-2097
Mass Montague Assoc 404 Jerusalem Rd
Cohasset 383-0634
Mich ABM Sales Co 10116 Puritan Ave Detroit ..862-1300
NJ R Finlay Sales Co 45 N Broad St Ridgewood .652-0088
NJ Simberkoff Sales Inc 71 Valley St
South Orange 763-7900
NY L Zlowe Inc 200 Ashford Ave Dobbs Ferry
Pa Cooper-Daugherty Sales Co 112 Oakwood Rd
McMurray 941-6473
Tex Antle-Smith Sales 2721 Brookfield Ave
Dallas 357-7279

FABRICAST INC 9835 E ALPACA ST
SOUTH EL MONTE CAL 91733 ....213 443-3247
H WOOD EMP 10 ENG 1 $100-$250M
Mass Robert J Hoey 17 Orchard Dr Acton ...617-891-4510
Mo K & M Sales 1627 Main St
Kansas City ....816 GR 1-1355
NY Robert J Marcy Assoc 80 8th Ave
New York ....212 YU 9-2950
Ohio John O Olsen Co 16201 Shaker Rd
Cleveland ....216 SK 2-5444
Pa Edward A Snefsky 104 Elatam Dr
Pittsburgh 412 279-2550
Wash James J Backer Co 221 W Galer St
Seattle ....206 AT 3-6470

FABRI-TEK CIRCUITS INC BOX 197 BALDWIN
WISC 54002 715-684-3381
G ACKLAND EMP 116 ENG 5 $1,000-$2,500M
Ariz Fryco Box 460 Scottsdale 602-945-3281
Cal Ebert Enterprises 6749 Julie La
Canoga Park 213-887-7578
Fla Hanson Assoc Box 26 Melbourne......305-727-7474
La Jack McKinney Sales Co 2012 Condon Ave
Metairie 504-887-1723
Mich J L Montgomery Inc 24001 Southfield Rd
Southfield 313-358-2616
Minn Robt J Siedare Assoc 4724 42nd Ave N
Minneapolis 612-533-2294
Mo Aerotronics Inc Box 6236 Lambert-St Louis Mun
St Louis 314-426-4060
NY Marchese-Davis Assoc 97 Park Ave
Rochester 716-442-9120
NC Candor Co Inc Bethania 919-723-2697
Ohio Coy Co Box 2078 Kettering Sta
Dayton 513-885-7222
Okla Jack McKinney Sales Co Box 3958 Tulsa
Pa C H Newson & Assoc 627 Bethlehem Pike
Philadelphia 215-248-3377
Tex Jack McKinney Sales Co 1303 Chemical St
Dallas 214-631-9450

FABRI-TEK INC 5901 S COUNTY RD 18
MINNEAPOLIS MINN 55436
TWX 910-576-2913 ....612 935-8811
R MURPHY EMP 1390 ENG 154 OVER $10,000M
Ala Currie Aerospace Assoc Box 1424 Huntsville .536-5650
Ariz Fabri-Tek Inc 3815 N Black Canyon Hwy
Phoenix 266-4448
Cal Videodata 2409 Sepulveda Blvd
Manhattan Beach 376-0988
Cal Fabri-Tek Inc 8820 S Sepulveda Blvd
Los Angeles 776-6420
Cal Videodata 19938 Twilight Crt Cupertino
Cal Cain & Co 3595 Mt Acadia Blvd San Diego ..278-1031
Cal Fabri-Tek Inc 80 Eureka 5q Pacifica 355-1535
Fla Fabri-Tek Inc 2826 Broadway
Riviera Beach 848-1481
Fla Currie Aerospace Assoc Box 13229 Orlando .855-0843
Haw Learning Logocs Co Box 10277 Honolulu
Ill J Beamsley 396 Tee Lane Carpentersville ...426-4731
Iowa Educational Services Co 1450-48th St NW
Cedar Rapids 393-4048
Mass Fabri-Tek Inc 2120 Commonwealth Ave
Auburndale 969-5077
Mass E J BullockCo 755 Boylston St Boston 266-4456
Mich Sheridan Assoc, Inc Box 128
Lathrup Village 358-3333
Mich Sheridan Assoc Box 6152 Grand Rapids 949-8110

Minn Engineering Products Assoc 2119 Grand Ave St Paul 698-5531
Minn Educational Services Co 1821 University Ave St Paul 646-9649
Minn Sound Image Inc 5309 Edina Ind Blvd Minneapolis 866-5085
Mo Sheridan Assoc, Inc Box 3997, Jennings Sta St Louis 524-4800
Neb Sound Image Inc 8459 Monroe Ralston 331-4248
NY Tech-Aid, Inc 1551 Franklin Ave Mineola ... 248-3665
NY Tech-Aid Inc 310 State Street Albany 465-4626
NC Currie Aerospace Assoc 519 Nissen Bldg Winston-Salem 725-1927
Ohio Sheridan Assoc, Inc Box 37646 Cincinnati .. 761-5432
Ohio Sheridan Assoc, Inc Box 8226 Cleveland 237-9145
Ohio Sheridan Assoc, Inc Box 423 Dayton 277-8911
Ore Larrabee & Assoc, Inc 12320 SW Douglas Portland 232-2215
Pa Fabri-Tek Inc 165 Indiana Ave Fort Washington 646-8115
Pa Sheridan Assoc, Inc 201 Penn Ctr Blvd Pittsburgh 243-6655
SD Educational Services Co 11-13th Street N E Watertown 886-9429
Tex Fabri-Tek Inc 5635 Yale Dallas 369-5313
Va Diversified Educational Systems Box 388 Berryville 955-1453
Wash Larabee & Assoc, Inc 2127 First Ave Seattle 623-2521
Wis Fabri-Tek Inc 5225 Verona Rd Madison 238-8476
Can Ese Ltd 1870 A Albion Rd Rexdale Ont
GB Fabri-Tek Computer Components York House Empire Way Wembley Mdsx
Jap Rekei Trading Co Ltd 18-14 Nishi-Shambashi Minatoku Tokyo

FAFNIR BEARING CO 37 BOOTH ST NEW BRITAIN CONN 06050 .... 203 225-5151
S FISHER EMP 5500 OVER $10,000M
Ala Fafnir Bearing Co 1208 Graylynn Dr Birmingham 822-3695
Cal Fafnir Bearing Co 4635 Sheila St Los Angeles .... AN 9-7415
Colo Fafnir Bearing Co 4425 Vine St Denver .... Al 5-1495
Fla Fafnir Bearing Co 2690 65th Ave, S St Petersburg 894-0116
Ga Fafnir Bearing Co 505 Courtland St, NE Atlanta 872-1844
Ill Fafnir Bearing Co 4640 N Olcott Ave Chicago .... UN 7-8785
Ind Fafnir Bearing Co 1500 E Riverside Dr Indpls .... ME 8-1584
La Fafnir Bearing Co 5701 York St Metairie ... 887-4243
Mass Fafnir Bearing Co 117 Alewife Brook Pkwy Cambridge .... UN 4-9890
Mich Fafnir Bearing Co 14300 Puritan Ave Detroit .... BR 3-3465
Minn Fafnir Bearing Co 3509 Raleigh Ave Mnpls .. 926-7631
Mo Fafnir Bearing Co 2727 Cherry St Kansas City .... HA 1-8355
NY Fafnir Bearing Co 39-38 59th St Woodside .... TW 9-2000
NC Fafnir Bearing Co 433 Wolfberry St Charlotte 376-2442
Ohio Fafnir Bearing Co 25000 Euclid Ave Cleveland .... AN 1-0600
Ore Fafnir Bearing Co 2277 NW Quimby St Portland 222-1917
Pa Fafnir Bearing Co 4330 N H St Philadelphia . PI 4-5555
Tenn Fafnir Bearing Co 219 E Mallory Ave Memphis 948-8551
Tex Fafnir Bearing Co 9000 Directors Row Dallas .... ME 1-4180
Wash Fafnir Bearing Co 5400 2nd Ave, S Seattle . RO 2-9370
Wis Fafnir Bearing Co 711 W Capital Dr Milwaukee .... FR 4-2010

FAFNIR-INA NEEDLE ROLLER BEARING CO 37 BOOTH ST NEW BRITAIN CONN 06050 .... 203 225-5151
J GILL EMP 150 ENG 5 $2,500-$5,000M
Ala Fafnir-INA 1208 Graylynn Dr Birmingham 205-822-3695
Cal Fafnir-INA 4635 Sheila St Los Angeles 213-AN9-7415
Colo Fafnir-INA 4425 Vine St Denver 303-AL5-1495
Fla Fafnir-INA 2690 65th Ave S St Petersburg 813-894-0116
Ga Fafnir-INA 505 Courtland St N E Atlanta 404-872-1844
Ill Fafnir-INA 4640 N Olcott Ave Chicago 312-UN7-8785
Ind Fafnir-INA 1500 E Riverside Dr Indpls 317-ME8-1584
La Fafnir-INA 5701 York St Metairie 504-887-4243
Mass Fafnir-INA 117 Alewife Brook Pkwy Cambridge 617-UN4-9890
Mich Fafnir-INA 14300 Puritan Ave Detroit . 313-BR3-3465
Minn Fafnir-INA 3509 Raleigh Ave Mnpls ... 612-926-7631
Mo Fafnir-INA 2727 Cherry St Kansas City 816-HA1-8355
NY Fafnir-INA 39-38 59th St Woodside .. 212-TW9-2000
NC Fafnir-INA Box 5451 Charlotte 704-376-2442
Ohio Fafnir-INA 25000 Euclid Ave Cleveland 216-AN1-0600
Ore Fafnir-INA Box 2924 Portland 503-222-1917
Pa Fafnir-INA 4330 N H St Philadelphia .. 215-PI4-5555
Tenn Fafnir-INA 219 E Malory Ave Memphis 901-948-8551
Tex Fafnir-INA 9000 Directors Row Dallas 214-ME1-4180
Wash Fafnir-INA 5400 2nd Ave S Seattle ... 206-RO2-9370
Wis Fafnir-INA 711 W Capitol Dr Milwaukee 414-FR4-2010

FAIRCHILD CONTROLS 225 PARK AVE HICKSVILLE N Y 11802 TWX 510 221-1854 .... 516 938-5600
D LAWTON EMP 450 ENG 90 OVER $10,000M
Cal Fairchild Controls 423 National Ave Mountain View 962-2357
Conn G M Hathaway Electronics Inc Ducillo Bldg Canaan 824-7215
Ind Fairchild Controls Box 2866 Ft Wayne 747-5621
Md Stemler Assoc & Co 25 W Penna Ave Towson .... VA 8-8853
Mass Fairchild Controls Box 111 Acton 263-5960
Mich Don Poulin Co 17222 E Warren Ave Detroit . 866-1814
NJ Stemler Assoc & Co Box 287 Cherry Hill 966-4070
NY Everett Sales Eng Co 160 Plandome Rd Manhasset .... MA 7-7750
Ohio Components Eng Co 7461 N Linden La Cleveland 842-2737
Tex Mitchell Speairs Co 3881 S Hills Cir Fort Worth .... WA 3-4657
Can Whittaker Electronics Ltd 42 Howden Ave Ottawa, Ont 224-1221
For Robt J Sullivan Seestr 233 8700 Kusnacht ... 26 78 23
For Electrontecnicos Reunidos Lda Aven Duque D'Avil A66-3 Lisbon Port 4 11 61/5
Den A/S Danbridge 47 Brigadevej Copenhagen . ASTA 1575
Fr Young Electronic 117 Rue d'Aquessen 92 Boulogne, France 265 85-00
Ger Controls & Instruments GmbH Gustav - Adolf - Str 5 8, Munich 42
GB Elliott Bros (London) Servo Comps Div Century Wks Lewisham London SE 13 .... TID 1271
Neth Berg & Burg NV De Ruyterkade 141 Amsterdam-C 020-32082
Nor Ole A Nordby Sorkedalsveien 18 Oslo 56 51 26
Swed Abgosta Backstrom Box 12089 Stockholm ... 540390
Isrl Elina Ltd 7 Harishouim St Tel-Aviv 64568

FAIRCHILD HILLER CORP, SPACE & ELCTNS SYS DIV FAIRCHILD DR GERMANTOWN MD 20767
TWX 710 828-9700 .... 301 948-9600
J HERRE EMP 870 ENG 375 OVER $10,000M
Ala Fairchild Hiller 3322 Memorial Pkwy S Huntsville 881-8811
Cal Fairchild Hiller 7120 Hayvenhurst Ave Van Nuys 989-3100
DC Fairchild Hiller 1000 16th St NW Washington 659-1616
Ga Fairchild Hiller Box 906 Warner Robbins AFB 923-1091
Haw Fairchild Hiller Box 9207 Honolulu 813-811
Mass Fairchild Hiller 34 Wolcott Rd Chestnut Hill .. 566-2350
NJ Fairchild Hiller 27 Prince Pl Little Silver 741-9109
NC Fairchild Hiller 1501 Fairchild Dr Winston-Salem 723-1803
Ohio Fairchild Hiller 333 W First St Dayton 222-8337
Tex Fairchild Hiller 1275 Space Park Dr Houston 591-5200
Va Fairchild Hiller 1301 N King St Hampton ... 722-0331
Wash Fairchild Hiller 1107 NE 45th St Seattle ... 633-1646

FAIRCHILD INDUSTRIAL PRODUCTS 221 FAIRCHILD AVE PLAINVIEW N Y 11803
TWX 510-221-1868 .... 516 WE 8-9600
C BARANISHYN $5,000-$10,000M
Cal A C Plautz 5921 E Shiela St Los Angeles .. RA 3-9601
Ill M J Dalton 852 Busse Hwy Parkridge 692-7187

FAIRCHILD INDUSTRIES, JERRY 135 W UNION PASADENA CAL 91101 .... 213 681-4588
J FAIRCHILD EMP 60 ENG 2 $500-$1,000M

FAIRCHILD INSTRUMENTATION 974 E ARQUES SUNNYVALE CAL 94086
TWX 910 339-9217 .... 408 735-5011
F BURGE EMP 950 ENG 150
Ala Reynolds & Assoc, Inc 904 Bob Wallace Ave Huntsville 205-536-1941
Ariz Hyer Assoc 3300 S Mill Ave Tempe 602-967-8786
Cal Measurement Assoc 800 N Eucalyptus Ave Inglewood 213-672-6711
Colo Hyer Assoc 7895 E Prentice Ave Englewood 303-771-5285
Conn Yewell Elctn Sales Inc 104 Bayberry La Easton 203-261-2241
Fla Reynolds & Assoc Box 1043 Eau Gallie 727-3205
Ga Reynolds & Assoc Inc 175 W Wieuca Rd GE Atlanta 404-252-5360
Ill Fairchild Inst & Test Sys 2434 Dempster Des Plaines 299-1048
Ind Bard Assoc 4000 Meadow Dr Indianapolis 317-849-2723
Iowa Engineering Services Co 1026 Third Ave, SE Cedar Rapids 319 366-1591
Kan Engineering Services Co 7924A State Line Prairie Village 913-649-4000
Md Bartlett Assoc 7979 Old Georgetown Rd Bethesda 301 656-3061
Mass Yewell Elctn Sales Inc 9 Meriam St Lexington 617-861-8620
Mich Twin Region Elctn Sales, Inc 29563 Northwestern Hwy Southfield . 313-358-4480
Minn Bard Assoc 4640 W 77th St Minneapolis 612 866-1700
Mo Engineering Services Co 6717 Vernon Ave St Louis 314 726-2233
NM Hyer Assoc 130 Alvarado Dr NE Albuquerque 505-265-5767
NY CDB Enterprises 675 W Jericho Tpke Huntington 516 692-5200
Ohio Twin Region Elctn Sales, Inc 21010 Center Ridge Rd Cleveland 216 331-7650
Pa Bartlett Assoc 130 West Lancaster Ave Wayne 215 688-7325
Tex Airep Elctns, Inc 6300 N Central Expwy Dallas 214 363-5291
Utah Hyer Assoc 445 E 2nd S Salt Lake City . 801 363-6773
Wash Avionics Liaison Inc 6770 Perimeter Rd S Seattle 206-767-3870
Can BRH Assoc, Ltd 1300 Carling Ave Ottawa, Ont 728-0113
Can BRH Assoc, Ltd 6338 Victoria Ave Montreal . 733-5331
GB Fairchild Instrumentation Ltd 551 London Rd Isleworth, Middlesex 560-0838
Jap Tokyo Electron Labs TBS Bldg Akasaka, Minatu-Ku .... Tokyo
BC Brh Assoc Ltd Box 69 N Vancouver ... 604-985-6221

FAIRCHILD SEMICONDUCTOR DIV FAIRCHILD CAM & INST CORP 313 FAIRCHILD DR MOUNTAIN VIEW CAL 94040
TWX 910 379-6435 .... 415 962-5011
D O'CONNER EMP 16000 ENG 500 OVER $10,000M
Ala Schweber Electronics 2109 W Clinton Blvd Huntsville 539-2756
Ala Fairchild Semiconductor 2109 W Clinton Blvd Huntsville 536-4428
Ariz Hamilton Electro of Ariz 1741 N 28th Ave Phoenix 272-2601
Ariz Hyer Electronics Co 301 W Indian School Rd Phoenix 264-0291
Ariz Fairchild Semiconductor 301 W Indian School Rd Phoenix 264-4948
Ariz Hamilton Electro Sales 1741 N 28th Ave Phoenix 272-2601
Cal Fairchild Semiconductor 6922 Hollywood Blvd Los Angeles 466-8393
Cal Hamilton Electro Sales 10912 W Washington Blvd Culver City 870-7171
Cal Hamilton Electro of San Diego 5567 Kearny Villa Rd San Diego 279-2421
Cal G S Marshall Co 2065 Huntington Dr San Marino 681-3292
Cal G S Marshall Co 890 Warrington Ave Redwood City 365-2000
Cal Hamilton Electro Sales 340 Middlefield Rd Mountain View 961-7000
Cal Avnet Corp 10916 W Washington Blvd Culver City 870-6141
Cal G S Marshall Co 7790 Engineer Rd San Diego 278-6350
Cal Fairchild Semiconductor El Camino & San Antonio Rds Los Altos ... 941-3150
Colo Hyer Electronics 8101 E Prentice Ave Englewood 771-5285
Colo Fairchild Semiconductor 280 Columbine Bldg Denver 322-0848
Colo Hamilton Electro Sales 1400 W 46th Ave Denver 433-8551
Conn Cramer Electronics Inc 35 Dodge Ave North Haven 239-5641
Conn Fairchild Semiconductor 60 Connolly Pkwy Hamden 248-1888
Fla Powell-Florida 2049 W Central Blvd Orlando 423-8586
Fla Cramer Florida Inc 4141 N E 6th Ave Ft Lauderdale 566-7511
Fla Hall Mark Electronics 7233 Lake Ellenor Dr Orlando 855-4020
Fla Fairchild Semiconductor 7040 Lake Ellenor Dr Orlando 850-0152
Fla Fairchild Semiconductor 3440 NE 12th Ave Ft Lauderdale 566-7414
Fla Schweber Electronics 2830 N 28th Ter Hollywood 927-0511
Fla Schweber Electronics 3444 5th Ave N St Petersburg 894-1806
Ga Cramer Electronics 3130 NE Marjan Dr Atlanta 451-5421
Ill Fairchild Semiconductor 7310 W North Ave Elmwood Park 456-4200
Ill Semiconductor Specialists Box 66125 O'Hare Intl Arpt Chicago 279-1000
Ill Pace/Avnet Elctns 3901 Pace Ct Schiller Park 678-6310
Kan Avnet Corp 7301 Mission Rd Prairie Village .. 362-3250
Md Fairchild Semiconductor 7100 Baltimore Ave College Park 779-6868
Md Hamilton Electro Sales 8809 Satyr Hill Rd Baltimore 668-4900
Md Powell Electronics Inc 10728 Hanna Beltsville 474-1030
Md Cramer/Washington 692 Lostrand La Rockville 424-2700
Md Schweber Electronics 5640 Fisher La Rockville 427-4977
Mass Cramer Electronics Inc 320 Needham St Newton 969-7700
Mass Fairchild Semiconductor Lakeside Office Park Wakefield 245-8880
Mass Schweber Electronics 213 Third Ave Waltham 891-8484
Mass L L Schley Co Inc 36 Arlington St Watertown 926-0235
Mich Semiconductor Specialists 25127 W 6 Mile Rd Detroit 255-0300
Mich Fairchild Semiconductor 24755 Five Mile Rd Detroit 537-9520
Mich Sheridan Assoc Box 128 Lathrup Village ... 358-3333
Minn Semiconductor Specialists 7742 Morgan Ave S Minneapolis 866-3434
Minn Fairchild Semiconductor 4901 W 77th St Minneapolis 920-1030
Minn Avnet Electronics of Minn 4940 Viking Dr Minneapolis 920-5866
Mo Semiconductor Specialists Inc 10062 Natural Bridge St Louis 423-6500
Mo Contact-Hamilton 400 Brookes Lane Hazelwood 731-1144
NJ Hamilton Electro Sales 1608 Marlton Pike, Rt 70 Cherry Hill 662-9337
NJ Schley/OTS Electronics 5 Industrial Dr Rutherford 935-2120
NM Hyer Electronics 130 Alvarado Dr NE Albuquerque 265-5767
NM Fairchild Semiconductor 130 Alvarado Dr NE Albuquerque 265-5767
NY Fairchild Semiconductor 50 Jericho Tpk Jericho 334-8500
NY Fairchild Semiconductor 731 James St Syracuse 472-3391
NY Cramer-Eastern Pickard Bldg E Malloy Rd Syracuse 455-6641
NY Summit Distributors Inc 916 Main St Buffalo 884-3450

NY Dart-Hamilton 222 Boss Rd Syracuse 437-2641
NY Schweber Electronics Jericho Tpk Westbury . 334-7474
NY Taylor Electronic Corp 2270 Grand Ave Baldwin 223-8000
NY Fairchild Semiconductor 44 Haight Ave Poughkeepsie 454-7320
NY Dart-Hamilton 1505 Cleveland Dr Buffalo . . 633-9110
NC Hamilton Electro Sales 1023 E Wendover Ave Greensboro 275-9969
Ohio Schweber Electronics 20950 Center Ridge Rd Cleveland 333-7020
Ohio Sheridan Sales Co Box 37646 Cincinnati . . . 761-5432
Ohio Fairchild Semiconductor 20950 Center Ridge Rd Cleveland 333-7176
Ohio Fairchild Semiconductor 5000 Northbranch La Dayton 278-8278
Pa Fairchild Semiconductor 100 Old York Rd Jenkintown 886-6623
Pa Powell Electronics Inc Box 8765, Intl Airport Philadelphia 724-1900
Tenn Powell Electronics Box 488 Fayetteville 433-5737
Tex Fairchild Semiconductor 10210 Monroe Dallas . . . . FL 2-9523
Tex Norvell Assoc Inc 10210 Monroe Ave Dallas . 357-6451
Tex Norvell Assoc Inc 6440 Hillcroft Houston . . . 774-2568
Tex Hamilton Electro Sales 1216 W Clay Houston 526-4661
Tex Arco Electronics 1610 Industrial Ct Arlington 821-1120
Utah Hyer Electronics Co 1425 S 2nd St W Salt Lake City 487-3681
Wash Fairchild Semiconductor 700 108th Ave, NE Bellevue 454-4946
Wash Hamilton Pacific NW 2320 6th Ave Seattle . 624-5930
Wash Kierulff Electronics 5940 6th Ave S Seattle . 763-1550
Can Avnet Electronics of Can Ltd 10 Gurney Crescent Toronto, Ont 789-1838
Can Avnet Electronics of Can Ltd 1550 Louvain St W Montreal, Que 381-9127
Can Fairchild Semiconductor 78 Signet Dr Weston, Ont 749-3911
Can Fairchild Semiconductor 1505 Louvain St, W Montreal, Que 381-9127
Can Schweber Electronics 60 Pleasant Blvd Toronto Ont 925-2471
BC R A E Ind Electronics 1350 E 4th Ave Vancouver 253-8494

FAIRCHILD SPACE & DEFENSE SYS DIV
FAIRCHILD CAM INSTR CORP 300 ROBBINS LA
SYOSSET NY 11791 TWX 510 221-1858 . 516 931-4500
R BRANDT EMP 2100 ENG 725
Ohio Fairchild Space & Def Sys 131 N Ludlow St Dayton 338-1111
Va Fairchild Space & Def Sys 2001 Jeff Davis Hwy Arlington 703-521-1555
Den A/S Danbridge 47 Brigadeveu Copenhagen
Fr Air-Trading 48 Ave Ray Poincare Paris 16 e . . . . KLE 36-86
Ger Aerotechnik Kirchfield Kg Trinkaus-Str, 1 4 Dusseldorf 1-05-45
GB Stewart Aero Supply Co Ltd Gatwick Rd Crawley . . . . CRA 28700
Neth Tech Handelmij Hollinda NV 112 Stadhouderslaan The Hague 54-23-03
Ital Agenzia Commericale Intl Via Castelnuovo 33, Rome
Jap Okura Trading Co Ltd 3 Ginza Nishi-Nichome Tokyo 451-2131
Swit Omni Ray AG Dufourstr 56 Zurich 051-34-44-30
Spn Tecnologica De Automacion, S A Ave del Gen, Franco 354 Barcelona 225-6077

FAIRCHILD SPACE & DEFENSE SYS DIV
FAIRCHILD CAM & INST CORP 621 HAWAII ST
EL SEGUNDO CAL 90245
TWX 910 325-6607 . . . . 213 644-2275
G SWOBEN
For Sales Offices/Reps see Fairchild & Defense Systems, (Syosset address) Listings

FAIRCHILD SPACE & DEFENSE SYS DIV
FAIRCHILD CAM & INSTR CORP 30 PARK PL
PARAMUS N J 07652
TWX 710 990-6610 . . . . 201 262-7000
F MASON
Ala Floyd Napps Co 1507 Oak Grove Blvd Sheffield 205 383-3186
Ariz Hyer Electronics Co 301 W Indian School Rd Phoenix 602 264-0291
Cal Andrews Hdwe & Metal Co 1610 W 7th St Los Angeles 483-8110
Colo Hyer Electronics Co 7895 E Prentice Ave Engelwood 771-5285
Conn Audio-Video Ind 217 Westport Ave Norwalk 203 847-7231
DC Shrader Sound 2803 M St NW Washington . 965-1300
Fla Southeast Electronics Co 1125 Rosselle St Jacksonville . . . . EL 6-3007
Ga Dixie Radio Supply Co Campbell Bldg Augusta 404 724-0777
Ill Industrial TV Equip Co 5224 W Diversey Ave Chicago 736-7474
Kan Beston Electronics Inc 7700 W 63rd St Overland Park 913 262-6116
Md Nationwide Communications 127 Light St Baltimore . . . . SA 7-7325
Mass Audio-Video Ind 12 Bailey Pl Newtonville 617 527-8666
Mich General TV Network 901 Livernois Ave Ferndale 548-2500
Minn Ecko Sound Equip Co 1406 1st Ave S Mnpls . 339-4569
Mo Mobilfone Corp 3330 Washington Ave St Louis . . . . JE 5-4806
Neb TV Transmissions Inc 1342 M St Lincoln 402 435-4321
Nev Edco Sound & Commun Co 1040 Matley La Reno 786-2646
NM Hyer Elctns Co 210 LaVeta NE Albuquerque 505 265-5767

NY Windsor Electronics Sys Co 230-08 S Conduit Ave Laurelton . . . . LA 5-5607
NC Dixie Radio Supply Co 1431 Bryant St Charlotte 704 333-4731
Pa Lerro Elec Corp 3125 N Broad St Philadelphia 215 223-8200
RI Television Systems 105 Whipple St Providence 331-0550
SC Dixie Radio Supply Co 1900 Barnwell St Columbia 803 253-5333
Tex Universal Magnetics 2600 Stemmons Frwy Dallas 631-4730
Utah Hyer Electronics Co 445 E 2nd St Salt Lake City 801 363-6793
Wash Central TV 306 Dexter Ave Seattle 624-8990
WVa Prieser Scientific Corp 900 Mac Corkle Ave SW Charleston 343-5515
Can Vancouver Sound Equip 1152 Kingsway Vancouver, B C . . . . TR 6-2020
Can BRH Assoc 6338 Victoria Ave Montreal, Que 514 733-5331
Can BRH Assoc 1300 Carling Ave Ottawa . . . 613 728-0113
For San Juan Electronics Inc Ponce de Leon 150 San Juan 722-3342
For Electromex, Inc 1843 Taft Ave Manila, Phil
Isrl Elina, Ltd Box 960 Tel-Aviv
Mex Cuevas Medina, S A Apar Postal M 7810 Mexico 4 D F

FAIRHILL PRODUCTS CORP
FAIRHILL & DIAMOND STS PHILADELPHIA
PA 19122 . . . . 215 CE 6-3663
J LICHTENSTEIN EMP 20 ENG 1 UP TO $100M

FAIRLANE ELECTRONICS, INC BOX 335
LONG VALLEY N J 07853 . . . . 201 832-2116
M MACLENNAN
NJ Jud Williams Assoc, Inc Box 262 Califon 201 832-2116

FAIRMOUNT CHEMICAL CO INC
117 BLANCHARD ST NEWARK
N J 07105 . . . . 201 623-5790
R BAILES EMP 120 ENG 6 $2,500-$5,000M
Cal Vivion Chemical Co 2163 Palm Ave San Mateo
Ill J H DeLamar & Son Inc 4529 N Kedzie Ave Chicago . . . . JU 8-0500

FAIR-RITE PRODUCTS CORP 1 COMMERCIAL ROW
WALLKILL N Y 12589
TWX 510-249-4819 . . . . 914 895-2055
EMP 250 ENG 4 $1,000-$2,500M
Cal Micro Metals Inc 228 N Sunset Ave City of Industry 213-968-4718
Conn R S Pettigrew & Co 10 N Main St West Hartford 203-233-8533
Ill Jim Holmes & Assoc 306 Busse Hwy Park Ridge 312 692-2101
NJ Horace Delaney 78 Sweetbrier Dr Clark 201-382-7643
Ohio Frank Campisano 3985 Race Rd Cincinnati 513-662-1616
Tex Stasco 13310 Spring Grove Ave Dallas . 214-239-5054
Mex Distrimex SA Av San Antonio 319-101 Mexico 18 DF 16-29-10

FALCON MACHINE & TOOL CO INC
175 BALLARDVALE ST NORTH WILMINGTON
MASS 01887 . . . . 617 933-7370
S LETO EMP 15 ENG 2 $100-$250M
Wis Wm A Klinger & Son Co 743 N 4th St Milwaukee 414 332-6898
Swed Olle Ekhult & Co Box 1169 171 23 Solna 272780
Swit W Schaffner-Behrend Geibelstr 35 Zurich 051 42 31 42

FALSTROM CO 44 FALSTROM CT PASSAIC
N J 07055 . . . . 201 777-0013
R HILL EMP 200 ENG 15 $2,500-$5,000M
Fr Aro SA 33 Rue de la Colonie Paris
GB Aro SA 190 Castelnau London

FANON ELECTRONIC INDUSTRIES DIV COURIER
COMMUN INC 439 FRELINGHUYSEN AVE
NEWARK N J 07114 . . . . 201 242-3000
M TROTINER EMP 125 ENG 5 $2,500-$5,000M
Ala M F Taylor Co 2328 3rd Way NE Birmingham
Cal R M Markman Co 4142 Lankershim Blvd N Hollywood
Colo Connors Inc 2241 Stacey Dr Denver
Fla Winfield Elctn Sales 666 NE 125th St . . . . N Miami
Ill Markal Sales Corp 5787 N Lincoln Ave Chicago
Ind Cardinal Sales 28 W 62nd St Indianapolis
Iowa R Carlson Box 3780 Des Moines
Mass Anderson Sales Co 177 State St Boston
Minn Carle M Co 1926 Wellesley Ave St Paul 699-8004
Miss L R Massey 304 E Jefferson Greenwood
Mo Collins Carlson Havercamp Hempe Lectro Reps 6 Bank Sq E St Louis
NY Simberkoff Sales Inc 35 Niagara St Lockport
NC Morris F Taylor Co 1224 Dresden Dr W Charlotte
Ohio Mike Roth Sales 678 S Green Rd Cleveland
Pa Simberkoff Sales Inc 1021 Levick St Phila
Tex Maynard Sales 158 Express St Dallas
Va Simberkoff Sales Inc 724 W Arlington Twrs Arlington
Wash M K Widdekind 815 W Ewing St Seattle
Can Fanon Electronics of Canada Ltd 489 King St W Toronto
For Roburn Agencies Inc 431 Greenwich St New York N Y

FANSTEEL INC 1 TANTALUM PL NORTH CHICAGO
ILL 60064 TWX 910-235-1577 . . . . 312 689-4900
D PARR EMP 3692 OVER $10,000M
Cal Fansteel Inc 21515 Hawthorne Blvd Torrance 213 270-8541
Conn Fansteel Inc 195 W Main St Avon 203 677-1300
Ill VR/Wesson Co 800 Market St Waukegan . . . . 312 ON 2-5220
Ind Fansteel Inc 6100 N Keystone Ave Indianapolis 317 255-4104
Mich Fansteel Inc 329 E William St Ann Arbor . . . 662-6255
NJ Fansteel Inc 351 Main St Metuchen 549-0460
NC Fansteel Inc 2809 Weona Ave Charlotte 704 525-4747

FARADAY INC 805 S MAUMEE ST TECUMSEH
MICH 49286 TWX 510-450-7160 . . . . 313 423-2111
A THOMAS EMP 270 ENG 6 $2,500-$5,000M
Cal R Hippert 1443 E 4th St Los Angeles . . 213-261-0181
Ill D Koopman 7001 N Clark St Chicago . . 312-761-3132
NY J Harney 106-03 Sutphin Blvd Jamaica 212-297-3300

FARGO CO 1162 BRYANT ST SAN FRANCISCO
CAL 94103 . . . . 415 MA 1-4471
L JONES EMP 25 ENG 3 $250-$500M

FARINON ELECTRIC 935 WASHINGTON ST
SAN CARLOS CAL 94070 . . . . 415 593-8491
H SUTTON EMP 200 ENG 38 $5,000-$10,000M
DC Farinon Electric 7735 Old Georgetown Rd Washington 657-4180
Mo Farinon Electric 4601 Madison Ave Kansas City 561-6107
Can Farinon Elec of Can Ltd 657 Orly Ave Dorval Que 636-0974
For Farinon Elec of Can Ltd 657 Orly Ave Dorval, Que 636-0974
GB Farinon Electric 147 Bath Rd Slough Bucks

FARMER ELECTRIC PRODUCTS CO INC
TECH CIRCLE NATICK MASS 01760 . . . . 617 653-8850
J FARMER EMP 90 ENG 8 $1,000-$2,500M
Cal Steven Engineering 343A Hill St San Francisco 648-2508
Fla Hummel Industrial Sales Box 5327 Orlando . . 425-6554
Ga Applebee Church Box 13485 Atlanta 875-7244
Ill E C Hajduk 6853 N Concord La Niles 763-8445
Md McCourt Co Inc 28 W Penn Ave Towson 823-3455
Mich L H Dickelman 13331 Puritan Ave Detroit . . 273-0806
Minn Craighead Assoc 3822 E Lake St Mnpls 721-6529
Mo Edemco Inc 2605 S Hanley Rd St Louis . . . . MI 7-5505
NY Jack Miller Co 1 Continental Ave Forest Hills . . . . BO 3-4446
NC W K Hile Co Inc N John St Matthews 847-9125
Ohio Whelan Corp 2975 Farhills Ave Dayton 298-9997
Ore David Fry Co Box 8303 Portland . . . . CA 6-3903
Pa Victor S Malta Co 801 Preston Ave Phila . . VE 6-5122
Tenn Ransom Sales CoInc 100 N Main Bldg Memphis 527-3194
Tex Wm E Brice Co 1402 Dunlavy Houston . . . . JA 6-3197
Can Elequipment Ltd 930 Brant St Burlington Ont 634-1881

FARRAND CONTROLS INC 99 WALL ST VALHALLA
N Y 10595 . . . . 914 761-2600
G QUINN EMP 150 ENG 25 $2,500-$5,000M
Colo Richard Ives 555 S Jason St Denver
Mass R H Whitehead Assoc Statler Bldg Boston . . . 542-7676
Minn W K Nelson Co 807 13th Ave S Minneapolis
Okla Marshall Supply 705 N Virginia Oklahoma City
Pa Merit Machinery Pittsburgh
Tex Greene Machinery Co Frito Lay Bldg Dallas

FARRAND OPTICAL CO INC 4401 BRONX BLVD
BRONX N Y 10470 TWX 212-824-8038 . 212 FA 4-2200
O MENDEL EMP 260 ENG 115 $5,000-$10,000M

FARRELLOY CO 1245 N 26TH ST PHILADELPHIA
PA 19121 . . . . 215 PO 3-2124
E FARRELL EMP 8

FASCO INDUSTRIES INC, ELECTRONIC DIV
BOX 150 FAYETTEVILLE N C 28302
C JUNO EMP 100 ENG 3 $1,000-$2,500M
Ala Grady Duckett Sales Box 537 Huntsville
Cal Technical Sales Assoc 1485 Bayshore Blvd San Francisco 415-467-1434
Fla Grady Duckett Sales Box 15215 Orlando
Ga Grady Duckett Sales Co Box 29067 Atlanta . 451-3529
Ill Dick Ort 2319 N Champlain Arlington Hgts . . 392-5756
Ind Chas Scheffler 1133 Navajo Trail Indianapolis . . . . CL 3-6337
Iowa N W Kathrinus & Co 1408 S 12th St Burlington 752-3186
Kan William Foley 7708 Crescent Raytown FL3-2250
Md Poff Electronic Sales Co 2636 Norland Rd Baltimore 644-0520
Mass Jack Meaney & Assoc 520 Harrison Ave Boston
Mich S A McMahon 46236 Custer St Utica 731-3482
Mo Norman W Kathrinus 2427 Brentwood Blvd St Louis . . . . WO 2-5627
NY Sir Sales Inc 35 Powerhouse Rd Roslyn Hgts . 621-7485
Ohio J Chilcote Sales Co 2940 W Lincolnshire Toledo 536-6606
Pa Lester Benner 520 W Market St Bethlehem . 865-3014
Wash West Coast Agencies 16715-52nd W U Edmonds

FASTEX DIV ILLINOIS TOOL WORKS
195 ALGONQUIN RD DES PLAINES
ILL 60016 . . . . 312 292-2222
R GILLILAND EMP 400 ENG 15
Cal H O Hansen 12333 E Los Nietos Rd Santa Fe Springs
Mich Fastex 1403 E State Fair Rd Detroit
Tex C R Monnich 5731 Caladium Dr Dallas
Can Shakeproof-Fastex Div 67 Scarsdale Rd Don Mills, Ont
Fr ITW de France 20, Rue Fizeau Paris
Ger ITW Ateco GmbH 2 Harksheide, Bez Hamburg Harkshiede Be Hamburg
GB ITW Ltd 470 Bath Rd Cippenham, Slough, Bucks
Jap Nippon Indu Fastener Co Ltd Uchisaiwai-Cho Chiyoda-Ku, Tokyo
Aust W A Deutsher Pty Ltd 374 Nepean Hwy E Brighton, S6, Vic

FAUL-CORADI INC 27 FENNELL ST SKANEATELES
N Y 13152 . . . . .315 685-5761
W WAGNER EMP 65 ENG 3 $1,000-$2,500M
Cal Smart Supply Co Inc 2040 Davie Ave Los Angeles
Colo Bishop Enterprises 493 Jamaica Aurora
Ill Zimmerman & Gaumond Inc 1781 Oakton Blvd
Des Plaines
Md Paddock-Joslow Co 721 Ellsworth Dr
Silver Springs
Minn Albinson 520 Fourth Ave Minneapolis
Ohio Measurement Instr Inc 2074 Arlington Ave
Columbus
Can James W Stevens Co 15 St Mary St
Toronto S Ont
Swit G Coradi AG 53-55 Seebacher Str 8052 Zurich

FEAY CO, NEAL 133 LA PATERA LANE GOLETA
CAL 93017 . . . . .805 967-4521
N RASMUSSEN EMP 50 ENG 3 $500-$1,000M

FECO A BANGOR PUNTA CO 5855 GRANT AVE
CLEVELAND OHIO 44105 . . . . .216 441-2400
R JIRA EMP 175 ENG 50

FEDERAL PACKAGE CORP 3401 NEVADA AVE N
MINNEAPOLIS MINN 55427 612-533-1631
J HAGLUND EMP 40 $1,000-$2,500M

FEDERAL SCIENTIFIC CORP 615 W 131ST ST
NEW YORK N Y 10027 . . . . .212 286-4400
R ROTHSCHILD EMP 100 ENG 35 $100-$250M
Ala James L Highsmith & Co 3222 S Memorial Pkwy
Huntsville 881-3294
Ariz Williams Assoc 1110 E McDowell Rd
Phoenix 254-6085
Cal King Engineering Co 15720 Ventura Blvd
Encino 981-0161
Colo Williams Assoc 4971 Jackson St Denver 388-4391
DC Burlingame Asoc 1749 Rochville Pike
Rockville 301 427-1255
Fla James L Highsmith & Co 2543 Industrial Blvd
Orlando 293-5202
Mass Burlingame Assoc 7 Wellington St
Waltham . . . . .TW 4-1955
NM Williams Assoc 420 Washington St SE
Albuquerque 255-1638
NY Burlingame Assoc 510 S Fulton Ave
Mount Vernon . . . . .MO 4-7530
NC James L Highsmith & Co 3733 Monroe Rd
Charlotte 333-7743
Ohio Rep Corp 2077 Embury Park Rd Dayton 278-5885
Pa Burlingame Assoc 222 Long Lane
Upper Darby 528-6080
Tex Scientific Sales Co 777 S Central Expwy
Richardson 214 231-6541
Utah Williams Assoc 2461 S Main St
Salt Lake City 466-8709
Va James L Highsmith & Co 5003 Brook Road
Richmond 266-2060
Can Ahearn & Soper Ltd 844 Caledonia Rd
Toronto 19 Ont 416 789-43257
For Terminal Radio Intl Ltd 3 W 61st
New York N Y . . . . .212 CI 6-2133

FEDERAL SCREW PRODUCTS INC 3917 N KEDZIE AVE
CHICAGO ILL 60618 TWX 25-3677 . . . . . . 312 478-5744
L HARRIS EMP 20 ENG 2 $1,000-$2,500M
ADV PG 291
Cal F W Moulthrop & Assoc 1530 E 12th St
Oakland 261-7676
Md Shiplett-Warrington Assoc Box 373
College Park 865-5757

FEDERAL STAMPINGS, DIV DORIC CORP
2000 W 94TH ST MINNEAPOLIS
MINN 55431 . . . . .612 888-9411
D SCHIEFELBEIN EMP 190 $250-$500M
Ariz Southwest Engineering 8341 N 7th St
Phoenix 944-1521
Cal Marketek Inc One First St Los Altos 941-0882
Conn R Christopher 164 Scoville Rd Avon 673-3408
Fla Wm A McKnight Assoc Box 8245
St Petersburg 391-4337
Ill Field & Assoc 15 S Austin Blvd Chicago 626-2421
Ind A D Moore Co 4020 W 80th St Indianapolis . 291-6550
Iowa R L Burchett 1821 State St Bettendorf 355-6332
Ky Henry M Wood Co 2307 Taylorsville Rd
Louisville 452-2661
Md Towle & Son Co 3 W Church St Frederick . . .662-6364
Mich Maurice H Schultz & Co 2037 Medford Rd
Ann Arbor 769-5600
Mich Howard Dodge Co 1601 Kingswood Dr
Lansing 484-0678
Mo Crowley-Dunkel & Assoc 2510 S Brentwood Blvd
St Louis 962-7657
NY Rock-Stan Co Inc 410 Brooklawn Dr
Rochester 271-6200
Ohio Henry M Wood Co 920 E McMillan St
Cincinnati 281-1136
Ore Harry Crist 412 SW 2nd Ave Portland 222-2211
Pa Towle & Son Co 813 Bethlehem Pike Phila . .248-3233
RI Stanley J Woods Box 1 Pawtucket 725-2854
Tenn J J Keras Sales Co 1719 West End Bldg
Nashville 256-6957
Tex Stan W Baxley 9884 Monroe Dr Dallas 328-2144
Utah Tri-Western Agency 35 W Truman Ave
Salt Lake City 487-1881
Wis Mund Indl Engineered Sales 4747 N Sheffield Ave
Milwaukee 962-0310

FEDERAL TOOL ENGINEERING CO DIV ARVIN INDS
1386 POMPTON AVE CEDAR GROVE
N J 07009 . . . . 201 256-5300
T COUMBE EMP 315 ENG 20
ADV PGS 336,353,715
Ariz Jack Hagestad Box 1469 Scottsdale . . 602-945-0902
Cal Ben Lovelace 3033 S Oak St
Santa Ana 714-546-0161
Conn Gillette Assoc 149 White Birch Dr
Guilford 203 453-3484
Fla J Jenzano & Assoc 1815 S Atlantic Ave
Daytona Beach 904 255-4018
Ind Central States Machinery Co Inc 824 E 38th St
Indianapolis . . . . .317 WA 3-5433
Mich Kilpatrick & Martin 2330 Hilton Rd
Ferndale 313-398-4400
NJ K L S Assoc 387 Passaic Ave Fairfield . 201-228-2525
Ohio H L McCreery & Son 3567 E 49th St
Cleveland 216 271-1100
Pa C W Middlestead Co 53 Long La
Upper Darby .215-FL2-6420
Wis Process Technology Inc 8926 N 91 St
Milwaukee 414-354-8335
For Teknis Inc Plainville, Mass 617-695-3591

FEDTRO INC FEDERAL ELECTRONICS BLDG
ROCKVILLE CENTRE N Y 11571 . . . . . . .516 536-4400
B KLEINMAN

FEL PRO INC DIV FELT PRODUCTS MFG CO
7450 N MCCORMICK BLVD SKOKIE
ILL 60076 . . . . .312 RO 1-4500
E LEHMAN EMP 850
Mich Don Crampton 600 Hilton Ferndale 548-4050

FELSENTHAL INSTRUMENTS CO
7450 W WILSON AVE CHICAGO ILL 60656
TWX 910-226-1718 . . . . .312 867-7450
C HAYES EMP 150 ENG 8 $2,500-$5,000M
Cal L Lacy 1258 Sunnycrest Ave Ventura 642-8659
Ga S Avery Box 4191 Macon 746-5816
Mass Wm A Sullivan Box 241 Somerset 617-679-3444
Okla J Blackstone 4500 NW 32nd St
Oklahoma City 405-943-9112
Pa B Fredriksen 9 Hillcroft Rd Newark Del . 302-737-9939

FELTERS CO 22 WEST ST MILLBURY
MASS 01527 . . . . .617 865-4401
B GETMAN EMP 386 ENG 4 $5,000-$10,000M
Ill Felters Co 711 Devon Ave Park Ridge 692-2037
Mich Felters Co Box 600 Jackson 764-0650
Mo Felters Co 1602 Locust St St Louis . . . . . . CE 1-0070
NY Felters Co 393 7th Ave New York . . . . LA 4-2200

FENLOW ELECTRONICS LTD SPRINGFIELD LA
WEYBRIDGE ENGLAND . . . . WEY 43978
L MASON EMP 85 ENG 6

FEN-TONE CORP 106 FIFTH AVE NEW YORK
N Y 10011 . . . . .212 OR 5-1707
A GROSSMAN EMP 12 ENG 1 $500-$1,000M
Fla John F Thompson Co 322 Riverside Dr
Ormond Beach 677-2298
Ill Loren F Green Assoc 5218 W Diversey Ave
Chicago 286-6824
NY G G Schloss 33-46 92nd St
Jackson Heights . . . . OL 1-5120
Ohio John F Olsen Co 16201 Shaker Blvd
Cleveland 752-5444

FENWAL ELECTRONICS INC 63 FOUNTAIN ST
FRAMINGHAM MASS 01701
TWX 710-346-0678 . . . . .617 872-8841
B WOJESKI EMP 200 ENG 30
Ala Col-Ins-Co Inc Box 4246 Huntsville 539-1771
Ariz Dorton Enterprises Inc Box 1297
Scottsdale 946-6575
Cal Ed Landa Co 2288 Westwood Blvd
Los Angeles .213-272-9525
Colo Electronic Components Sales Box 22011
Denver 771-6200
Fla Col-Ins-Co Inc Box 13189 Orlando 423-7615
Ga Col-Ins-Co Inc 200 Carrington Way
Marietta 422-8327
Ill Midwest Electronic Sales 5707 W Division
Chicago 626-0030
Ind Midwest Electronic Sales 5462 E 40th
Indianapolis 547-3259
Iowa Thomas & Modrcin Assoc Inc 890 17th Ave
Marion 377-6261
Kan Thomas & Modrcin Assoc Inc Box 189
Shawnee Mission 432-2131
Md Bernard White & Co Inc 7 Church La
Baltimore 484-5400
Mass Andrews Artronics Inc Executive Pk
Lynnfield 245-5220
Mich Hiltronics Inc 13720 Puritan Ave Detroit . . .342-3242
Minn Murphy Assoc Inc 730 Chicago Ave
Minneapolis 333-4511
Mo Thomas & Modrcin Assoc Inc Box 545
Hazelwood 838-6446
NM Electronic Components Sales 209 San Pablo SE
Albuquerque 256-3663
NY CDB Enterprises Inc 675 W Jericho Tpk
Huntington 692-5200
Ohio A H Baier Co & Assoc 4399 Industrial Pkwy
Willoughby 946-6080
Pa Wm K Metz Co Box 309 Ardmore 215-649-3966
Tex Scientific Sales Co 6400 W Park Dr
Houston 781-2711
Wash Arneson Assoc 5950 6th Ave S Seattle 762-7664
Wis Midwest Electronic Sales 1317 Garfield Ave
Waukesha 542-5129
Can Douglas Randall (Can) Ltd 1710 Midland Ave
Scarborough Ont 751-7911
Can Samuel C Hooker (Can) Ltd 144 Ronald Dr
Montreal West Quebec 488-9114

FENWAL INC MAIN ST ASHLAND MASS 01721
TWX 710-380-1072 . . . . .617 881-2000
J RICE EMP 630 ENG 85 $5,000-$10,000M
Cal Belilove Co 960 Arlington Ave Oakland 658-0911
Cal Montgomery Bros Inc 4800 District Blvd
Los Angeles 589-6321
Colo E & M Sales Inc 2660 Walnut Denver 244-4291
Conn Doonan-Miles Corp 37 N Main Wallingford . . 269-5973
Fla Ludlum Assoc Co 4471 NW 36th St
Miami Springs .305 885-3611
Ga Applebee-Church Inc 1958-A Monroe Dr NE
Atlanta 875-7244
Ill Fred I Tourtelot Co 407 S Dearborn
Chicago 427-5464
Ind Couchman-Conant Inc 1400 N Illinois
Indianapolis 635-5313
La Ross & Pethtel Inc 3170 Florida Blvd
Baton Rouge 348-0206
Md Thomas H Closs Co 21 W Penna Ave Towson . 825-4445
Mich Carman Adams Inc 17360 W 8 Mile Rd
Southfield 444-1070
Minn Volco Co 831 S 6th St Minneapolis 336-6631
Mo Conrow Co 3300 Wyoming St Kansas City . . 531-6065
Mo Richard Greene Co 1830 S Hanley Rd
St Louis 644-2666
NJ R L Faber & Assoc Inc 460 Colfax Ave
Clifton 773-8900
NY Robert F Lamb Co Inc 1865 Kenmore Ave
Buffalo 874-4900
NC W K Hile Co Inc 833 W John St Matthews . . 847-9125
Ohio Arnold & Assoc Inc 597 E Galbraith Rd
Cincinnati 761-5566
Ohio Anderson-Bolds Inc 10001 Carnegie Ave
Cleveland 229-4700
Ohio Arnold Dircksen & Assoc Dabel Sta Box 22
Dayton 256-0351
Okla Paul King Co 826 N Fulton Tulsa 836-2501
Pa J V Calhoun Co 349 Montgomery Ave
Bala-Cynwyd 839-3000
Pa Gilson Eng Sales 978 Perry Hwy Pittsburgh . . 931-6114
Tenn H R Miles & Assoc Inc 2500 B Franklin Rd
Nashville 291-8188
Tex Gay Eng & Sales Co Inc Box 13232 Houston . 869-3306
Wash Seatronics Inc 5616 4th Ave S Seattle 767-4330
Wis Gordon Hatch Co Inc 635 S 28th St
Milwaukee 671-6550
Can Canadian Chromaldx Co
210 Rexdale Blvd Rexdale Toronto Ont 241 8621
Can Temperature Controls Pty Ltd
Box 23019 Joubert Park
Johannesburg SA 724-8237
For Badrena & Perez Inc Carpenter Rd 225
Hato Rey P R 767-2455
For Macondray & Co Inc Box 768
Manila Phillippines 88-98-41
For Pin-Bor CA EDF Son Diego Calle Edison Loschagu
aramos Aptdo Del Este 5249 Caracos 61 95 04
Den Ditz Schweitzer Automation A/S
Store Kongensgade 59 Copenhagen K 15-00-57
Fr Ets Demoly Freres Rt de Savignies BP 11
Beauvais Oise 445-20-48
Ger Hans G Werner & Co Box 2867
7000 Stuttgart W 626-640-4648
GB Graviner (Colnbrook) Ltd
Poyle Mill Wks Colnbrook Slough Bucks . . COL-3254
Neth A Dehoop NV Box 5014 Rotterdam 119470-31
Ital Terry Ferraris & Co Viale Ortles N 10
Milano 53 91 005
Jap Fenwal Controls of Japan Ltd
4-10 1-Chrome Nishi Shinbashi
Minato-Ku Tokyo 503-1641
Nor Morgenstierne & Co A/S
6688 Radelskke Konglellegt 3 Oslo 5 . . 02-37-29-40
Swed Salen & Wicander AB Fack Sundyberg 3 . . . . 98 06 80
Swit Bachofen & Co Ackerstr 42
8610 Uster-Zurich 051-87-61-11
Arg Elescar SCPA Tucoman 983 4-d
Buenos Aires 35-9574
Belg Fenwal Intl Ltd Depot C/O Masser SA
104 Rue de Birmingham Brussels 7 23-20-30
Braz IEF Controles Automaticos Ltd
Rua Sao Caetano 312 Cx 1044 Sao Paúlo . . 34-6227
Braz Werco Comercioe Indus Ltda
Ave Rio Branco 57 Salas 1401/3
Rio de Janeiro GB-ZC-21 23-8710
Ind Bali Intl Agencies Box 1676 Palton Rd
Bombay 264592
Isrl Landseas (Israel) Ltd 29 Bezalel St B 3235
Tel-Aviv 244311
Mex Fredin SA Aptdo Box 53-905
Mexico 17 D F 46-44-21
NZ Boustead Wood Pty Ltd 12 Lorne St Box 2451
Auckland 50-728
Spn Ind Electricas Soler
Aptd de Correos 22 Canet De Mar
Barcelona 143-481
Fin Oy Anglo Nordic AB Box 10565 Helsinki 21 . . . 673552
Aust Boustead Wood Pty Ltd 11 McCall St Box 9164
South Melbourne .69-7501

FENWICK 15 RUE FENELON PARIS 10 FRANCE
M LE PAGE

FERRANTI ELECTRIC INC E BETHPAGE RD
PLAINVIEW N Y 11803 . . . . .516 293-8383
J BRUSH EMP 20 ENG 6 $1,000-$2,500M
Cal R Orlander & Co 6313 Santa Monica Blvd
Los Angeles . . . . HO 9-6313
Mich Anderson Electronics 18471 James Couzens Hwy
Detroit . . . . DI 2-7133
Minn Engineering Products 2119 Grand Ave
St Paul 698-5531
NY TPC, Inc 43 Washington Ave Endicott 472-8588

FERRANTI, LTD HOLLINWOOD LANCASHIRE
ENGLAND 061-681-2000
S DE FERRANTI EMP 20000
NY Ferranti Electric Inc E Bethpage Rd
Plainview 516-293-8383
Can Ferranti-Packard Electric Ltd
Toronto, Ont 416-762-3661

FERRICORE DIV NATL MOLDITE CO INC
250 SOUTH ST NEWARK N J 07114 . . . . . 201 642-6860
M MILLER EMP 60 ENG 5 $500-$1,000M
Cal Aerospace Sales Corp 12140 S Atlantic Ave
Lynwood 213 537-1856
Ill Jerry Golten Co Inc 4319 W Irving Park Rd
Chicago
NY G E Mortensen 250 South St Newark . . 212 227-6290
For American Ligurian Co 271 Madison Ave
New York N Y

For Malek Representaciones Rodriguez Pena 486
Buenos Aires
Mex Gimbel Mexicana SA Medellin 184 Mexico 7 DF

FERRO CORP ELECTRO REF DIV BOX 20
EAST LIVERPOOL OHIO 43920.........216 385-1538
W THORNBERRY EMP 150 ENG 2
$1,000-$2,500M

FERRODYNE CORP 4240 GLENCOE AVE VENICE
CAL 90291........................213-391-5233
P WHELAN EMP 100 ENG 3
Ariz Southwest Engineering 8341 N 7th St
Phoenix......................602-944-1521
Cal P Bennett Box 1146 Los Altos.......415-941-3623
Okla Alsco Industries 214 N Ohio Drumright .918-968-3211
Tex Stevens Sales Box 34493 Dallas......214-241-2574

FERROTEC INC 80 BRIDGE ST NEWTON
MASS 02158 TWX 710-335-1288......617 332-7600
P RUTLEDGE EMP 105 ENG 13 $1,000-$2,500M
Cal J E Hachten Co 800 Welch Rd Palo Alto....326-1252
Fla Hi-Co Electronics Inc Box 1317
Winter Park........................647-5030
Ill H G Pretat Inc 7716 North Ave
Elmwood Park.......................453-3380
Ind H G Pretat Inc 3001 S Fairfield St
Ft Wayne...........................745-1251
Md Brimerg Assoc Inc 814 Thayer Ave
Silver Spring......................588-7790
NY Salsbury Assoc Inc 331 W John St
Hicksville.........................WE 8-1080
Ohio Sheridan Assoc 26 W Nottingham Rd
Dayton.............................277-8911
Pa Lewis Slubin & Co 2305 Fairmount Ave
Phila..............................CE 6-2072
Tex W Pat Fraila Co Box 12625 Fort Worth...PE-8-2394
Wash Jon Jolly Co 69 Marion St Seattle.......MA 3-7060
Can Tech Assc 1262 Don Mills Rd Don Mills Ont..445-7490
For Dage Corp 757 Main St Stamford Conn...DA 4-3123

FERROTRAN ELECTRONICS CO INC 683 BROADWAY
NEW YORK N Y 10012..............212 AL 4-5810
E ABBOT EMP 20 ENG 4

FERROXCUBE CORP SAUGERTIES N Y 12477
TWX 510-247-5410..................914 246-2811
R DERSCHANG EMP 1100 ENG 114
OVER $10,000M
Ariz J Turner 4747 N 16 St Phoenix......602-264-3129
Cal L Kinsey 908 N Hollywood Way
Burbank..........................213-849-6631
Colo J Buckwalter 5455 S Valentia Way
Englewood........................303 771-2000
Ill R Forslev 360 E North Ave Northlake..312 261-7880
Mass C Breen 235 Bear Hill Rd Waltham....617 899-3110
Minn M Gustafson 6700 France Ave S
Minneapolis......................612-920-1830
NJ F Genovese 2414 Morris Ave Union....201 964-1844

FERWALT INC W H WEBB RD LAPWAI
IDAHO 83540......................208-VI-3-2463
W FERWALT EMP 7 ENG 1 UP TO $100M
Cal Didion Assoc 4901 Heil Ave
Huntington Beach...................842-5814
Cal H Stout Assoc 200 Third St Los Altos......948-3265
NY Herbert Shprentz Co 126 Deertrack La
Irvington..........................LY 1-7970
Ore Bern Doran Sales Box 115 Forest Grove....357-3333
Pa W F Assoc Western Saving Fund Bldg
Philadelphia.......................KI-6-4121

FIBERFIL DIV REXALL CHEMICAL CO
1701 N HEIDELBACH AVE EVANSVILLE
IND 47717........................812 424-3831
J FLETCHER
Cal Fiberfil Div Encino..................213 783-3235
Ga Fiberfil Div Atlanta..................404 525-7184
Ill Fiberfil Div Chicago.................312 332-6242
Mich Fiberfil IDiv Detroit................313 963-7419
Minn Fiberfil Div Minneapolis............612 335-0186
NY Fiberfil Div New York................212 765-369
Ohio Fiberfil Div Cleveland..............216-771-7107
Tex Fiberfil Div Dallas..................214 747-4963

FIBERITE CORP 501 W THIRD ST WINONA
MINN 55987 TWX 9105652270..........507 8-3611
J DAVID EMP 300 ENG 30 OVER $10,000M
Cal Fiberite West Coast Corp 690 N Lemon St
Orange.............................532-1687
Conn E G Atkinson 30 Germantown Rd Danbury.....8-0684
Ill L Paulsen & T Pilat 1750 Wright Wood
Chicago............................GR 2-4656
NJ G Bruggemeir Jr Box 186 Bound Brook....545-9444
Ohio F Rosenberger 9730 Bucher Rd Whitehouse .893-6484
Tex C Murchison 14014 Peyton Dr Dallas......239-1494

FIBRE FORM CORP 700 S MAIN ST COLUMBIA CITY
IND 46725........................219 244-6169
B BRENNAN EMP 75 $500-$1,000M

FIBRE PRODUCTS DIV IKELHEIMER-ERNST INC
601 W 26TH ST NEW YORK N Y 10001 ..212 675-5820
A ERNST EMP 125 ENG 2 $1,000-$2,500M

FIDELITY AMPLIFIER CO 1633 N HALSTED ST
CHICAGO ILL 60614.................312 MO 4-3515
W MARTIN EMP 15 ENG 1 $100-$250M

FIDELITY CHEMICAL PRODUCTS CORP
470 FRELINGHUYSEN AVE NEWARK
N J 07114........................201 242-4110
S LONYAI EMP 50 ENG 5 $2,500-$5,000M
Mass Fidelity Chem Prods 300 Pine St Canton

FIELD ELECTRONICS INC 14 COMMERCE ST
CHATHAM N J 07928.................201 635-6566
H ANDERSON EMP 15 ENG 2

FIELD EMISSION CORP
MELROSE AVE AT LINKE ST MCMINNVILLE
ORE 97128........................503 472-5101
R HARRISON EMP 143 ENG 31 $2,500-$5,000M
Cal Frederick B Sontag 421 N Brookhurst Ave
Anaheim............................635-6610
Haw X-Ray & Medical Equip Inc 1157 S King St
Honolulu
Ill D Goebel 10 State St St Charles.........584-1462
Md D Antrobus 11215 Oak Leaf Dr
Silver Spring......................593-4625
NJ K Smith 69 Orient Way Rutherford........933-6331
NY Radiotronix Communications Labs
741 Washington St New York
Can Spectra Research Ltd 376 Churchill Ave
Ottawa, Ont........................728-3415
For Pakland Corp Central Comml Area, PECH Society
Karachi 29, Pak....................472-315
Den Erik Ferner AB Absalonsgade 6 Copenhagen V
Fr Comsatec 134, Ave de Malakoff
75 Paris 16e.......................PAS 43-09
Ger Field Emission GmbH Rheinstr 7 Munchen 23
GB Field Emission UK Ltd 209 Crescent Rd
New Barnet Herts
Ital Silverstar Ltd Via dei Gracchi 20
Milano 1-20146.....................46 96 551
Jap Midoriya Electric Co Ltd
3, 2-Chome, Kyobashi, Chuo-ku Tokyo...561-9256
Swed Erik Ferner AB Box 56 Bromma..........25 28 70
Arg Coasin SA Virrey del Pino 4071 Buenos Aires
Braz Ambriex Av Graca Aranha 226-6 Rio de Janeiro
Isrl Eastronics Ltd 75 Haifa Rd Tel Aviv
Mex Fredin SA Melchor Ocampo 212-505
Mexico 5 DF
NZ Watson Victor Ltd 16 The Terrace Wellington
Aust Watson Victor Ltd 95-99 Epping Rd Nth Ryde
Ryde NSW

FIELDSTONE CORP HARDCO SCIENTIFIC DIV
3229 OMNI DR CINCINNATI OHIO 45245 .513 271-3200
L MOUNTFORD EMP 25 ENG 5 $500-$1,000M

FIFE ELECTRONIC PRODUCTS INC
80 COMMERCIAL ST FREEPORT
N Y 11520........................516 378-0441
I SEAMAN EMP 35 ENG 1
Ariz B & G Sales 305 E Indian School Rd
Phoenix............................264-4761
Cal Technical Sales Assoc 1485 Bayshore Blvd
San Fran...........................467-1434
Colo Norris & Co 915 Cheyenne Blvd Col Springs .635-9319
Conn Robert S Reiss Assoc 70 Jessie Dr
W Haven............................WE 3-8542
Fla Jack B Moore Indian River Dr Jensen Bch...287-0198
Haw Gene Piety Factors 160 Mokauea Honolulu
Ill Mike Bermann Sales Co 8631 E Prairie Rd
Skokie.............................OR 5-3740
Ind Howell & Moore Assoc 5425 N College Ave
Indianapolis.......................255-8566
Md J C Merican Co 546 Anchor Dr Joppa......679-6969
Mass Al Appell 199 E Foxboro Rd Sharon......SU 4-3439
Mich David Milsk Co 20110 Olympia Ave Detroit .KE 5-4012
NY Jack Brown Assoc 207 Rosedale Rd
Yonkers............................SP 9-7330
NC Geo F Schiffer Co Box 6365 Greensboro....288-1625
Ohio Hank Miller Sales Co 4087 Meadowbrook Blvd
Cleveland
Tenn L Jones 5401 Poplar Ave Memphis....901 683-7616
Tex Antle-Smith Sales Co 2721 Brookfield Ave
Dallas.............................FL 7-7279
For ManRep Corp 1925 NE 150th St N Miami Fla

FIFTH DIMENSION INC BOX 483 PRINCETON
N J 08540 TWX 510-685-9294........609 924-5990
J POHLKE EMP 110 ENG 14 $1,000-$2,500M
Ariz Hecht Henschen & Assoc Box 21166
Phoenix..........................602-275-4411
Colo A-G Electronics 5417 S Oneida Way
Englewood........................303-771-1473
Fla Gra-Mar 3113 Lawton Rd Orlando....305-841-2330
Ill Century Engr & Sales 1256 W Jefferson St
Joliet...........................815-725-3712
Mass Com/pak 14 Oak St Needham.......617-444-1259
Minn G E Arneson & Co 4900 Viking Dr
Minneapolis......................612-920-2086
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis.........................314-MI7-4350
NY F T Battista Co 223-46 Hempstead Ave
Queens Village...................212-GR9-3550
Ohio Rockford Controls 2077 Embury Park Rd
Dayton...........................513-274-1911
Pa Wyncote Instrumentation 1616 Kenmare Dr
Dresher..........................215-643-2440
Tex Glidden Engr 8609 NW Plaza Dr Dallas .214-363-6539

FILM CAPACITORS INC 100 8TH ST PASSAIC
N J 07055........................201 779-2240
S LIPMAN EMP 80 ENG 3 $500-$1,000M
Cal Hal Foraker Co Box 1325 Fremont....415 657-2213
Fla Frank C Nickerson Co Box 13126 Tampa
Ill Berndt Assoc 6414 W Belmont Ave
Chicago..........................312-283-0718
Mass John E Boeing Co box 5 Lexington....617 862-2500
Minn Hasse & Assoc 3825 York Ave N
Minneapolis........................588-0551
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis...........................MI 7-4350
NY J P Scanlon 51 Bloomfield Pl Rochester....GR 3-7553
Ohio Jay Engineering Co Box 175, Sta A Dayton .CY 2-5180
Tex Geo Weinreich & Assoc 11554 E Northwest Hwy
Dallas...........................214 899-8133
Wash Westec Electronics Box 66521 Burien Br
Seattle..........................206-CH3-7070
Can Anbak Sales Ltd 3208 Lenworth Dr Cooksville Ont

FILM COMPONENTS DIV REON RESISTER CORP
155 SAW MILL RIVER RD YONKERS N Y 10701
TWX 710-560-0015..................914 965-9850
A LEMME EMP 100 ENG 5 $1,000-$2,500M

FILM MICROELECTRONICS, INC 17 A ST
BURLINGTON MASS 01803...........617 272-5650
H KARAS EMP 50 ENG 6 $500-$1,000M
Ala Young & Lawrence Assoc 2907 Governors Dr S W
Huntsville.......................205-539-6575
Ariz Engineering Sales Assoc Box 544
Scottsdale.......................602-945-5781
Cal R H Muenzer Co Box 997 Redwood City .415-369-8283
Cal Brooks & Day, Inc 10700 Ventura Blvd
No Hollywood.....................213-877-3357
Fla Young & Lawrence Assoc 601 N New York Ave
Winter Park......................305-647-6929
Ill Communication Engineers 7106 N Western Ave
Chicago..........................312-761-0548
Ind Communication Engineers 418 E Berry Street
Ft Wayne.........................219-743-9866
Md Stemler Assoc 6707 Whitestone Rd
Baltimore........................301-944-8262
Mass New England Technical Sales 7 Cypress Dr
Burlington.......................617-272-0434
Mich Harvey Teplitz & Co 26847 Grand River Ave
Detroit..........................313 537-9058
Mo Palatine Engrg Sales 8622 St Chas Rock Rd
St Louis.........................314-426-7055
NJ Unicomp 18 Sunnyridge Rd Wayne....201-696-2888
NY B D Hummel Co 2224 Maynard Ave
Utica............................315-736-7821
Ohio Harvey Teplitz & Co 3718 Salem Ave
Dayton...........................513 277-9178
Pa Stemler Assoc Box 711 Paoli........215-644-3477
Tex Applied Science Assoc 3707 Rawlin St
Dallas...........................214-526-8316
Va Stemler Assoc 206 N Washington St
Alexandria.......................703-548-7818
Wash Ray Johnston Co Inc 1011 NE 69th St
Seattle..........................206 524-5170

FILTAIRE INC DIV WALTER KIDDE CO
706 FORREST ST CHARLOTTESVILLE VA 22901
TWX 510 587-5461..................703 293-5154
D SMITH EMP 85 ENG 5 $1,000-$2,500M
Cal R L Assoc 14401 Gilmore St Van Nuys..213 780-1666
Fla J J Smith & Assoc Box 460
Winter Park......................305 644-4316
Ill Thos B Hunter Assoc 5653 W Irving Park Rd
Chicago..........................312-777-2500
Md Charles O Emrich Rollins Rd & Wilkens Ave
Baltimore........................301-747-8348
Mass Naton-Neenan Assoc Box 203 Sudbury .617-893-0914
Mo Kelly Schmitz & Winkeler 7546 Troost Ave
Kansas City......................816 363-5651
NY TX Sales Inc 900 Walt Whitman Rd
Melville.........................516-271-5850
NC L & D Inc Box 7243 Greensboro......919 292-3201
Ohio G & H Sales 7215 Market Pl Cincinnati .513 761-6185
Tex Stevens Sales Box 34493 Dallas......214-241-2574
Can Ben Manis Assoc 2690 Pitfield
Montreal, Que....................514-336-4500

FILTECH CORP 10103 W PACIFIC AVE
FRANKLIN PARK ILL 60131...........312 678-8900
E ARGOUDELIS EMP 75 ENG 9 $1,000-$2,500M

FILTRON CO INC SUB LIQUIDONICS IND INC
131-15 FOWLER AVE FLUSHING N Y 11355
TWX 710 582-3015..................212 445-7000
H HAZZARD EMP 450 ENG 40 $5,000-$10,000M
Ala Reynolds & Assoc 904 Bob Wallace Ave
Huntsville.......................205 536-1941
Cal Filtron Co Inc 3643 Lenawee Ave
Los Angeles......................213 870-6274
Conn Circuit Sales Co 1126 Fairfield Ave
Bridgeport.......................203 335-0637
Fla Reynolds & Assoc Box 8877 Orlando...305 424-3836
Ga Reynolds & Assoc 175 W Wieuca Rd NE
Atlanta..........................404 252-5360
Kan Aerotronics Inc Box 11026 Washington Sta
Wichita..........................316-264-7925
Md Bernard White & Co 7 Church La
Baltimore........................301 484-5400
Mass Circuit Sales Co 1 Militia Dr Lexington .617-861-0567
Mich Reichold Assoc 1655 House St Belmont .616 459-4445
Mo Aerotronics Inc Box 6236 Lambert Field
St Louis.........................314 426-4060
NJ Maxwell A Brown Assoc 308 Second Ave
Bradley Beach....................201 775-7829
NY Garrettson Co 99 Hillside Ave
Williston Park...................516 747-6610
NC P J Hahser Co 2709 Amherst Ave
Burlington.......................919 226-8053
Ohio S M Tetelbaum 3812 Stormont Rd
Dayton...........................513 837-1036
Tex Allied Components Inc 10464-6 E Northwest Hwy
Dallas...........................214 348-6660
Va M E Whitney Assoc 1400 N Uhle St
Arlington........................703 524-5642
Wash G M Gillett & Assoc Box 99035 Seattle .206 284-3344
Can Aircraft Appliances & Equip Ltd 585 Dixon Rd
Rexdale Ont......................416 249-8411
For Lindor Intl Corporation 10 E 40th ST
New York N Y.....................212 685-6740
BC Aircraft Appliances & Equipment Ltd
885 W Broadway Vancouver.......604 879-4828

FINCOR INC 1000 E BOUNDRY AVE YORK PA 17405
TWX 840432........................717 843-7841
J SHAEFFER EMP 205 ENG 16 $2,500-$5,000M
Cal Fincor Inc 200 Folsom St
San Francisco....................415-982-7393
Ga Fincor Inc 1773 Tully Cir NE Atlanta..404-633-5111
Ill Fincor Inc 9501 W Devon Ave Chicago .312-775-7124
NY Fincor Inc 220 E 42nd St New York...212-682-1824
Pa H B Stallings & Assoc 422 Manchester Ave
Media............................215-566-4100
Wash Lloyd Controls Inc 1200 N 96th St
Seattle..........................206-525-7666
Can Railway & Power Eng Corp Ltd
3745 St James St W Montreal....514-933-6741

FINEISEN CO A R 24 BOOKER ST WESTWOOD
NJ 07675 ....201 664-3332
M NOVOTNY EMP 5 ENG 1 $250-$500M

FINESCALE CO 504-0 W CHAPMAN AVE ORANGE
CAL 92668 714-538-2435
J GRAY EMP 2 ENG 1 UP TO $100M

FINNEY CO 34 W INTERSTATE BEDFORD
OHIO 44146 TWX 810-427-2279 ....216 232-6161
T PFEIFFER ENG 12
Ark D Bellew Sales Co 418 Maple Hill
El Dorado ....UN 3-8325
Cal Wayne Dinsmore Box 621 Encino ....MA 2-2849
Colo Norcon Ltd 2 Sixth St Colorado Springs 635-9319
Fla Hollingsworth & Still 1010 Executive Ctr Dr
Orlando 841-1623
Ga Hollingsworth & Still 22 Executive Pk W NE
Atlanta 634-6373
Ill Markal Sales Corp 5787 Lincoln Ave
Chicago ....LO 1-7290
Ind Jack Merritt & Co 2525 Knollwood Dr
Indanapolis 291-9674
Kan Lowell Kangas Assoc Box 4116
Overland Park ....TU 8-3200
La D Bellew Sales Co 3017 D 18th St Metairie .833-6496
Md A M Pecore 1626 Forest Park Ave
Baltimore ....RI 7-3170
Mass Lawrence B Cole & Co 318 Weston Rd
Wellesley Hills ....CE 7-1260
Minn Northern States Sales Co 1109 W 78 1/2 St
minneapolis 866-3468
Mo Lowell, Kangas & Assoc, Inc
Box 26, Creve Coeur Sta St Louis ......MI 7-1111
NY Murray Director 115-62 237th St Elmont .CU 5-6823
NY Leonard D Allen, Inc Box 205
North Syracuse 458-7470
NC Hollingsworth & Still 6717 Woodstock Dr
Charlotte 523-3327
Ohio H Miller Sales Assoc Inc 4087 Meadowbrook Blvd
Cleveland 321-3900
Ore Roger M Minthorne Co 6565 SW Macadam
Portland 246-4556
Pa E K P Assoc, Inc 1346 Spring Garden St
Easton 252-6373
For Rocke Intl Corp 13 E Wisconsin Ave
New York, N Y ....MU 9-0200

FIRING CIRCUITS DIV MARATHON ELECTRIC MFG
CO MULLER AVE NORWALK
CONN 06852 ....203 846-1633
D LYNCH EMP 40 ENG 3
Cal Campbell & George Co 840 Mahler Rd
Burlingame 415-697-2965
Cal Porter Co 17000 Ventura Blvd Encino .213-788-2350
Cal Porter Co Box 898 Orange 213 788-2350
Conn Sales Office Muller Ave Norwalk 203-846-1633
Ga Austin Brown Assoc 1771 Tully Cir NE
Atlanta 404-636-9446
Ill Firing Circuits Div 2701 N Paulina St
Chicago 312-327-8450
Tex Titan Reps 6434 Maple Bldg Dallas 357-8266
Can Railway & Power Engineering 3745 St James St
West Montreal 30 Que 514-933-6741

FIRST ELECTRONICS CORP 71 VON HILLERN ST
BOSTON MASS 02125 ....617 288-2430
W TREGONING EMP 85 ENG 7

FIRTH STERLING CORP BOX 700 MCKEESPORT
PA 15134 ....412 664-4191
A WEILAND EMP 700 ENG 35 OVER $10,000M
Ala Firth Sterling 3 Office Park Mountain Brook .879-8508
Cal Firth Sterling 2900 S Vail Ave Los Angeles ..723-6421
Conn Firth Sterling 25 Talcott Rd W Hartford 236-0811
Ill Firth Sterling 3806 North Ave Stone Park ..344-5510
Mich Firth Sterling 2619 Industrial Row Troy 549-8110
Tex Firth Sterling 829 S 75th St Houston 921-2137
Can Firth Sterling 43 Spaulding Dr
Brantford, Ont 752-6820

FISCHER & CO, H G 9451 W BELMONT AVE
FRANKLIN PARK ILL 60131 ....312 678-7200
W FISCHER EMP 287 ENG 15 $2,500-$5,000M

FISCHER & PORTER CO 476 WARMINSTER RD
WARMINSTER PA 18974 ....215 675-6000
B BUONOMO EMP 2500 ENG 650 OVER $10,000M
Ala Fischer & Porter 15 Office Park Cir
Birmingham 205 871-0371
Alas Du Alaska Co 3959 Spenard Rd Spenard ...322-1607
Ariz Fischer & Porter Co 3815 N Black Canyon Hwy
Phoenix 265-1000
Cal Fischer & Porter Co 5722 E Union Pacific
Los Angeles 685-6304
Colo Fischer & Porter Co 300 E Hampden Ave
Englewood 781-7894
Del Fischer & Porter Co 4708 Kirkwood Hwy
Wilmington 994-3466
Fla Fischer & Porter Co Box 8132 Jacksonville ..724-5510
Ga Fischer & Porter Co 674 N Highland Ave NE
Atlanta 873-1338
Ill Fischer & Porter Co 175 Scott St Elk Grove .437-6800
Ind Fischer & Porter Co 2511 E 46th St
Indianapolis 546-4985
Iowa Fischer & Porter Co 1521 E Locust St
Davenport 323-3665
Ky Fischer & Porter Co 1733 Brownsboro Rd
Louisville 897-1606
La Thompson Equipment Co Box 66153
Baton Rouge 926-4311
Me Fischer & Porter Co 137 Main St
Waterville 207 872-6033
Md Fischer & Porter Co 320 Hillen Rd Towson ..825-2960
Mass Fischer & Porter Co 10 Kearney Rd
Needham Hts 444-5750
Mich Evered Lezotte 304 W Superior St Munising .387-2054
Minn Fischer & Porter Co 7615 Metro Blvd
Minneapolis 941-3323
Mo Durkin Equip Co 2384 Centerline Ind Dr
St Louis 542-1444
Mont Archibald Co 55 W Broadway Butte 723-8075
NJ Fischer & Porter Co 141 Main Ave Clifton ..472-8500
NY Fischer & Porter Co 5858 E Molloy Rd
Syracuse 455-6474
NC Fischer & Porter Co 1719 Remount Rd
Charlotte 376-5509
Ohio Fischer & Porter Co 7777 Montgomery Rd
Cincinnati 793-3600
Okla Fischer & Porter Co 4717-B S Yale Ave
Tulsa 627-2710
Ore Fischer & Porter Co 1220 SW Morrison
Portland 227-6897
Pa Fischer & Porter Co 411 7th Ave Pittsburgh .471-5955
SC Fischer & Porter Co 833 Wappoo Rd
N Charleston 556-4133
Tenn Fischer & Porter Co 3294 Commercial Pkwy
Memphis 332-3200
Tex Fischer & Porter Co 80 Interstate 10N
Beaumont 832-1617
Utah Wayne Wiscomb Co 768 E 9th St
Salt Lake City 328-3205
Va Fischer & Porter Co 5610 W Marshall St
Richmond 288-3036
Wash Fischer & Porter Co 1701 Dexter Ave
Seattle 283-3826
WVa Fischer & Porter Co 1107 Nelson Bldg
Charleston 343-7514
Wis Fischer & Porter Co 7600 W Hampton
Milwaukee 463-2470
Can Fischer & Porter (Can) Ltd 134 Norfinch Dr
Downsview, Ont 633-9810
Den Fischer & Porter Co Mobro Peer Jaeqervang 31
Birkerod
Fr Otic Fischer & Porter 151 Bis Ave de la Liberation
Clermont-Ferrand
Ger Fischer & Porter GmbH Box 701, 34 Gottingen
Grellerhausen
GB Fischer & Porter Ltd Salterbeck Trading Est
Worington Cumberland
Ital F & P Italiana, SpA Via G di Vittorio 307/2
Milano
Jap Hokushin Electric Works, Ltd
30-1, 3-chome, Shimomaruko, Ohta-ku Tokyo
Nor Civ Ing Helge Ingeberg A/S
Prosesskontroll, Waldemar Thranesgate 1A Oslo
Swed A B Max Sievert Sorterargatan 14 Stockholm
Swit Kundert Ing Zurich AG Fur Verfahrenstechnik
Zurich

FISCHER SPECIAL MFG CO 446 MORGAN ST
CINCINNATI OHIO 45206
TWX 810-461-2593 ....513 961-1280
J CONNOR EMP 70 ENG 3 $2,500-$5,000M
Ala Oliver Assoc Box 374 Decatur 205-365-5210
Cal Southwestern Agencies 907 E Market St
Long Beach 213 428-1257
Ill Richard G Love & Co 5730 N Western Ave
Chicago 312 561-3669
Ind Hayden, Quinn & Pollard 320 S High St
Muncie 317 284-1691
Mass David M Rowley Box 131, Islington Sta
Westwood 617 326-7781
Mo Ben Gerker Co 569 Melville St Louis ...314 721-6700
NJ Charles D Williams 20 Church St
Montclair 201 746-3535
NY Wm Eggleston Box 7207 Rochester ...716-663-4554
NC Mack W White Jr Box 3222 Charlotte ..704 375-2994
Ohio Donald E Williams Box 122 Medina 216 725-4088
Pa Harold J Nugent 547 Swede St
Norristown 215 272-1955
Tex W H Kreer 3925 Greenbrier Dr Dallas ..214 361-4518

FISHER-AKIN CO BOX 698 MANHATTAN BEACH
CAL 90266 213-320-8241
B FISHER EMP 15 ENG 5 $100-$250M
Cal Mauldin Co 441 W Calif Ave Palo Alto .....DA 6-5291
Ky Simpson Enterprises 3809 Westport Dr
Wichita ....WH 3-0502
Mo Simpson Enterprises 514 Parkwood
Kirkwood ....YO 5-1115
Ohio Ohio Instrument Co 505 Whitney
Worthington 885-0743
Tex Mitchell Speairs Co Houston Petroleum Ctr
Houston ....WA 3-7616
Can Aeromotive Eng Products Ltd
887 Montee de Liesse St Laurent, Que ...747-4781

FISHER BERKELEY CORP 5800 CHRISTIE AVE
EMERYVILLE CAL 94608 ....415 655-9696
J PAGE EMP 35 ENG 2
Cal Strassner Sales Co. 3121Los Feliz Blvd
Los Angeles 213-666-1511
Mass Piper Assoc 20 Winslow St Plymouth ...617 934-2498
NJ Finlay Sales Co 45 N Broad St
Ridgewood 201 652-0088
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 216 752-5444
Pa John O Olsen Co 1843 Maydell St
Pittsburgh 341-8391
Tex Techno Assoc Box 20544 Dallas 214-357-9213
Wash Ron Merritt Co 1320 Prospect St
Seattle 206 682-7337

FISHER & CROME, INC 2427 N MASCHER ST
PHILADELPHIA PA 19133 ....215 GA 6-3232
B WINTERMAN EMP 24 ENG 2 $250-$500M

FISHER ENGINEERING INC 2060 US HWY 24E
HUNTINGTON IND 46750 ....219 356-3500
P PETERINK EMP 45 ENG 8 $250-$500M

FISH-SCHURMAN CORP 70 PORTMAN RD
NEW ROCHELLE N Y 10802
TWX 137480 ....914 NE 61300
M YAWITZ EMP 55 ENG 2 $1,000-$2,500M

FITCHBURG COATED PRODUCTS INC BOX 1106
SCRANTON PA 18501 ....717 347-2035
L HEALY JR EMP 160 ENG 1 $5,000-$10,000M
Cal Fitchburg Coated Prods Inc
5614 E Washington Blvd Los Angeles .213 685-8100
Ga Fitchburg Coated Prods Inc
614-B De Kalb Ind Way Decatur 404-633-9206
Ill Fitchburg Coated Prods Inc 711 S Blvd
Oak Park 312 848-0172
NH Fitchburg Coated Prods Inc Box 673
Salem 617-542-2619
NY Fitchburg Coated Prods Inc 850 Third Ave
New York 212 421-6566
Ohio Fitchburg Coated Prods Inc 12649 Chillicothe Rd
Chesterland 216-729-1313
Tex Fitchburg Coated Prods Inc 3525 Miller Park Dr
Garland 214-276-5737

FITCHBURG ENGINEERING CORP CLEGHORN ST
FITCHBURG MASS 01420 ....617 343-7416
R LEGER EMP 87 ENG 11 $1,000-$2,500M
Cal Poly-Mach Inc 9421 Santa Fe Springs Rd
Santa Fe Springs
Ga Lewyn Machine Tool Corp 2130 Jackson Pkwy
Atlanta
NJ Vandyck Churchill Co 280 Midland Ave
Saddle Brook
Pa Vandyck Churchill Co 222 S Easton Rd Glenside
Tex Southwest Indl Sales Co 6767 Oakbrook Blvd
Dallas

500 INC KELVIN PK, 266 2ND AVE WALTHAM
MASS 02154 617-899-8300
H HOWELL
NY C Itoh & Co 320 Park Ave New York ...212 751-4330
Ohio Aerotronics 5899 Huberville Ave Dayton
Fr La Cryotechnique 18-22 Rue d'Arras Nanterre
Jap C Itoh & Co, Ltd 4 2-Chome Hon-Cho Nihonbashi
Tokyo
Swit Arthur D Little AG Seefeldstr 224
Zurich 8 ....(051) 47 42 42
Gr Marios Dellegios Reps 2 Alopekis St Athens 139
Spn Productos y Apar Cientificos E Ind SA Box 7023
Madrid 5

FIVRE DEPT FABBRICA ITAL MAG MARELLI
VIA FABIO FILZI 1 PAVIA ITALY 31144
G DI BAGNO EMP 815 ENG 14 $5,000-$10,000M

FLAIR ELECTRONICS INC BOX 543 GLENDORA
CAL 91740 213-963-6077
A TAKACS EMP 8 ENG 2 $250-$500M
Ariz Robbins & Assoc 4315 E St Phoenix ...602-959-3594
Cal Shephard-Stern Co 4109 W Burbank Blvd
Burbank 213-849-6671
Colo Box 20296 Denver 303-399-6618
Ill Nelco Engrg Co Box 343 Des Plaines ...312-298-5788
Mass Adcour 1 Summer St Sharon 617-784-3996
Mo Aireborne Electronics 7759 Lona Vista Dr
Kansas City 816-761-9550
NY Andrews & Andrews Inc 140 E Main St
Huntington 516-692-8686
Tex Aireborne Electronics 2629 Magnolia St Irving
Can Munro Electronics Box 147 Ajax Ont ..416-942-2191
For Elbar Electronics Corp Box 660
Schenectady NY 518-372-5841

FLAME RESEARCH INC BOX 10502 PITTSBURGH 35
PA 412 242-3415
E MANTON EMP 25 ENG 15 $250-$500M

FLEETWOOD LABS INC 35 ROCKWOOD PL
NEW ROCHELLE N Y 10804 ....914 235-0831
W LURIE EMP 3 ENG 2 UP TO $100M
Cal Ed Schaar Assoc Box 644 Pacific Palisades .454-5190
Fla Massey Assoc Box 13577 St Petersburg 347-6183
NJ Central Assoc 44 N Dean St Englewood ....LO 8-0808
NY Central Assoc 11 Commercial St Plainview .GE 3-0808

FLEISHMAN ELEC CO DIV OF SIGNAL TRANS CO,
INC 1 JUNIUS ST BROOKLYN NY 11212 .212-498-0341
E POLEN EMP 6 ENG 1

FLEXAUST CO, DIV CALLAHAN MINING CORP
277 PARK AVE NEW YORK NY 10017
TWX BKK 212 826-2950
W O'DONNELL EMP 60 ENG 4 $1,000-$2,500M
Cal Flexaust Co 199 Thousand Oaks Blvd
Thousand Oaks 495-0566
Ill Flexaust Co 799 Roosevelt Rd Glen Ellyn 469-0898
Mass Flexaust Co 1 Chestnut St Amesbury

FLEXIBLE CIRCUITS INC PAUL VALLEY IND PARK
WARRINGTON PA 18976 ....215 DI 3-2300
G LEE EMP 75 ENG 14 $2,500-$5,000M
Ariz Southwest e/m Engrg 8341 N 7th St
Phoenix 602-944-1521
Cal Technical Liaison Co 1626 Centinela Ave
Inglewood 213 670-6971
Ill D Novak 618 S Lombard Ave Oak Park .312-287-0744
Mass R P Murray 180 Prospect St Ashland ..617-267-2211
NJ F Gnapinski 749 Midland Ave Garfield ..215-343-2445
Ohio Mid-West Mktg Assoc 137 Lakeview Dr
Dayton 513-433-2511
Pa F Jones Paul Valley Ind Park
Warrington 215-343-2300

FLEXIBLE METAL HOSE MFG CO 777 W 16TH ST
COSTAMESA CAL 92627 ....714 646-4851
E HALLETT EMP 45 ENG 4 $500-$1,000M
Ariz McDonald Industrial Sales, Inc 4637 E Avalon Dr
Phoenix 959-0780
Cal W Gorman 4476 Tivoli St San Diego 222-9424
Cal D Richmond 8949 Reseda Blvd Northridge ..349-5626
Colo K Palmer 1050 Yuma Denver 255-9961
Conn William McCoy Co 896 Main St
Branford 203 488-2012
Ga C O Benedette 714 Paces Ferry Rd Smyrna .435-8393
Kan D & O Engineering Co Box 2349
Kansas City 352-6151

Kan D & O Engineering Co Box 1800 Wichita....264-7358
NY Fluid Controls & Systems 6 Hampton St
Hauppauge....234-1444
Ohio R G Lanzit 515 Laramie Tr Cincinnati....761-2924
Wash O J Harper 200 Tobin Ave Renton....255-0414
Can S C Sterling 65 Martin Ross Road
Downsview....636-5052
Neth Air-Parts Intl N V Box 4094 Ryswyk

FLEXIBLE PRODUCTS INC BOX Z LAKEVILLE
MINN 55044
P BRYAN EMP 30 ENG 8 $250-$500M
Ala 20th Century Mktg 2603 Artic St SW
Huntsville....205-536-1596
Ariz Hamilton Rep 9800 N Oracle Rd
Tucson....602-622-6896
Colo Hamilton Reps 10465 Melody Dr
Northglenn....303-466-6061
Conn Kitchen & Kutchen Inc 22 Broadway
North Haven....203 239-0212
Fla Kirkwood & Assoc Box 52 Winter Park .305-645-2220
Ill Repwood Inc 260 Sunset Glen Ellyn....312 469-2344
Ind Ryan Sales Co Box 2515 Fort Wayne ..219-432-0897
Iowa Electronic Sales Co 1310 Hertz Dr S E
Cedar Rapids....319-364-4342
Mass Kitchen & Kutchen Inc 17 Waltham St
Lexington....617 862-8230
Minn W L Ruth & Assoc 700 S 3rd St Mnpls .612-339-8901
NY Nycom Inc 2002 Teall Ave Syracuse ...315 437-8343
NC P J Nahser Co Box 432 Burlington....919-226-8053
Okla Johnson & Coates Inc Bx 10792
Oklahoma City....405-732-2141
Pa Tyler-Griffin Inc 46 Darby Rd Paoli....215 644-7710
Tex A E Petsche Co 1325 E Abram
Arlington....817-277-1379

FLEX PRODUCTS CORP 445E INDUSTRIAL RD
CARLSTADT N J 07072....201 933-3030
D SHER EMP 40 ENG 1 $500-$1,000M
ADV PG 416
Mich C E Cummiskey & Assoc Inc 15324 Mack Ave
Detroit....TU 5-6635
Ohio Harris Containers 307 E 4th St Cincinnati...241-7373
RI Cutler Sales Co Box 166 Barrington......CH 5-5142

FLICKINGER & ASSOC, DANIEL N 40 S OVIATT ST
HUDSON OHIO 44236....216-653-9101
D FLICKINGER EMP 10 ENG 4 $250-$500M

FLIGHT RESEARCH DIV GEOTEL INC BOX 1-F
RICHMOND VA 23201....703-737-4163
W BULLINGTON EMP 70 $1,000-$2,500M
Cal Geotel Inc 3839 S Main St Santa Ana.....545-7171
NY Photo-Electric Instr Co 125-10 Queens Blvd
Kew Gardens....544-9038
Ohio Aertronic Assoc Inc 5899 Huberville Ave
Dayton....253-8144
Can Computing Devices Of Can Ltd Box 508 Ottawa
GB J Hadland Photo Instr Ltd Newhaise Labs
Bovingdon Herts
Jap J Osawa & Co Ltd Toranomon Minato-Ku Tokyo
Swit I Weinberger Forrlibuckstr Zurich
Aust J Hadland Pty Ltd 28 Chester St Broadmeadow

FLORIDA GENERAL ELECTRONICS INC
150 S NOVA RD ORMOND BEACH
FLA 32074....904-677-1307
J TANGES JR EMP 35 ENG 3 $500-$1,000M

FLORIDA TRANSFORMER CO, TRANSITRON SUB
BOX 518 DE LEON SPRINGS FLA 32028 .904 985-4661
E RENSI EMP 200 ENG 5 $2,500-$5,000M
Ala Gentry Assoc Inc 2109 W Clinton Ave
Huntsville....536-5306
Ariz Engineering Sales Assoc Box 544
Scottsdale....945-5781
Cal Power Controls Co 1720 S Pontius Ave
Los Angeles....473-2397
Fla Gentry Assoc Inc 550 N Bumby Ave Orlando .841-7740
Ga Gentry Assoc Inc Box 13513 Sta K Atlanta .874-4661
Ill Century Eng & Sales Ltd 1256 W Jefferson St
Joliet....725-3712
Mass Impact Sales Co 223 Crescent St Waltham .893-2850
Mich J C Hofstetter Co 700 E Maple St
Birmingham....642-0590
NJ A & C Assoc Box 585 Willingboro....879-5616
NY Freudman-Brick Assoc 1 W Terrace Rd
Great Neck....487-1142
NC A B Andrews Co Box 2627 Raleigh....833-5565
Ohio J C Hofstetter Co 5168 Valleyview Dr
Medina....241-4880
Pa A & C Assoc Box 67 Gladwyne....642-9222

FLOTRON INDUSTRIES INC 1201 E GRAND AVE
EL SEGUNDO CAL 90245 TWX 653457 ..213 678-8164
L HORRELL EMP 14 ENG 1 $500-$1,000M
Ala Southern Dynamics Box 5983 Homewood Br
Birmingham....205-879-8764
Ariz Earl Jones Co 1724 W Tonto La
Phoenix....602-942-2083
Cal G E Woods Assoc 2415 S Manchester Ave
Anaheim....714-633-9370
Colo R G Bowen Co Inc 1440 S Santa Fe Ave
Denver....303-722-4641
Fla Southern Dynamics 6015 S Orange
Orlando....305-855-5112
Ill Escor Assoc Inc 6582 Northwest Hwy
Chicago....312-763-4797
Iowa Escor Assoc Inc 309 4th Ave SE
Clarion....515-532-3218
Md L D Lowery Inc 6200 Annapolis Rd
Hyattsville....301-773-4977
Minn SERVCO 521 S 7th St Minneapolis ..612-FE-9-8611
Mo Escor Assoc Inc 4965 Bancroft St
St Louis....314-FL-2-2027
NJ Simberkoff Sales 71 Valley St
South Orange....201-763-7900
NM C T Carlberg & Assoc 2611 Quincy St NE
Albuquerque....505-265-1579
NY Simberkoff Sales 284 Edgewood Ave
Kenmore....716-652-1997
NC Southern Dynamics Box 1484
Charlotte....704-334-2686
Ohio Roc Eng & Sales Co 7100 N High St
Worthington....614-TU-5-1057
Okla Southwest Electronics Inc 2015-C S Lakewood
Tulsa....918-TE-5-2481
Pa L D Lowery Inc 2801 W Chester Pike
Broomall....215-EL-6-5300
Tex Southwest Electronics Inc 621 Meadows Bldg
Dallas....214-363-1671
Utah R G Bowen Co Inc 1380 W North Temple
Salt Lake City....801-364-4632
Vt John Stevenson Randolph Center.....802-728-5848
Wash Seatronics Inc 5616 4th Ave S Seattle .206-767-3320
Can Avdel Ltd 1151 Kipling Ave N
Rexdale, Ont....416-247-6697
For Meridian Enterprises Inc 1751 La Cienega Blvd
Los Angeles, Cal....213-837-9121

FLOWCON CO 1114 E KIMBERLY AVE ANAHEIM
CAL 92801....714 871-5781
D SCHLECHT
NY E C Smith & Assoc 60 E 42nd St
New York....MU 2-6890
Wis Process Measurement & Control Box 7292
Milwaukee....774-3290
Can Camco Ltd Canada Box 4416 Edmonton Alb .435-2238

FLOW CORP 127 COOLIDGE HILL RD WATERTOWN
MASS 02172....617 491-1185
V THOMAS EMP 60 ENG 15 $1,000-$2,500M
Ala Technical Assoc 1000 Airport Rd SW
Huntsville....205 881-8494
Fla Technical Assoc 2319 E S St Orlando ..305 424-5681
Ill Marsland Assoc 1000 Executive Way
Des Plaines....312-775-1309
Md Scientific Marketing 8817 Hunting La
Laurel....301 776-5130
Mass Andruss-Peskin Corp Box 268 Natick ..617-653-3919
Mich S Sterling Co 21250 10-1/2 Mile Rd
Southfield....313 357-3700
Mo Marsland Assoc Box 567 Florissant ...314-831-0015
NY Measurement Technology 295 Northern Blvd
Great Neck....516-482-3500
Ohio S Sterling Co 5827 Mayfield Rd
Cleveland....216 442-8080
Pa Technitron Inc 114 Spring Grove Rd
Pittsburgh....412-371-1231
SC Technical Assoc Box 5583 Spartanburg .803 585-3864
Tex Leeco Box 26653 Houston....713-649-7727
Wash Cane-Topp Co Box 250 Bellevue......206-746-5750
Can Sigma Instruments Box 43
Toronto 18 Ont....416-239-8161
For Radionics Ltd 8230 Mayrand St
Montreal, Que....RE 9-5517
For Sovate Soc De Aparelhaugem E Estudos Tecnicos
Ltda Rua Pedro Nunes 47 Lisboa Port
Fr Aeromaritime Electronique 57 Ave D'ena Paris 16
Isrl L Kardos Box 11033 Tel Aviv

FLOW ELECTRONIC CABLE CORP 239 BINNEY ST
CAMBRIDGE MASS 02142....617 868-0860
E VECCHIA EMP 112 ENG 2 $1,000-$2,500M
Ala B J R Industries 9202 Navios Dr SE
Huntsville....205 881-1881

FLOW TECHNOLOGY INC 401 S HAYDEN RD TEMPE
ARIZ 85281....602 967-1550
J WOOD EMP 22 ENG 4 $500-$1,000M
Ala Kemp Engrg Co 4306 Governors Dr
Huntsville....837-4304
Ariz W E Sanderson & Assoc 5045 N 12 St
Phoenix....277-0077
Cal Kersta Sales, Inc 2555 N Altadena Dr
Altadena....791-1984
Conn Applied Measurements Inc 2335A Whitney Ave
Hamden....248-5048
Fla Griggs Assoc Box 13542 Orlando....855-4871
Ga Thomas Engineering Co 3867 Roswell Rd NE
Atlanta....261-5070
Ind The Laidlaw Co 11 W 17 St Indianapolis....923-7251
Mass Applied Measurements Inc Box 306 Acton ..263-2766
Mo Harris-Hansen Co 2814 S Brentwood Blvd
St Louis....647-4350
NJ Industrial Flow Control 19 N Harrison St
E Orange....672-5220
NC Systems Service Corp 3748 Monroe Rd
Charlotte....377-3407
Ohio L D Bruno Co Box 2444, Kettering Br
Dayton....434-1847
Pa Representatives Assoc 107 Forrest Ave
Narberth....839-3488
Tex Kemp Engineering Co 2618 Manana Dr
Dallas....FL 7-6663

FLOYD DRIVES CO 2560 W BARBERRY PL DENVER
COLO 80204....303-244-2066
M CAMPBELL EMP 6 ENG 2 $100-$250M

FLUID POWER SYSTEMS DIV AMBAC IND INC
661 GLENN AVE WHEELING ILL 60090 .312 537-5771
W KUEHN EMP 50 ENG 9 $2,500-$5,000M

FLUIDYNE INSTRUMENTATION 3685 MT DIABLO BLVD
LAFAYETTE CAL 94549....415-284-5824
R JENNINGS EMP 15 ENG 5 $250-$500M

Cal Expanded Rubber & Plastics Co
14000 S Western Ave Gardena.....213-321-4260
Wash H-J Sales Co 500 Wall St Seattle....206-MA3-4810

FLUKE MFG CO INC, JOHN BOX 7428 SEATTLE
WASH 98133....206 774-2211
J FROLAND EMP 650 ENG 40 $5,000-$10,000M
ADV PGS 280,448,506,585,617,700,702,706
Ala BCS Assoc Inc 2317 Bob Wallace Ave SW
Huntsville....534-1648
Ariz Barnhill Assoc 4900 E Indian School Rd
Phoenix....959-2115
Cal Instrument Specialists Inc 1109 S Central Ave
Glendale....245-9404
Cal Instrument Specialists Inc 2359 De La Cruz
Santa Clara....244-1505
Cal Instrument Specialists Inc 10459-A Roselle St
San Diego....453-1833
Colo Barnhill Assoc 1170 S Sheridan Blvd Denver .934-5505
Conn Instrument Reps Inc Box 165 Glastonbury ..633-0777
Fla BCS Assoc Inc 940 N Fern Creek Ave
Orlando....425-2764
Haw Industrial Electronic Inc 646 Queen St
Honolulu....506-095
Ill Cozzens & Cudahy Inc 9501 W Devon Ave
Rosemont....825-1144
Ind Cozzens & Cudahy Inc 44 Kirk Dr
Indianapolis....244-2456
Md Electronic Mktg Assoc 11501 Huff Ct
Kensington....744-7700
Mass Instrument Reps Inc 1046 Massachusetts Ave
Arlington....646-1034
Mich Technitron Inc 13657 Grand River Ave
Detroit....838-7324
Minn Cozzens & Cudahy Inc 7710 Computer Ave
Minneapolis....920-1022
Mo Cozzens & Cudahy Inc 10534 Natural Bridge Rd
St Louis....423-1234
NJ SBM Assoc 1519 Stuyvesant Ave Union....687-8737
NM Barnhill Assoc 827 Pennsylvania NE
Albuquerque....265-7766
NY SBM Assoc Inc 5858 E Molloy Rd Syracuse .454-9377
NY SBM Assoc, Inc 528 Old Country Rd
Plainview....433-1421
NY SBM Assoc 28 Hobby St Pleasantville.....769-1811
NY SBM Assoc 800 Linden Ave Rochester.....381-8330
NC BCS Assoc Inc 1039 E Wendover Ave
Greensboro....273-1918
Ohio Technitron, Inc 1250 W Dorothy La Dayton .298-9964
Ohio Technitron Inc 23203 Lorain Rd
North Olmsted....734-0960
Pa Electronic Mktg Assoc 210 Goddard Blvd
King of Prussia....248-5050
Pa Technitron Inc 114 Spring Grove Rd
Pittsburgh....371-1231
Tex Barnhill Assoc 507B Bishop St Richardson ..231-2573
Tex Barnhill Assoc 3810 Westheimer Houston ...621-0040
Wash Instrument Specialists Inc 5950 Sixth Ave S
Seattle....767-4260
Can Allan Crawford Assoc Ltd 65 Martin Ross Ave
Downsview....636-4910
Can Allan Crawford Assoc, Ltd 1285 Hodge St
Montreal 8 Que....747-9849
Can Allan Crawford Assoc, Ltd 376 Churchill Ave
Ottawa 3 Ont....725-1288
GB Fluke Intl Corp Garnet Close Watford WD2 4TT .27769
Neth Fluke (Nederland) NV Box 5053 Tilburg......70130
BC Allan Crawford Assoc, Ltd 721 Aldford Ave
New Westminster....524-1161

FLUORO-PLASTICS INC G & VENANGO STS
PHILADELPHIA PA 19134....215 GA 5-5500
H HIMBERT EMP 100 ENG 3 $250-$500M

FLUSH WALL RADIO CO
1012 CLEVELAND ST, BOX 1766 CLEARWATER
FLA 33517....813 444-6061
L SCHENCK EMP 6 ENG 1

FMC CORP, INORGANIC CHEMICALS DIV
633 THIRD AVE NEW YORK N Y 10017
TWX 710 581-4069....212 MU 7-7400
R PURCELL $100-$250M
Cal FMC Corp 15453 Gale Ave City of Industry .330-0680
Ill FMC Corp Box 191 Villa Park....TE 4-9500
Mass FMC Corp Fountain St Framingham....875-6141
NJ FMC Corp 1020 Kings Hwy Cherry Hill.....667-6550
NC FMC Corp 201 S Tryon St Charlotte......372-2400
Ohio FMC Corp 11750 Chesterdale Rd Cincinnati .771-7065
Tex FMC Corp 2990 Richmond Ave Houston ...JA 8-0564

F & M SYSTEMS CO, DIV FISCHBACH & MOORE,
INC 2525 WALNUT HILL LA DALLAS TEX 75220
TWX 910-860-5502....214 241-4242
R RANDALL EMP 225 ENG 50 $5,000-$10,000M
DC Howard Alsop 1019 22nd St N W
Washington....202 333-0800

FOOTE MINERAL CO RTE 100 EXTON PA 19341
TWX 510 663-9306....215 363-6500
R LONGENECKER EMP 1056 ENG 67
OVER $10,000M
Tenn D S Collins Box 479 Knoxville....524-1444

FORBES & WAGNER INC 345 CENTRAL AVE
SILVER CREEK N Y 14136
TWX 510 246-6940....716 934-2691
P GUERRA EMP 198 ENG 8 $1,000-$2,500M
Cal Woodworth Co Box 2165 Redwood City....365-0252
Colo Electronic Sales Inc Box 22011 Denver....771-6300
Ill J J McBride Sales 6054 Touhy Ave
Chicago....775-1080-1
Md J A Maguire & Co 5716 York Rd Baltimore..433-2613
Mich Butchart-Rathsburg & Assoc
16637 E Warren Ave Detroit....882-1717
Minn Ed Melius & Assoc 3758 N Dunlap St
St Paul....484-8541
NJ J A Maguire & Co 726 Cooper St Camden ..966-3118
NY Martin P Andrews Inc 319 Motts Rd
Fayetteville....637-3144
Tex Jack Yount Co 1431 Pleasant Dr Dallas....391-4125
Utah Electronic Sales Inc 4480 Camille Dr
Salt Lake City....278-6044
Wash Fred H Haight Co 3212 East Lake Seattle ..322-1818
Can Ryco Electronics Co 26 Sunnyside Ave
Pointe Claire....695-6236

FORCE ELECTRONICS 343 S HINDRY AVE
INGLEWOOD CAL 90301....213-776-1324
E RESNICK EMP 11 $500-$1,000M

FORD RADIO & MICA CORP 538 63RD ST BROOKLYN
N Y 11220 ....212 GE 9-8300
A LONG EMP 41 ENG 1 $250-$500M

FOREDOM ELECTRIC CO INC BETHEL
CONN 06801 ....203 748-3521
R CHONUS EMP 24 ENG 1

FOREST CITY FOAM PRODUCTS 299 CLAY ST
WELLINGTON OHIO 44090............216 647-2115
J HOLSCHUH EMP 60 ENG 3
Mich Forest City Foam Prods 610 N Woodward Birmingham 647-3151

FOREST ELECTRIC CO 1001 N 25TH AVE
MELROSE PARK ILL 60160...........312-626-0766
L CARSON EMP 80 ENG 3 $1,000-$2,500M

FORK STANDARDS INC 215 MAIN ST WEST CHICAGO
ILL 60185 ....312 231-3511
T MCCOLLUM EMP 20 ENG 4
ADV PGS 320,409
Cal Windsor Dynamics Inc Box 5500 Sherman Oaks ....213 ST 9-2421
Cal Windsor Dynamics Inc 195 Greer Rd Woodside 415-854-4870
Fla Component Sales Corp Box 9545 St Petersburg 813 360-7460
Fla Components Sales Corp Box 14523 Orlando 305 277-1510
Md Stemler Assoc Inc 6707 Whitestone Rd Baltimore 301 944-8262
Mass Forbes Engineering 19 Flint St Salem ..617 744-1693
Mich Harvey Teplitz & Co 26847 Grand River Ave Detroit 313-537-9058
NJ Stemler Assoc Inc Box 287 Cherry Hill ..609 966-4070
NY Frank Tylinski Co 338 Northern Blvd Great Neck 516 466-9070
Ohio Harvey Teplitz & Co 3718 Salem Ave Dayton 513-277-9178
Ohio Harvey Teplitz & Co 3945 Meadowbrook Blvd Cleveland 216-371-2044
Pa Stemler Assoc Box 711 Paoli 215-644-3477
Wash Benno Persitz & Assoc 2614 27th W Seattle ....206 AT 2-4860
Ital Soc AN NA srl Via Arimondi 8 Milano 32 27 40

FORMA SCIENTIFIC INC MILL CREEK RD
MARIETTA OHIO 45750 ....614 373-4763
D BERGEN EMP 109 ENG 2 $1,000-$2,500M
Md Regional Scientific Assoc Box 211 Rockville . OL 6-7890
Minn E J Doyle Co 4815 W 77th St Minneapolis ..922-1592
NY Frank R Wilson 172-12 33rd Ave Flushing ..IN 3-0675
Pa Kurt J Lesker Co 5635 Horning Rd Pittsburgh 892-2996

FORMCRAFT TOOL CO 6453 S BELL ST CHICAGO
ILL 60636..........................312 476-8727
B MARTIN EMP 20 ENG 2 $250-$500M
Mass Tri-Tek Inc 155A Bedford St Burlington....272-4550

FORMICA CORP 4614 SPRING GROVE AVE
CINCINNATI OHIO 45232..............513 541-3670
K PITT EMP 2000 ENG 20
Cal Formica Corp 116 N Robertson Blvd Los Angeles 723-6411
Conn Formica Corp 43 S Main St W Hartford 236-2431
Ga Formica Corp 5180 Peach Tree Ind Blvd Chamblee 457-0261
Ill Formica Corp 10401 W Touhy Ave Rosemont 827-8871
Ind Formica Corp 1010 E 86th St Indnpls 846-5818
Mass Formica Corp 480 Adams St E Milton 696-8600
Mich Formica Corp 21040 Greenfield Rd Oak Park 566-2610
Mo Formica Corp 5025 Pattison Ave St Louis ..664-5306
NY Formica Corp 111 W 50th St New York 956-4650
Ohio Formica Corp 20545 Center Ridge Rd Cleveland 333-3400
Pa Formica Corp 185 Commerce Dr Ft Washington 646-7000
Tex Formica Corp 7611 Carpenter Frwy Dallas ..631-2130
For Cyanamid Intl Berdan Ave Wayne, NJ 831-1234

FORMICA METAL PRODUCTS CO INC
220 CORPORATION WAY MEDFORD
MASS 02155........................617 395-5656
C FORMICA EMP 45 ENG 1 $250-$500M
ADV PG 58

FORMULABS INDUSTRIAL INKS INC
529 W 4TH AVE, BOX 1056 ESCONDIDO
CAL 92025 ....714 745-6423
J BLANKINSHIP EMP 32 ENG 5
$5,000-$10,000M
Cal Peters de Laet 1606 Rollins Rd Burlingame.......................415-697-1800
Fla H R Gross Box 4607 Clearwater 813-446-6649
Ill John Ratkovic 500 N Golf La Lake Forest 312-234-5549
Md E Man 99 Eldrid Dr Silver Spring 301-622-2100
Mass F C Talbot Box 366 Weston 617-893-6877
Minn E M Anderson 5231 Humboldt Ave S Minneapolis 612-823-6459
NY J Maloney 115 Sunnybrook Dr Syracuse 315-488-3440
Tex J Sivright 10028 Monroe Dr Dallas....214-357-6681
Can Mainguys Ltd 6033 Hamilton St Montreal, Que 766-7718

FORNEY INDUSTRIES INC 1830 LAPORTE AVE
FORT COLLINS COLO 80521 ....303 482-7271
T ANDERSON EMP 500 ENG 3 $5,000-$10,000M

FORTIN LAMINATING CORP 1323 TRUMAN ST
SAN FERNANDO CAL 91340 213-365-9651
R CARTER EMP 185 ENG 6
Ariz J K Anthony 2455 N Sonoita Pl Tucson .602-298-2875
Conn Currier & Co 221 W Main St Avon 203 677-2663
Ill James Bunting Box 306 Arlington Heights.................312 392-3370
Mass Cirolia, LeBlanc Sales Co, Inc 976 Main St Waltham........................617 893-2742
Minn P J Codute & Co 4542 4th St NE Minneapolis 612-560-1222
Tex P J Scanlon Co Inc 724 S Sherman St Richardson 214 231-4661
Utah Arrowhead Sales Corp 1966 W 6255 S Salt Lake City 801-487-3444
Can Spaulding Fibre 7 Waulron St Etobicoke Ont....................416-233-2151
Ger Spaulding Fibre Op'n Mohlnrad 11 2 Hamburg 66
GB Spaulding-Russell Broadford Mills Guildford Surrey
Jap Osada & Co Ltd 23-12 Taito 1-Chome Taito-Ku Tokyo
Belg Litton 16 Rue Du Musse Brussels

FORWAY INDUSTRIES INC 122 GREEN AVE
WOODBURY N J 08096................609 845-0804
J FARBER EMP 36 ENG 4 $500-$1,000M

FOSTER & ALLEN INC 26 COMMERCE ST CHATHAM
N J 07928..........................201 635-7766
E FOSTER EMP 12 ENG 1 $250-$500M

FOSTER ELECTRIC CO LTD
512 MIYAZAWACHO, AKISHIMA-CITY TOKYO
JAPAN 0425-41-2311
K NAKAHARA EMP 920 ENG 55 OVER $10,000M
Ill Foster Electric Co Ltd 230 N Michigan Ave Chicago 263-7107

FOSTER TRANSFORMER CO 3820 COLERAIN AVE
CINCINNATI OHIO 45223.............513 681-2420
A REYNOLDS EMP 300 ENG 16 $2,500-$5,000M
Cal Penwarden Assoc 14547 Titus St Van Nuys .782-4920
Colo Waugaman Assoc Inc 2785 N Speers Blvd Denver 255-5000
Ill Wm F Swinke 3014 Colfax St Evanston ...UN 4-3576
Ind Ralph Haffey Co 4127 N Clinton Ft Wayne ..748-1159
Ky George W Thelen Co 3273 New Orleans Dr Ft Mitchell.........................341-8181
Md J A Maguire Co 5716 York Rd Baltimore ...433-2613
Mo Robt Uthoff Co Box 300 Fenton 314-343-4059
NH Engineering Assoc 319 Lincoln St Manchester 603-623-7294
NJ Maple Assoc 22 Park Ave Maple Shade 665-6152
NY Alto Assoc Box 211 Midwood Sta Brooklyn ..253-6295
Ohio Martin-Rettger 11955 Shaker Blvd Cleveland 216-791-8787
Pa Russell F Clark Co 10517 Lindberg Ave Pittsburgh 412-242-9500
Tex Carey & Assoc 3315 W 12th St Houston 713-869-3623
Wis G Tollaksen 610 Main St Racine..........ME 2-2345

FOSTORIA-FANNON INC 1200 N MAIN ST
FOSTORIA OHIO 44830 ....419 435-7721
R WILLIAMS
Ala R Warnock, Inc 15 Office Park Cir Birmingham 871-1022
Cal Fostoria-Fannon Inc Box 311 City of Industry 213-330-1019
DC Walter Lanchak Co 24 E Springfield Springfield, Pa.......................544-3333
Fla Aerodyne Engineering Box 17057 Orlando...295-4440
Ga W L Anderson 81 S Bay Dr Jonesboro ..404 478-9648
Ill Thermal Process Engrg Co 4233 W Lawrence Ave Chicago 283-7211
Ind W Dale McBride 3920 Nokomis Rd Ft Wayne...........................744-8040
Iowa Vogel Paint & Wax Co 615 Albany Ave Orange City.......................712 737-4995
Mass Interlux Corp 17 Lewis Wharf Boston 742-0031
Mich H G Russell Co 20700 Ecorse Rd Taylor 383-3425
Mo Gillespie & Powers Inc 4829 Easton Ave St Louis 314 533-4110
NJ Fostoria-Fannon Inc 1509A Stuyvesant Ave Union 201 687-8717
NM Alpine Infra Red Htg Box 6343 Albuquerque 505 344-2307
NY Bacon & Co 78 Princeton Pl Orchard Park ..662-5560
Ohio Walter H Rhoades Assoc 184 Linden Dr Centerville 433-2631
Pa Pittsburgh Processing Equip Co Box 8740 Pittsburgh 371-0900
Tex Jennings Sales Co 9923 Mill Trail Dr Dallas...........................214-341-1115
Utah Mfrs Electrical Sales Agency 545 S 2nd W Salt Lake City 364-8466
Wash Walsh-Ehlers, Inc 1138 Poplar Pl S Seattle .322-1155

FOURJAY INDUSTRIES 2801 ONTARIO AVE DAYTON
OHIO 45414 ....513 278-2924
J FULKERSON $100-$250M
Cal Feldman-Roberts & Assoc 9724 Washington Blvd Culver City 213 870-5973
Colo J A Gedney Co 6895 W 5th Ave Denver .303-238-3112
Conn G Smith 188 Brewster Rd W Hartford ..203-523-0512
Fla World Wide Products Inc 1999 NE 150th St N Miami Beach...................305-949-3457
Ga Robt Gale Box 1106 Decatur
Ill L F Green & Assoc 5218 W Diversey Ave Chicago 312-286-6824
Ind Frank Weeks Sales Co Box 491 Carmel .317-846-0296
Mass Robert Smith Co 59 Verndale St Brookline 607-277-0017
Minn Carl M Co 1926 Wellesley Ave St Paul .612-699-8004
Mo Havercamp & Day Co 8115 Troost Ave Kansas City 816-444-2871
Nev Technical Sales Assoc 1485 Bayshore Dr San Francisco Cal................415-334-3161
NY Joseph Assoc 6 Grace Ave Great Neck ..516 487-9395
NC T Walker Jr Box 8430 Asheville 704-252-7092
Ohio H H Seay Co 1350 Crestwood Dr Columbus 614-235-0265
Pa Martin Weinberg 1122 E Clivesen St Philadelphia 215-549-1122
Tex Wyborny Sales Co Box 17070 Dallas ..214-381-4645
Wash Electro-Reps Inc Box 9285 Seattle ...206-284-1121
Can Len Finkler Ltd 2 Tycos Dr Toronto 781-5231

FOXBORO CO MECHANIC ST FOXBORO
MASS 02035 ....617 543-8750
E KELLY EMP 6500 ENG 900 OVER $10,000M
Ala Foxboro Co 4 Office Pk Circle Birmingham ..871-0319
Cal Foxboro Co 399 Preda St San Leandro 562-5525
Colo Foxboro Co 1111 S Colorado Blvd Denver...757-6106
Conn Foxboro Co 45 S Main St W Hartford 236-3577
Del Foxboro Co 1815 Newport Gap Pike Wilmington..........................994-5738
Fla Foxboro Co 5440 Mariner St Tampa 872-7884
Ga Foxboro Co 3393 Malone Dr Chamblee.....457-3154
Haw Berkley Eng & Equip Co Box 3856 Honolulu ..581-921
Ill Foxboro Co 1901 S Busse Rd Mt Prospect ..439-2070
Ind Foxboro Co 2824-D 173rd St Hammond ...845-3676
Iowa Foxboro Co 2872 Forest Rd Davenport.....326-2611
Kan Foxboro Co 5460 Buena Vista Mission.....CO 2-1262
La Foxboro Co 2925 Plank Rd Baton Rouge ...EL 7-0628
Me Foxboro Co 256 Water St Augusta 622-0601
Md Foxboro Co 6229 N Charles St Ave Baltimore ....DR 7-9000
Mass Foxboro Co Rte 1 Walpole 668-6331
Mich Foxboro Co 22142 W 9 Mile Rd Southfield ..353-3930
Minn Foxboro Co 4060A Trenton La N Mnpls 927-6460
Mo Foxboro Co 11771 Natural Bridge Rd Bridgeton..........................739-9222
NJ Foxboro Co 80 Morris Ave Springfield .....DR 9-4000
NY Foxboro Co 620 Columbia Tpk E Greenbush ....GR 7-9397
NC Foxboro Co 725 Providence Rd Charlotte ...376-8452
Ohio Foxboro Co 5968 Montgomery Rd Cincinnati.731-5600
Okla Foxboro Co 4836 S Peoria St Tulsa ....RI 3-4096
Ore Foxboro Co 5505 S E Milwaukie Ave Portland..........................BE 4-0209
Pa Foxboro Co 2270 Noblestown Rd Pittsburgh .922-3000
SC Foxboro Co S Pleasantburg Dr, 252 Bldg Greenville..........................233-4184
Tenn Foxboro Co 4711 Old Kingston Pike Knoxville 588-9601
Tex Foxboro Co 1240 Petroleum Bldg Beaumont.........................TE 2-9949
Utah Foxboro Co 2520 S State St Salt Lake City .486-0133
Va Foxboro Co 1910 Byrd Ave Richmond .....AT 8-1977
Wash Foxboro Co 4210 Stone Way N Seattle ...ME 3-3660
WVa Foxboro Co 417 D St Charleston 744-5321
Wis Foxboro Co 3005 W College Ave Appleton ..RE 9-1153
For Foxboro Americana Inc 1500 F D Rooselvelt Ave, Caparra Hgts San Juan, PR......................782-8033

FOXBORO CO VALENICA PLANT
28020 AVE STANFORD VALENCIA CAL 91355
TWX 910-336-1436 ....805 259-8080
J WILSON EMP 120 ENG 20
Ala Foxboro Co 4 Office Pk Circle Birmingham 205-871-0319
Cal Foxboro Co 9550 Flair Dr El Monte ...213-283-6693
Colo Foxboro Co 1111 S Colorado Blvd Denver 303-757-6105
Conn Foxboro Co 45 S Main St West Hartford 203-236-3577
Del Foxboro Co 1815 Newport Gap Pike Wilmington........................302-994-5738
Fla Foxboro Co 5440 Mariner St Tampa ..813-872-7884
Ga Foxboro Co 3393 Malone Dr Chamblee .404-451-0201
Haw Berkley Engrg & Equip Co Box 3856 Honolulu...........................581-921
Ill Foxboro Co 1901 S Busse Rd Mt Prospect 312-439-2070
Ind Foxboro Co 2824-D 173rd St Hammond.........................219-845-3676
Iowa Foxboro Co 2872 Forest Rd Davenport .319-326-2611
Kan Foxboro Co 5460 Buena Vista Mission .913-262-1262
La Foxboro Co 2925 Plank Rd Baton Rouge.....................504-357-0628
Me Foxboro Co 256 Water St Augusta....207-622-0601
Md Foxboro Co 6229 N Charles St Ave Baltimore 301-377-9000
Mass Foxboro Co Neponset Ave Foxboro 617-543-8750
Mich Foxboro Co 22142 W 9 Mile Rd Detroit 313-353-3930
Minn Foxboro Co 4815 W 77th St Mnpls ...612-920-4222
Mo Foxboro Co 2280 Administration Dr St Louis 314-542-4377
NY Foxboro Co 420 Lexington Ave New York 212-532-4682
NC Foxboro Co 725 Providence Rd Charlotte 704-376-8452
Ohio Foxboro Co 1579 W 117th St Cleveland 216-226-1060
Okla Foxboro Co 4836 S Peoria St Tulsa ...918-743-4096
Ore Foxboro Co 3835 NE Hancock St Portland.........................503-282-4545
Pa Foxboro Co 4 W Manilla Ave Pittsburgh 412-922-3000
SC Foxboro Co S Pleasantburg Dr Greenville 803-233-4184
Tenn Foxboro Co 3637 Park Ave Memphis ..901-452-4427
Tex Foxboro Co 6440 Southwest Frwy Houston..........................713-SU2-3150
Utah Foxboro Co 2520 S State St Salt Lake City 801-486-0133
Va Foxboro Co 1910 Byrd Ave Richmond ..703-288-1977
Wash Foxboro Co 4210 Stone Way N Seattle.........................206-633-3660
WVa Foxboro Co 417 D St Charleston 304-744-5321
Wis Foxboro Co 3005 W College Ave Appleton 414-739-1153
Can Foxboro Co Ltd 707 Dollard Ave La Salle, Que 514-366-4210
For Foxboro Americana Inc 1500 F D Roosevelt Ave San Juan, Pr 782-8033

FOX CO, C J 236 ABORN ST PROVIDENCE
R I 02904 ....401 421-2000
R KAPLAN

FOX VALVE DEVELOPMENT CO INC
2E GREAT MEADOW LA HANOVER
N J 07936 .... 201 887-7474
Z FOX EMP 12 ENG 3 $250-$500M

FRANCIS INDUSTRIES 11855 BROAD ST
PATASKALA OHIO 43062 .... 614 927-4091
C FRANCIS EMP 10 ENG 2 $100-$250M
Cal F Sacks 914 E Armstrong
Santa Maria 805-WA 2-4111
Ga L Sherman 113 Montgomery Crossroads
Savannah 912-354-4542
Ill Loren F Green & Assoc 5218 W Diversey Ave
Chicago .... AV 6-6824
Neb Claasen Co 308 N Main St Fremont 402-654-3695
Tex A Palmer 4943 N Hall St Dallas 214-LA 1-0952

FRANKE GEAR WORKS INC
4401 N RAVENSWOOD AVE CHICAGO
ILL 60640 .... 312 LO 1-0950
A MACKMANN EMP 50 ENG 3
Cal P C Patterson Co 102 Brand Blvd Glendale . CH 5-4463
Conn Zaslow Sales Co Inc 526 Farmington Ave
Hartford .... AD 6-3265
Mich Dorac Sales Co 20026 James Couzens
Detroit 342-3131
Mich Doral Sales Co 20026 James Couzens
Detroit 342-3131
Ohio G T Wright Box 2950 Cleveland .... ED 1-8656

FRANKEL ENGINEERING LABS INC 125 S 5TH ST
READING PA 19603 TWX 510-651-0491 . 215 373-5205
E SHEETZ EMP 15 ENG 3 $100-$250M

FRANKLIN ELECTRIC CO INC 400 E SPRING ST
BLUFFTON IND 46714
TWX 810-323-1491 .... 219 824-2900
L BECHLER EMP 1050 ENG 25 OVER $10,000M
Cal Franklin Elec Co 5440 Pomona Blvd
Los Angeles 685-5352
Colo T D Miller Assoc Box 22301 Denver 756-1122
Ga A Brown Assoc 1444 Tully Circle NE
Atlanta 636-9446
Ill Franklin Elec Co 6516 W Higgins Ave
Chicago 763-0510
Ind Franklin Elec Co 5616 Indiana Ave
Fort Wayne 744-0657
Mass Franklin Elec Co Box 92 Hanover 826-6001
Minn Franklin Electric Co 15393 Boulder Creek Dr
Minnetonka 933-1717
Mo Franklin Elec Co 453 N Lindberg Blvd
Creve Coeur 997-0665
NY Franklin Elec Co 1800 Penfield Rd Penfield .. 381-8160
NC R W Chapman & Co Box 4430 Charlotte ... 375-4495
Ohio Franklin Elec Co 407 Lansdale Ave Dayton .. 298-9315
Okla Franklin Elec Co 5515 E Skelly Dr Tulsa ... 622-1389
Pa Franklin Elec Co Box 666 Levittown 949-1222
Tex Franklin Elec Co 6162 E Mocking Bird La
Dallas 526-2404

FRANKLIN FIBRE-LAMITEX CORP
900-902 E 13TH ST WILMINGTON
DEL 19899 .... 302 652-3621
J VACHRIS EMP 45 ENG 5 $1,000-$2,500M
Ark Industrial Sales Co 6512 Juniper Rd
Little Rock .... LO 2-5852
Fla R F Rathbun 201 NE 2nd St Ft Lauderdale
Ill Mfrs Sales Assoc 5483 N Northwest Hwy
Chicago 631-0258
Mich Wm S Stann, Inc Box 3763 Oak Park 342-8400
Mo Ed Ershen & Assoc 7701 Forsyth Clayton .. PA 7-2240
NY Franklin-Fibre Lamitex 135 Lafayette St
New York 226-4376
Ohio Tarkington Assoc 214 Harvard Ave
Terrace Park 513 831-1069
Pa Donovan Assoc Box 212 Exton 215 269-4436
Tex Jerry Fisch & Co Box 16153 Fort Worth ... 926-7601
Wis J A Murphy & Assoc Fennimore La
Hales Corners .... GA 5-0944

FREDERICK ELECTRONICS CORP BOX 502
FREDERICK MD 21701 TWX 893 438 ... 301 662-5901
J HARTER EMP 110 ENG 12 $1,000-$2,500M
Md E J Warner 9911 Carter Rd Bethesda .. 301 469-8904
Can J Manning Box 175 Roxboro Que 514-684-5657

FREDERICKS CO PHILMONT AVE & ANNE ST
HUNTINGDON VALLEY PA 19006
TWX 510-665-5123 .... 215 WI 7-2500
R HENASEY EMP 183 ENG 7 $1,000-$2,500M
Ala Holcombe Sales Agency, Inc Box 1343
Huntsville 539-1929
Cal Long & Assoc 505 Middlefield Rd
Redwood City 369-3324
Conn Northeast Eng 3013 Dixwell Ave Hamden .. CH 8-4481
Ga Holcombe Sales Agency Box 12428 Atlanta . 233-2837
Ill Clarkson Eng Co 5518 W Lawrence Ave
Chicago 286-2314
Ind Technical Sales & Mktg 1121 N Arlington Ave
Indianapolis 356-3658
Kan Lawrence L Hill 1635 Garland Ave Wichita . AM 7-7167
Md B Fuller 11657 Lockwood Dr Silver Spring .. 593-6986
Mass Northeast Eng 5 Elm St Danvers .... SP 4-3010
Mich K J Lesker Co 5635 Horning Rd Pittsburgh .. 245-2580
NJ Control Equipment 315 Market St Palmyra . 829-1447
NY Northeast Engrg Inc 124 Trumbull Rd
Manhasset 365-9633
Pa Kurt J Lesker Co 5635 Horning Rd
Pittsburgh 653-0800
Wis Process Msmt & Control Box 7292
Milwaukee 774-3290
Can W K Davidson & Co 234 Eglinton Ave, E
Toronto, Ont .... BE 1-2911

FREED TRANSFORMER CO INC 1736 WEIRFIELD ST
BROOKLYN N Y 11227 .... 212-EV6-1300
M SALZBERG EMP 350
Cal Robt G Moye Co 244 Milton Dr San Gabriel . CU 3-1669
Colo Nelson Co 710 E Louisiana Ave Denver .... PE 3-5528
Ga Floyd Fausett & Co 2264 Melinda Dr NE
Atlanta 633-3561
Ill Technical Devices Inc 6416 N Central Ave
Chicago 312 774-8252
Md Bernard White & Co 7 Church La
Baltimore 301 484-5400
Mass Henry P Segel Co 386 Washington St
Brookline .... BE 2-7525
Mo Automatic Gen Elctn Sales 6550B Troost Ave
Kansas City .... DE 3-8206
NJ Sunday-O'Brien 15 Potter St Haddonfield .. 429-4013
NY C W Floring & H R Murray Inc 3001 James St
Syracuse .... HO 3-5294
Ohio Scott Electronics Inc 1836 Euclid Ave
Cleveland .... TO 1-2626
Tex R F Kimball & Co 5531 Dyer St
Dallas .... 214 EM 3-5431
Wash M K Widdekind & Co 221 1st Ave N
Seattle .... AT 4-4869
Can Conway Electronic Ent Ltd 88-90 Arrow Rd
Weston, Ont 244-5655
For Morhan Exporting Corp 458 Broadway
New York, NY .... WA 5-1257

FRENCHTOWN/CFI INC 8TH & HARRISON ST
FRENCHTOWN N J 08825
TWX 510-235-3399 .... 201 996-2121
J FREDERICKS EMP 310 ENG 15
$2,500-$5,000M
Ariz A Waddell Box 1086 Mesa 602 969-7281
Cal F Bates, L Rauscher Box 8
Mountain View 415 961-5310
Fla S Bialek 224 Datura St
West Palm Beach 305 833-6877
Ill J Kiehm 6124 Milwaukee Ave Chicago 631-1187
Mass W Irish 666 Main St Reading 944-7000
Mich Pickl Assoc 2475 Adare Rd Ann Arbor .. 313 761-7777
Minn D G Perry & Co 5010 France Ave So
Minneapolis 612 920-3212
Mo J Lucas 34 N Brentwood Blvd St Louis . 314 862-6535
NY T Fisher 320 LI Expressway S Melville 694-7900
NC Electro-Rep Assoc 128 W 30th St
Charlotte 704 333-0451
Ohio J Shay 2204 S Patterson Blvd 1
Kettering 513 298-0972
Pa J Barnett 328 Maple Ave Horsham 215 672-4916
Tex C Smith Box 41 Richardson .... 214 AD 5-2307
Can Anbak Sales Can Ltd 3208 Lenworth Dr
Cooksville, Ont 625-1061
For Teknis South St Plainville Mass 617-695-3591
Fr SAPCO 7 Rue De Dieppe Courbevoie, Seine .. 333-4343
GB Kemtron Intl Trading Ltd Metropolitan House
Southend-on-Sea Essex

FREQUENCY ELECTRONICS INC 3 DELAWARE DR
NEW HYDE PARK N Y 11040
TWX 510-223-0418 .... 516 328-0100
A LAZAR EMP 200 ENG 30 $2,500-$5,000M
Ala Intl Scientific Instr Box 2091 Huntsville 536-9686
Cal Windsor Dynamics Inc Box 5500
Sherman Oaks 789-2421
Colo D E Bond Assoc 2149 S Clermont St Denver . 756-1234
Fla Truex Assoc 3165 McCrory Pl Orlando 841-8931
Ind Tech Line Corp 2512 East Dr Fort Wayne .. 742-4510
Mass Compar New England 88 Needham St
Newton Highlands 969-7140
Mo Zak & Assoc Inc 230 S Bemiston Ave
St Louis 727-8559
NY C R Mayer Co Box 152 Huntington 921-7876
Pa Elcom Inc 130 S Easton Rd Glenside 885-1325
Tex R Martin Assoc Box 64513 Dallas 358-3704
Wash Associated Industries 3711 S Hudson St
Seattle 722-3347
Can Technical Mktg Assoc Ltd 6 Thorncliffe Sq
Toronto, Ont 425-1975

FREQUENCY ENGINEERING LABS
FARMINGDALE-LAKEWOOD RD FARMINGDALE
N J 07727 TWX 201-938-2456 .... 201 938-9221
G TIRONE EMP 1000 ENG 50 $5,000-$10,000M
Ala J L Highsmith & Co 3322 S Memorial Pkwy
Huntsville 881-3294
Ariz Moxon Electronics Corp 15 N 40th Pl
Phoenix 273-7363
Cal Moxon Electronics Corp 2311 Pontius Ave
Los Angeles 272-9311
Colo F Y Gates Co Inc 3401 S Bannock St
Englewood 303 761-0591
Conn Applied Measurements, Inc 2531 Whitney Ave
Hamden 288-5288
Fla J L Highsmith & Co 2543 Industrial Blvd
Orlando 293-5205
Ill Carter Elctns 7203 S Western Ave Chicago
Ind Carter Elctns Inc 6333 Hollister Dr Indianapolis
Iowa Engineering Services Co 1026 3rd Ave SE
Cedar Rapids 366-1591
Kan Engineering Services Co 7924A State Line
Prairie Village 649-4000
Md K G Sales Box 2025 Wheaton 301 946-4055
Mass Applied Measurements, Inc 86 Hayward Rd
Acton 263-2766
Mich Micro Sales Corp 650 Greenlawn
Ypsilanti 313 482-0880
Minn Carter Elctns Inc 2401 W 66th St Minneapolis
Mo Engineering Services Co 6717 Vernon Ave
St Louis 726-2233
NM F Y Gates Co 2631 Texas NE
Albuquerque 505 298-1875
NY NACO Electronics Corp 119 Luther Ave
Liverpool 474-7481
NC J L Highsmith & Co 3733 Monroe Rd
Charlotte 333-7743
Ohio Micro Sales Corp 1250 W Dorothy La
Dayton 298-3033
Pa Micro Sales Corp 239 Fourth Ave
Pittsburgh 281-3228
Tex Carey Wolf Co Box 12425 Fort Worth 738-1702
Utah F Y Gates Co 455 E Fourth St Salt Lake City
Va J L Highsmith & Co 5003 Brook Rd
Richmond 266-2060
Wash Harry Levinson & Co 1211 E Denny Way
Seattle 232-5100
Can Megatronix, Ltd 954 Wilson Ave
Downsview Ont 416-630-7672

FREQUENCY SOURCES INC BOX 159 KENNEDY DR
N CHELMSFORD MASS 01863
TWX 710 343-6506 .... 617 251-4921
D VINING EMP 50 ENG 9 $1,000-$2,500M
Ala Currie Aerospace Box 1424 Huntsville .. 205 536-5650
Ariz Thorson Co 2505 E Thomas Rd
Phoenix 602-956-5300
Cal 3 DBM 5388 Sterling Ctr Dr
Westlake Vlg 213-889-2300
Colo A L S Electronics 1932 14th St
Boulder 303 447-2436
Fla Currie Aerospace Box 13229 Orlando .. 305 855-0843
Ill Communications Engineers 7100 N Western
Chicago 312 701-0548
Mass Resco Inc 7 Skyfield Dr Groton 617 448-5822
NJ Schibley Assoc 401 Cooper Landing
Cherry Hill 609 424-1894
NM A L S Electronics Box 11626
Albuquerque 505 298-2575
NY H A F Spectrum Assoc 35 Broadfield Rd
New Rochelle 914 632-3800
Tex Thorson Co 7700 Carpenter Fwy Dallas . 214 631-5440
Va Schibley Assoc 10604 Warwick Fairfax . 703 591-3008
Can Technitron 769 La Joie Dorval, Que 819 631-6859
For Microwave Intl 111 High Ridge Rd
Stamford 203 348-7704

FRIDEN DIV SINGER CO 2350 WASHINGTON AVE
SAN LEANDRO CAL 94577 .... 415 357-6800
F BUCKLEY EMP 15000 ENG 400
$1,000-$2,500M
Sales Offices Located Throughout the Worl

FRIEDEL ELECTRONICS PANEL CO
10500 S ATLANTIC BLVD SOUTH GATE
CAL 90281 .... 213 567-7475
E FRIEDEL EMP 6 ENG 1 UP TO $100M

FRIEDRICH & DIMMOCK, INC 565 E HARDING HWY
MAYS LANDING N J 08330 .... 609 825-0305
R YARDLEY

FRL INC FISHER RESEARCH DIV
1890 EMBARCADERO PALO ALTO
CAL 94303 .... 415 322-4646
D HOUSH EMP 65 ENG 4 $1,000-$2,500M

FROST ELECTRONICS CORP 1 GODDARD DR
ROCKAWAY N J 07866
TWX 710-987-8404 .... 201 625-0222
C HOWARD EMP 50 ENG 3 $100-$250M
Ala C & D Sales 15333 Pearson Ave SW
Birmingham 205 787-8691
Cal M H R Co 8647 Arbor Dr El Cerrito 415-527-2604
Fla Maurice M Henning & Co 1190 NW 179th Ter
Miami 305 624-5832
Ill Actronic Sales Engrg 4750 N Milwaukee Ave
Chicago 312 286-1037
Ind Law Instrument Box 95 Angola 219 665-6016
Mass Moisan Assoc 287 Mt Hope St Lowell .. 617 452-5003
Mich Geo R Peters Assoc 3347 Coolidge Hwy
Berkley 313 564-6325
Minn Chas F VanderVoort 1279 Osage St
St Paul 612 489-5222
Mo Williams Equip Co Inc 453 N Lindberg
St Louis 314 997-1030
NJ R L Faber Assoc 460 Colfax Ave
Clifton 201-773-8900
NC Reynolds Cowardin Assoc Box 9764
Richmond 703-266-3457
Ohio Schlemmer Assoc 1172 West Galbraith Rd
Cincinnati 513-522-8340
Pa J H Baker & Son 1811 Callowhill Ave
Philadelphia 215 563-4621
Tex Productive-Equip Assoc Box 880
Bellaire 713 668-2533
Can E W Playford Co 5851 Upper Lachine Rd
Montreal Que 514 489-5383
Can E W Playford Co 20 Enterprise Rd
Rexdale Ont 416-248-0176

FROST ENGINEERING DEVELOPMENT CORP
3900 S KALAMATH ENGLEWOOD
COLO 80110 .... 303 761-1010
L NORDINE EMP 36 ENG 6 $250-$500M

FUGLE-MILLER LABS INC 130 MARKET ST
KENILWORTH N J 07033 .... 201 241-4411
S DOBRACKI EMP 48 ENG 3 $250-$500M

FUJI ELECTRIC CO LTD
1-1, MARUNOUCHI, CHIYODA-KU TOKYO
JAPAN 211-7111
S MIYASAKI EMP 18600 ENG 3200
OVER $10,000M
Ger Fuji Denki Verbindungsstelle Sieboldstr 5
852 Erlangen .... ERL 811

FUJI ELECTROCHEMICAL CO LTD
5-36 SHINBASHI MINATOKU TOKYO JAPAN . 434-1271
H SUZUKI EMP 2500 ENG 350 OVER $10,000M
NY Fuji Electrochemical Co Ltd 437 5th Ave
New York .... 212 LE 2-5630
Ger Fuji Electrochemical Hamburg 36
Neur Wall 34 36-32-86

FUJI PHOTO FILM CO LTD
26-30 NISHIAZABU 2-CHOME
MINATO-KU TOKYO 106 JAPAN 406-2111
T SHIBATA EMP 10,000 ENG 1,000
OVER $10,000M
NY Fuji Photo Film U S A Inc 350 Fifth Ave
New York .... 212 PE 6-1800

FUJITSU LTD MARUNOUCHI TOKYO JAPAN 216-3211
Y KITAGO EMP 25000 ENG 7000 $250-$500M
GB Walmore Electronics Ltd 11 Betterton St
London WC2 . . . . TEM 0201-5
Swed Scapro AB Kungsbroplan 2 Stockholm K 530436

FULLER CO, H B 1150 EUSTIS ST ST PAUL
MINN 55108 TWX 029-7005 . . . . 612 645-3401
A ANDERSEN EMP 700 ENG 2 OVER $10,000M
Cal H B Fuller Co 16421 Phoebe Ave
La Mirada 714 523-0500
Colo H B Fuller Co 8 S Franklin Cir Littleton . 303 761-0132
Fla H B Fuller Co 107 N 20th St Tampa . . . 813 248-5814
Ga H B Fuller Co 655 Mead St SE Atlanta . 404 622-3502
Ill H B Fuller Co 904 W Blackhawk St
Chicago 312 642-6300
Kan H B Fuller Co 200 Funston Rd
Kansas City 913 342-3615
Ky H B Fuller Co 649 W Hill St Louisville . . 502 637-5441
Mass H B Fuller Co 23 Summer Ave Waltham . 617 899-5010
Mich H B Fuller Co 12800 Mt Elliott Detroit . 313 891-4418
Minn H B Fuller Co 2267 Como Ave St Paul . . 612 645-3401
NJ H B Fuller Co 383 Kings Hwy
Cherry Hill 609 667-4535
NY H B Fuller Co 155 Isabelle St Buffalo . . 716 875-6366
NC H B Fuller Co 2204 Sullivan St
Greensboro 919 272-1178
Ohio H B Fuller Co 4020 Cherry St
Cincinnati 513 681-5420
Ore H B Fuller Co 9903 N Hurst St
Portland 503 285-6643
Tenn H B Fuller Co 802 Royal Ave Memphis . . 901 526-1221
Tex H B Fuller Co 2217 Laws St Dallas 214 742-3627
Can H B Fuller Co Can Ltd 250 Midwest Rd
Scarborough Ont 416 755-7725
Can H B Fuller Co Can Ltd 1400 Sargent Ave
Winnipeg Man 204 783-4942
For Fuller Adhesives Intl 10731 NW 7th Ave
Miami Fla 305 758-4768
For Adhesives (Malaysia) Ltd Box 401
Kuala Lumpur Selangor
For Kativo Chem Ind Ltd Box 4178 San Jose C R . . 215044
For Mercadeo Ind S A Apartado Postal 2457
Managua Nic 51-51
For Adhesivos Ind S A Casilla 681 Lima Peru
For Fuller Adhesives Overseas Inc Bayamon P R . 785-5973
Arg Fuller Argentina S A Venezuela 1578
Buenos Aires 37-7971
Aust Davis-Fuller Adhesives Pty Ltd 28 Spring St
Botany 666-9211

FULLMER ELECTRONICS INC 18125 NAPA ST
NORTHRIDGE CAL 91324 . . . . 213 886-1300
D FULLMER EMP 29 ENG 2 $250-$500M
Ariz C J Dorr 132 S Stetson Scottsdale 946-6213
Fla Tech Rep Assoc Box 8218 Madiera Bch 391-0008
Ill Audio Sound Sales Co 2919 1/2 Armitage Ave
Chicago 342-1600
Mass R Perron & Co 1870 Centre St Boston . . 617 323-1008
Mo Wood & Anderson 7477 Clayton Rd
St Louis . . . . VO 3-6678
Tex J Mitchell & Assoc Box 34031 Dallas 352-4748
Utah Paratech 9210 28th NW Seattle . . . . SU 4-6447

FULTON SYLPHON DIV ROBERTSHAW CONTROLS
CO BOX 400 KNOXVILLE TENN 37901 . . 615 546-0550
G OGDIN JR EMP 1500 ENG 50 OVER $10,000M
Ala Hudson-Gaines Assoc Inc 1822 28th Ave S
Birmingham 871-1151
Cal Fulton Sylphon Div 967 Howard St
San Francisco 392-6947
Colo Peterson Co 4949 Colorado Blvd Denver 388-6322
Conn Pond Technical Sales Inc 3013 Dixwell Ave
Hamden 288-6278
Fla Fulton Sylphon Div 2437 Edgewater Dr
Orlando 424-5664
Haw Roy E Crocker Assoc 333 Uluniu St Kailua . . 262-7335
Ill Fulton Sylphon Div 190 Gordon St
Elk Grove Village 437-6060
Ind Electro Eng & Sales Inc 6909 E 32nd St
Indianapolis 547-5273
Iowa James H Laas Co 1536 State St Bettendorf . 355-6133
Ky Control Products Co 1738 Berry Blvd
Louisville 367-6421
La Turner & Co 311 W Wm David Pkwy
Metairie 834-3848
Md Fulton Sylphon Div 2150 Industrial Pkwy
Silver Spring 622-4900
Mass Fulton Sylphon Div 480 Neponset St Canton . 828-5155
Mich Fulton Sylphon Div 13333 Puritan Ave
Detroit 272-5000
Minn Fulton Sylphon Div 4815 W 77th
Minneapolis 920-6177
Mo Fulton Sylphon Div 11645 Adie Rd
Maryland Heights . . . . HE 2-1260
Mont Industrial Systems 110 Fifth St Billings 252-9151
NJ Fulton Sylphon Div 41 E Crescent Blvd
Camden 858-4600
NY Fulton Sylphon Div 96-35 43rd Ave Corona . 899-4550
NC Fulton Sylphon Div 1115 commercial Ave
Charlotte 376-7495
Ohio Fulton Sylphon Div 1911 Lee Rd
Cleveland Heights 932-6242
Okla Delcon Inc 1314 S Peoria Tulsa . . . . RI 3-6656
Pa Fulton Sylphon Div 485 Mansfield Ave
Pittsburgh 922-5587
Tenn E E Brown Inst Co 4745 Poplar Ave
Memphis 682-5679
Tex Fulton Sylphon Div 8130 Westglen Dr
Houston . . . . SU 2-7171
Utah Midgley-Huber Co 44 W 8th St
Salt Lake City 322-2537
Va Fulton Sylphon Div 2514 Waco St Richmond . 288-3126
Wash Fulton Sylphon Div 3820 Stone Way N
Seattle 632-3454
Wis Fulton Sylphon Div 5626 N 91st St
Milwaukee 464-6446

FURANE PLASTICS INC 5121 SAN FERNANDO RD W
LOS ANGELES CAL 90039
TWX 240-2144 . . . . 213 245-1151
A COOPER EMP 200 ENG 30 $2,500-$5,000M
Ariz Martin S Schlegel 1212 E Gardenia Dr
Phoenix 944-7629
Cal Wm L Wilkinson Box 6336 San Diego 223-3260
Conn J F Kerrigan Co Box 5385 Hamden 288-2200
Fla Repco Sales Co Box 38-1164 Miami 757-2911
Ill J J Glenn & Co 4300 S Tripp Ave Chicago . . 847-6400
Ind Furane Plastics Inc 3938 Mobile Ave
Ft Wayne 484-4141
Kan Halgin Sales 5460 Buena Vista Mission 722-2441
Mich H Stark & Sons Co 16147 Meyers Rd
Detroit 863-6200
Minn Xylem Co 322 S 4th St Minneapolis 335-5205
NJ Furane Plastics Inc 16 Spielman Rd
Fairfield 227-2850
Ohio Midwest Sales Co Inc 3219 W 117th St
Cleveland 941-2700
SC Paul Hollen Assoc 17 Vendue Range
Charleston 723-3536
Tex Herbert B Ellefson Co 201 S Calhoun
Fort Worth 335-9555
Utah Thos J Webster 564 Ogden Canyon Ogden . . . 393-5687
Wash Houston Co 1738 4th Ave S Seattle 622-0750
Wis J W Copps, Inc 710 E Silver Spring Dr
Milwaukee 962-1211
Fr Sonal 68 rue Nollet Paris 17
Belg Ets Jive SPRL 77 Ave Sainte Anne Strombeek

FURNAS ELECTRIC CO 1000 MCKEE ST BATAVIA
ILL 60510 . . . . 312 879-3410
F BIHLER EMP 1015 ENG 14 OVER $10,000M
Ariz Electric Locator & Sales 1323 W Tuckey La
Phoenix 602 265-9136
Cal Campbell & George Co 840 Mahler Rd
Burlingame 415 697-2965
Colo Wright-Williams & Roup 1170 W Custer Pla
Denver 303 744-3497
Fla J Carl Turner Assoc 411 W 28th St
Hialeah 305 888-1761
Ga Austin Brown Assoc 1771 Tully Cir, NE
Atlanta 404-636-9446
Ill Furnas Electric Co 15 Spinning Wheel Rd
Hinsdale 312-521-7450
Ind Neal Eng Co 3720 N College Ave
Indianapolis . . . . 317 WA 5-2364
Iowa R L Wildauer Co 1630 State St
Bettendorf 319 355-3121
Kan R E Gooley 8101 Granada
Prairie Village . . . . 913 NI 2-3233
La Allied Engineers 1201 Lake Ave
Metairie 504-834-2656
Mass Electrical Components Inc 60 North Ave
Natick 617-655-2225
Mich John M Perry Co 2339 Oakwood Dr SE
E Grand Rapids 616 949-0271
Minn Harold Mercer Co 4820 W 77th St
Minneapolis 612 927-7347
Mo Kattelmann & Co 9715 Page Blvd
St Louis 314 427-5513
Neb Orlin I Wahl 9730 Florence Hgts Blvd
Omaha 402 451-4276
NM Electric Locator & Sales Co Box 425
Albuquerque 505 842-8195
NY R H Nichols 1719 Teall Ave Syracuse . . . 315 437-2813
NC R W Chapman & Co Box 4430
Charlotte 704 375-4495
Ohio Matthew M Haley Co 6364 Pearl Rd
Cleveland 216 884-8460
Okla Industrial Sales & Eng Co 5127 S Lewis
Tulsa . . . . 918 RI 3-3610
Ore Donal Co Box 19013 Portland . . . . 503 CH 6-3131
Pa Foster McClinton Inc 1675 Washington Rd
Pittsburgh 412-561-4803
Tenn Ransom Sales Co, Inc Box 16443
Memphis 901-332-3194
Tex Titan Reps Inc 6434 Maple Bldg
Dallas . . . . 214 FL 7-8266
Utah Electrical Sales Co 1719 S Main St
Salt Lake City 801 486-1367
Va Marchant Electrical Sales Co Box 9534
Richmond 703 266-4220
Wash Muth Richards Co 1804 Bush Pl S
Seattle 206-323-2127
WVa Foster McClinton Inc 17 Pembrooke La
Huntington 304-736-5161
Wis H Mercer Co Box 222, Brookfield
Milwaukee . . . . 414 SU 6-6431
Can Furnas Elec Can Ltd 193 Bartley Dr
Toronto 416-759-6743
For J D Marshall Intl Inc 170 W Washington St
Chicago, Ill 312 726-8746

FUSE INDICATOR CORP 5900 FISHER LA
ROCKVILLE MD 20850 . . . . 301 427-7014
R BAKER EMP 40 ENG 2 $250-$500M
Conn John E Drake Co 129 Oenoke La
New Canaan 966-2580
Fla Buchanan & Abrams Assoc Inc Box 6026
Orlando 423-8995
Haw Electronic Products Assoc 156 Mokauea St
Honolulu
Ill ESCOR Assoc Inc 6582 Northwest Hwy
Chicago 763-1570
Md Naudain Assoc Box 1 Lutherville 252-5378
Minn George A Kelly Box 222 Wayzata 473-7602
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis 647-4350
NY T Ferguson Sales Co Box 3893 Rochester . . . 482-7757
NC Naudain Assoc Box 2186 Raleigh 832-3230
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 752-5444
Pa Naudain Assoc 1032 Sub Sta Bldg
Philadelphia 564-3194
Tex Techno Assoc Box 20544 Dallas 357-9213
Va Naudain Assoc Box 1 Lutherville Md 252-5378
Can Atkinson & Vail, Ltd 5 Allenbury Gdns
Willowdale, Ont 225-7494
BC R G Kearns 2970 Oak St Vancouver 738-7825

FUSITE CORP 6000 FERNVIEW AVE CINCINNATI
OHIO 45212 TWX 810-461-2810 . . . . 513 731-2020
R SCHWEIKERT EMP 475 ENG 15
Cal Yarbrough Sales Co 1608 Orange St
Alhambra 283-0668
Fla Buchanan & Abrams 1512 E Concord Ave
Orlando 425-0157
Ga Buchanan & Abrams Box 11585 Atlanta . . . 874-6854
Ill Electro-Comp Sales 5129 W Devon Ave
Chicago 763-3636
Iowa Forristal-Young Sales 1917 B Ave NE
Cedar Rapids 366-0635
Kan Forristal-Young Sales 5500 Buena Vista
Mission 913 432-1420
Mass Al Foley 927 Temple St Whitman 617 588-0488
Mo Forristal-Young Sales 7110 Oakland Ave
St Louis 645-2360
NJ F F Sylvester Assoc Box 207 Springfield 376-3324
NY M P Andrews 319 Mott St Fayetteville 637-6405
Ohio J U Hudnall Co 211 E 4th St Cincinnati 381-5156
Pa Jadelectronic Assoc Box 5735 Philadelphia . . 455-3355
Tex J B Guenther 4533 N Central Expwy Dallas . 528-6286
Wash R R Slater 915 Terminal Sales Bldg Seattle . 622-3860
Can Anbak Sales Canada Ltd 3208 Lenworth Dr
Cooksville Ont 416 625-1061
For Terminal Prods Inc State Rd 2-KM 193 4
Hormingueros, PR
Ger Fuiste GmbH Dieselstrasse 5 Karlsruh-Durlach
Neth Fusite NV Konigweg - 16 Almelo
Jap Fusite Japan Ltd Fukasawa, Gotbemba-shi
Shizuoka-ken

FUTURECRAFT CORP 15430 PROCTOR AVE
CITY OF INDUSTRY CAL 91747
TWX 910-584-1330 . . . . 213 330-1611
F SANCHEZ EMP 96 ENG 6 $1,000-$2,500M
Ala Branner Assoc 850 Church NW
Huntsville 205-539-4400
Cal Harris Engineering Assoc Box 1154
Palto Alto 415 328-3370
Colo Larry R Barland Co 2701 Alcott St
Denver 303 433-8597
Fla System Components Corp 303 First St N
Cocoa Beach 305-783-1002
La Rino Equip Co Box 121 Arabi 504 943-5226
NJ H W Johnson 332 Springfield Ave
Summit 201-273-2434
Ohio Scarp Engineering 12 Covertside Dr
Dayton 513 433-1303
Okla Fluid Components 6526 E 40 St Tulsa . 918-622-3781
Tex Complete Technical Rep 11252 Leo La
Dallas 214-241-3546

GABRIEL ELECTRONICS DIV MAREMONT CORP
NORTH ST SACO MAINE 04072
TWX 710-229-1556 . . . . 207 282-1526
L LAMPERTI JR EMP 180 ENG 18
$2,500-$5,000M
Cal Manufacturing Assoc 1738 Colorado Ave
Santa Monica 213-479-8884
Colo Trans Sales Intl 216 Clayton St Denver . 303 333-6563
Fla Elmore Elctns 5310 Diplomat Cir
Orlando 305 647-1900
Ill Tunchard Assoc 2278 Westwood Ln
Palatine 312-359-3321
Ore Tarbell Communications 312 Standard Plaza
Portland 503-228-4111

GAERTNER SCIENTIFIC CORP
1239A WRIGHTWOOD AVE CHICAGO
ILL 60614 . . . . 312 281-5335
L HIGGINS EMP 157 ENG 19 $100-$250M

GAF CORP 140 W 51ST ST NEW YORK NY 10020
TWX 212-420-5088 212-582-7600
EMP 19,000 OVER $10,000M
Cal GAF Corp 525 E Imperial Hwy La Habra . . . 526-6601
Colo GAF Corp 135 S Kalamath St Denver 733-7286
DC GAF Corp 4601 Lydell Rd Cheverly, Md 322-3130
Fla GAF Corp 7151 Lake Ellenor Dr Orlando . . . 855-1220
Ga GAF Corp 1219 Williams St NW Atlanta . . . 876-0351
Ill GAF Corp 4255 W Touhy Ave Chicago 679-2300
Ind GAF Corp 2260 Fletcher Ind Pk
Indianapolis 241-2877
Mass GAF Corp 240 University Ave Westwood 329-1550
Mich GAF Corp 12790 Westwood Ave Detroit 273-8410
Mo GAF Corp 11653 Adie Rd Maryland Hgts . . . 432-6270
NJ GAF Corp 2299 Vauxhall Rd Union 686-2500
NY GAF Corp 2366 James St Syracuse 463-0285
Ohio GAF Corp 2524 Spring Grove Ave Cincinnati . 241-5110
Ore GAF Corp 3322 N W 35th Ave Portland 228-3365
Pa GAF Corp 550 Seco Rd Monroeville 372-1960
Tex GAF Corp 7206 Grand Blvd Houston 748-4230
Wash GAF Corp 616 8th Ave S Seattle 682-0991
Wis GAF Corp Box 2951 Milwaukee 781-8540
Can GAF nada Ltd 2403 Stanfield Rd
Cooksville Ont 277-0381
Can Hughes Owens Co Ltd 1440 McGill College Ave
Montreal Que . . . . UN 6-3676

GAGNE ASSOCIATES INC 50 WALL ST BINGHAMTON
N Y 13901 . . . . 607 723-9556
S MORRISEY EMP 41 ENG 5 $250-$500M
ADV PG 599

GAI-TRONICS CORP 525 LANCASTER AVE READING
PA 19603 . . . . 215 376-2848
H CAMPBELL EMP 50 ENG 4 $1,000-$2,500M
Cal Ingalls Assoc 424 40th St Oakland 658-5622
Colo Cliff Beabout Co 666 Sherman St Denver . . . 244-3151
Ohio E H Wills Box 292 Dover 216 343-0122
Ore Tarbell Communications 312 Standard Plaza
Portland 503-228-4111

GALAXY ELECTRONICS INC 10 S 34TH ST
COUNCIL BLUFFS IOWA 51501
TWX WRLI 712 328-2553
H HENLEY EMP 100 ENG 4

Cal J A Butler 516 Reina Del Mar Pacitica 359-3216
Fla Murphy & Cota 712 W Vasser St Orlando ...424-2167
Ga Murphy & Cota 586 Armour Cir NE Atlanta .857-2525
Kan C H Schryver 5460 Buena Vista Mission 722-2441
NY Marty Bettan Sales 77-15 164th St
Flushing ....OL 7-6659
Ohio F Ohman 2590 Post Rd Twinsburg 425-7445
Tex I Harrison 13821 Hillcrest Rd Dallas ......AD 1-5430
Va L H Arnold Co Drawer 9545 Gwynn 725-3255
For Rocke Intl Co 13 E 40th St NY NY 689-0200
BC Reptronic Assoc Ltd 1063 Howe St
Vancouver ....MU 3-0441

GALE SYSTEMS INC 50 MAIN ST NORTH READING
MASS 01864 617-944-6700
M BRUCE EMP 4 ENG 1 $250-$500M
Cal Lectrokem Inc 3224 E Willow St
Long Beach 213-426-0441
Conn R W Hatfield Co Box 844 Orange 203-878-9980
Md Oakmont Engineering 99 Eldrid Dr
Silver Spring 301-622-2100
Mass R W Hatfield Co 3 School St Woburn ..617-933-2324
NY R & S Electronic Sales Corp Box 217
Hempstead 516-485-1040
Ohio Perry Lohse Co 537 Richmond Rd
Cleveland 216-381-7788
Tex Sivright Co 10028 Monroe Dr Dallas ...214-357-6681
Can Intl Electronic Components 2055 Mountain St
Montreal 849-1282

GAMBLE INDUSTRIES, CHARLES T
FAIRVIEW & NEW JERSEY AVES RIVERSIDE
N J 08075 ....609 HO 1-1900
E MCCABE EMP 150 ENG 1 $1,000-$2,500M
Conn Hathaway Electronics Ducillo Bldg Canaan ..824-7215
Ill Lou Bacher Assoc 9690 W Allen Ave
Rosemont 625-2742
Iowa Reid Assoc 526 MNB Bldg Cedar Rapids 362-6302
Tex John B Guenther, Inc 4533 N Central Expwy
Dallas 214 528-6286
Tex John B Guenther Inc Box 55525
Houston 713 468-0232
Va Potomac Elctns Inc Box 36 Alexandria .703 836-1630
Fr Cerel 14-16 Rue Des Lilas Paris (19)

GAMMA SCIENTIFIC INC 2165 KURTZ ST
SAN DIEGO CAL 92110 ....714 291-2230
R CAMPBELL EMP 45 ENG 6 $500-$1,000M
Cal Griot Assoc 3002 Midvale Ave Los Angeles ..474-1587
Cal Griot Assoc 560 San Antonio Rd Palo Alto ..327-3996
Conn Northeast Assoc 516 Pepper Ridge Rd
Stamford 329-0012
Ill Brooks Engineering Co 227 E Walton Pl
Chicago 944-1227
Md Spectro Systems Inc 7324 Westmore Rd
Rockville 762-1133
Mass Northeast Assoc Box 31 Marblehead 631-3688
NJ E C Smith & Assoc 797 Springfield Ave
Summit 273-8881
NY E C Smith & Assoc 60 E 42nd St New York .682-6890
NY E C Smith & Assoc 941 Granite Bldg
Rochester 546-5090

GAMMATRONIX INC 66 S HIGH ST DUBLIN
OHIO 43017 ....614 889-1021
N MILLIGAN EMP 16 ENG 4 $100-$250M

GAM RAD INC 16825 WYOMING AVE DETROIT
MICH 48221 ....313 864-6006
D TALLEY EMP 15 ENG 3 $100-$250M

GAP INSTRUMENT CORP 17 BROOKLYN AVE
WESTBURY N Y 11590
TWX 510-222-4471 ....516 333-8020
W SOBOLESKI EMP 65 ENG 8 $2,500-$5,000M
Cal Cairns Eng Sales Corp 6151 W Century Blvd
Los Angeles 426-4060
Fla Control/Systems 635 N Barton Lake Rd
Orlando 277-1510
Ga Control/Systems 265 Brighton Rd Atlanta ..233-2837
Mo Aerotronics Box 6236 Lambert St
St Louis 314 426-4060
NY Creek Corp 55 Northern Blvd Greenvale
Tex Southwest Eng Sales Co Box 30177
Dallas 214-EM 3-4619

GARDINER ELECTRONICS 4729 N 7TH AVE
PHOENIX ARIZ 85013 ....602 274-9681
R GARDINER

GARDINER SOLDER CO 4820 S CAMBELL AVE
CHICAGO ILL 60632
TWX 910-221-2510 ....312 847-0100
J MAINS EMP 60 ENG 6 $2,500-$5,000M
Ariz Fryco Inc Box 460 Scottsdale 945-3281
Cal Mann-McGruder 5670 Wilshire Blvd
Los Angeles 213-934-1146
Cal Maddox Sales Co 2720 Seventeenth St
San Francisco 415-431-2953
Colo Walter Engineering Assoc 880 Bonnie Brae
Denver 303 777-5585
Fla Ludlum Co Box 1337 Miami 885-3611
Ind Leslie DeVoe Co 665 E 61st St Indianapolis .AT 3-1395
Kan Burke Sales 3718 W 95th St Leawood 649-2727
Mass C Ellingwood 38 Pequot Rd Wayland ...617 265-6400
Minn D A Schultz Co 801 SE 8th St Mnpls ..612 339-7701
NY R E Brewer Co 1 Barstow Rd
Great Neck 516 466-3030
Ohio Tri State Marketing 1717 Section
Cincinnati 513-631-5060
Ore C E Riggs 422 NW 8th Ave Portland ...503-226-3286
Pa A Wetterhahn 201 W Cuthbert Blvd
Oaklyn NJ 858-3003
Wash Bunker Hill Co 2700 16th Ave SW
Seattle 206-MA 3-1095
For Southern Intl Sales GPO 1896 San Juan PR .723-3879
For L D Cohen 5323 SW 8th St Miami Fla .305-444-5111

GARDNER-DENVER CO GARDNER EXPWY QUINCY
ILL 62301 ....217 222-5400
D KIPLEY OVER $10,000M
Offices in All Principal Citie

GARDNER LAB INC 5521 LANDY LA BETHESDA
MD 20014 ....301 656-3600
F UNDERHILL EMP 52 ENG 5 $1,000-$2,500M
Cal Pacific Scientific Co 6280 Chalet Dr
City of Commerce 773-2020
Ill Sweet Co 1770 Dixie Hwy Homewood 799-7880
Ky B Tabler, Inc Box 1254 Louisville 634-0596
Mass H W Edminster 55 Sohier St Cohasset
Minn M H Baker Co, Inc 606 Washington Ave, N
Minneapolis 333-1357
Ohio Grund-Brown Co 1501 Euclid Ave Cleveland .241-7336
Tex Mileti Chemical Co 2500 Dunstan Houston ..JA 8-0634
Can Caledonia Chemicals Ltd 785 Plymouth Ave
Montreal, Que 342-9100
Can Caledonia Chemicals Ltd 333 Wilson Ave
Downsview 636-2571
BC Caledonia Chemicals Ltd 375 Terminal Ave
Vancouver ....MU 5-0231

GAR ENTERPRISES INC 2031 N LINCOLN AVE
PASADENA CAL 91103 ....213 798-0785
EMP 16 ENG 4 $250-$500M
ADV PG 631

GARNER GLASS CO 177 S INDIAN HILL RD
CLAREMONT CAL 91711 ....714 NA 6-3526
J HYATT EMP 75 ENG 3

GARRARD DIV BRITISH INDUSTRIES CO
SOUTH SERVICE RD WESTBURY
N Y 11590 ....516 ED 4-7450
F HOFFMAN EMP 75
Cal Jack Berman Co 9000 Bellanca St Sta
Inglewood 213 678-1281
Colo McLoud & Raymond Co 2151 S Grape St
Denver ....SK 6-1589
Ga Millar-Hutto Assoc Inc 3110 Maple Dr NE
Atlanta 261-6160
Haw Gene Piety Factors Inc 160 Mokauea St
Honolulu 810-185
Ill Geo Petitt Co Inc 349 N Ashland Ave
River Forest ....FO 9-8940
Ind H J Blind & Assoc 1635 N Gent St
Indianapolis ....ME 5-6291
Kan Forristal-Young Sales Co 5500 Buena Vista
Shawnee Mission ....HE 2-1420
Md Charles W Lienau Co 11411 Amherst Ave
Wheaton 949-6464
Mass Michael Scott Co Inc 20 Walnut St
Wellesly ....CE 5-0102
Mich J Malcolm Flora, Inc 165 W Liberty
Plymouth 453-4296
Minn Fisher Sales Inc 4820 W 77 St Minneapolis .920-6577
NY R W Mitscher Co Inc 496 Ellicott Sq Bldg
Buffalo ....TL 4-2517
Pa James H Podolny Co 5912 Penn Ave
Pittsburgh ....HI 1-0800
Tex Jack F McKinney Sales Co 1303 Chemical St
Dallas ....ME 1-9450
Wash Wm R Lanphear Co Inc 4031 Stoneway Ave N
Seattle ....ME 3-4900

GARZINO S P A 10020 PESSINETTO ITALY ..0123-54201
A GARZINO EMP 48 ENG 5 $250-$500M
Fr Roger Barre True Berthe 92 Colombes 2420024
Ger A Neye Enateknik Schillerstr 14
2085 Quickborn Hamburg 8222
GB Walmore Electronics 11 Betterton St Drury La
London 0201-5
Neth A Deleede Churchill Laan 242 Amsterdam Z ...725026
Ital T W O Via Bagnasco 14 Torino
Jap Waltham Electronics Ltd
4-8 Chome Ginza-Higashi Chou Ku Tokyo .541-3717
Nor A/S Norske Telektron Drammensvein 126 Oslo .554695
Swed Magnetic AB Ulvsundavagen 151
Stockholm-Bromma 290460
Swit Transister AG Hohlstr 610 8048 Zurich ..051-615611

GAS ANALYSIS SYSTEMS INC BOX 146
BASKING RIDGE NJ 07920 ....201 234-1220
W WILSON EMP 12 ENG 4 UP TO $100M

GASKET MFG CO INC 18001 S MAIN ST CARSON
CAL 90750 TWX 901 321-4077 ....213 RI 9-4063
N ALZUETA EMP 80 ENG 2 $1,000-$2,500M
Ariz Rex Ingram 1748 E Claremont Phoenix 275-0302
Cal John H Best 1537 Cherry St San Carlos ...LY 1-4964
Colo A E Werner 2348 S Broadway Denver 722-5561
Haw Ward Brewster 941 Koae St Honolulu
Tex Jack Gronberg Box 291 Bellaire 713 668-7729
Jap C Itoh & Co
4-Nihonbashi-Honcho, 2-chome, Chuo-ku
Tokyo

GATES & CO, GEORGE W
HEMPSTEAD TPK & LUCILLE AVE
FRANKLIN SQUARE N Y 11010 212-347-0787
T SCHULZ EMP 8 ENG 2 $500-$1,000M

GATES ELECTRONIC CO INC 526 VAN NEST AVE
BRONX N Y 10460 ....212 TU 1-5900
I REGENBOGEN ENG 1

GATES RADIO CO 123 HAMPSHIRE ST QUINCY
ILL 62301 217-222-8200
J ENGLE EMP 462 ENG 45 OVER $10,000M
Ala I Raulerson Box 9866 Birmingham 205-328-9559
Cal E Wilder 1945 S Figueroa los Angeles ..213-747-7129
Colo H Dempsy 8171 Orchard Dr Denver ...303-429-5758
DC W Ayer 1522 K St, N W Washington ..202-223-5508
Fla R Spruill Box 8725 Jacksonville 904-721-2779
Ill C Morgan 22W235 Burdette Glen Ellyn .312-469-0847
Iowa Stan Whitman Box 2397, Sta A
Waterloo 319-233-0561
Mich C Fosmark 31674 Schoenherr Warren ..313 294-6740
Mo R Switzer 11600 Brookford La
Bridgeton 314-739-4453
NY T Schoonover 800 Second Ave
New York 212-687-7971
Okla U Whitman 2719 S Hudson Ave Tulsa ..918-836-4835
SC E R Lowder 7209 Stonehaven Dr
Columbia 803 776-2059
Tex J Woods 4019 Richmond Ave Houston ..713-666-4333
Va J Cole Box 246 Halifax 703-476-6919
Wash N Arveschoug Box 849 Vancouver 206-693-1456
Wis R Gorjance 5333 N 91st St Milwaukee .414 461-7931
Can Gates Radio Co of Canada 212 Brunswick Blvd
Pointe-Claire, Que 514-695-3751
Can Gates Radio Co Of Canada 19 Lesmill Rd
Don Mills Ont 416-447-7234
For Rocke Intl Corp 13 E 40th ST
New York, N Y 212-689-0200

GAUSS ELECTROPHYSICS INC 1653 TWELFTH ST
SANTA MONICA CAL 90404 ....213 451-9876
R MAY EMP 60 ENG 12 $2,500-$5,000M
Conn NPM Assoc 522 E Putman Ave Greenwich ..869-4955
For Worldex Mfg Co Ltd 1248 S Berendo St
Los Angeles, Cal 388-966
Jap Warren Birkenhead, Inc
25 2 Chome Shiba Hamamatsu Tokyo 431-3887

GAVIN INSTRUMENTS INC 1450 US RT 22
SOMERVILLE N J 08876
TWX 710-480-4725 ....201 356-3500
A NEUBAUER JR EMP 200 ENG 12
Cal MacPherson Sales Co Box 2206
San Francisco 415-775-0303
Colo Straube Assoc 1123 Spruce St
Boulder 303-443-8600
Ga Frank C Nickerson Co Box 33185
Decatur 404-377-1575
Ill Gettlemen & Litteken 3736 Dempster St
Skokie 312-588-0030
Ind Midland Sales Co 146 E 44th St Indpls .317-283-1727
Mass Anderson Sales Co 177 State St
Boston 617-227-2980
Mich Polyphase Sales Co Box 363 Milford ...313-685-3003
Mo R W Farris 1715 Baltimore Ave
Kansas City 816-421-1751
NJ TMC Sales Corp 2465 Lemoine Ave
Fort Lee 201-944-8340
NY Jack Brown Co 207 Rosedale Rd
Yonkers 914-779-7330
NC Joe Corn Co 2505 S Blvd Charlotte ...704-366-7927
Ohio J B Parent Co 21330 Center Ridge Rd
Cleveland 216-333-5520
Pa John Mustico Co Box 624 Havertown ..215-446-1961
Tex Berthold Sales Co 4411 Maple Ave
Dallas 214-526-8329
Wash R K Squibb Inc 655 N E Northlake Pl
Seattle 206-632-2450

GAVITT WIRE & CABLE DIV AMERACE-ESNA CORP.
CENTRAL ST BROOKFIELD
MASS 01506 ....617 867-6476
A LORENZ EMP 145 ENG 6
Cal W S Harmon Co 6118 Venice Blvd
Los Angeles ....WE 7-1460
Cal Gavitt Wire & Cable Co 455 N Quince St
Escondido ....SH 5-3181
Cal D H Ross Co 534 El Camino Real
San Carlos ....LY 1-4411
Colo McLoud & Raymond Co 2151 S Grape St
Denver SK-6-1589
Fla Jack Geartner Co 350 Lincoln Rd
Miami Beach ....JE 1-0200
Ind Gossett & Hill Co 405 S Kyle St
Edinburg 812-526-2384
Mass Bahr Sales Co 91 Woodsley Rd Longmeadow .567-3488
NY G R Baxter Co Box 550 Babylon 587-8484
NY Telesco Assoc 395 Cleveland Dr
Buffalo 607-729-6339
NY L Freed & Co 22 Boston Post Rd Larchmont .834-6510
Ohio R M Nelson Inc 1 Public Sq Bldg Cleveland .CH 1-4581
Pa Hilliard Assoc Inc 186 Aysgarth House
Abington ....TU 4-6100
Tex J A Green Co 7118 Envoy Ct Dallas ......ME 1-7450
Wash J J Backer Co 221 W Galer St Seattle 454-1255
Wis Ridley Assoc Box 370 Williams Bay 414 245-5543
Can Wilson Enterprises 19 Abercorn Rd
Markham Ont 297-1289

GAYLORD RIVES CO DIV AMER ELCTNS INC
422 S PASADENA AVE PASADENA
CAL 91105 ....213 MU 1-3189
K STILES EMP 30 ENG 5 $500-$1,000M
Ariz Robbins & Assoc 2652 N 19th Ave Phoenix ..254-0836
Cal Repex 2015 Latham Mountain View 969-9200
Colo Robbins & Assoc Box 20296 Denver 399-6618
Ill Communications Engineers 7100 N Western
Chicago ....RO 1-0548
Md Stemler & Assoc 6707 Whitestone Rd
Baltimore 944-8262
Mass E A Janse Assoc 892 Worcester St
Wellesley 235-1623
Mo Gordon Fixman Engineering 8160 Stanford Ave
St Louis ....PA 5-2519
NJ A & B Electronics 14-25 Plaza Rd
Fair Lawn 797-5356
NY B B Taylor 2270 Grand Ave Baldwin 223-8000
Ohio Luebbe Sales Co 1010 Euclid Ave Cleveland
Tex K O Brown Box 20845 Dallas 214 357-3996

GCA TECHNOLOGY DIV GCA CORP BURLINGTON RD
BEDFORD MASS 01738 ....617 275-9000
L SEALE EMP 145 ENG 53
Utah GCA Technology Div Box 15471
Salt Lake City 487-1073

G C ELECTRONICS DIV, HYDROMETALS INC
400 S WYMAN ST ROCKFORD
ILL 61101 ....815 968-9661
E CROCKETT EMP 450 $5,000-$10,000M

Cal G C Electronics 3225 Exposition Pl
Los Angeles ....AX 3-7201
NY G C Electronics 140 Miller Pl Hicksville 433-1455

GDO CO INC 248 BROAD AVE PALISADES PARK
N J 07650 ....201 944-1661
S SPANGLER EMP 25 ENG 3
Neb Midwest Gdo Inc 2632 Randolph St
Lincoln 402-432-2729

GEAR SPECIALTIES INC 2635 W MEDILL AVE
CHICAGO ILL 60647..................312 DI 2-3200
W KOZAK EMP 340 ENG 5 $2,500-$5,000M
Ind Eric Wermcrantz Box 448 Valparaiso .....HO 2-6044
NY Transmission Equip Co 1551 Franklin Ave
Mineola 741-5070
Ohio Thad J Moore Box 31 Toledo ....GR 9-7831
Tex Ray Frelk 318 N Pearl St Dallas ....RI 1-6051

GEARTRONICS CORP 124 CHELMSFORD RD
N BILLERICA MASS 01862 ....617 933-1400
F KEAN EMP 136 ENG 7 $1,000-$2,500M
Ariz Jack Osborn & Assoc Box 968
Scottsdale 602 945-3884
Cal Rensall Inc 1101 W Lincoln Ave
Anaheim........................714-635-3670
Ill D C Mathers 9330 W Grand Ave
Franklin Park 312-455-5898
Mich J Boyko Eng Co 13050 Houston-Whittier Ave
Detroit 313 371-2840
NY B & B Motor & Control Corp 96 Spring St
New York 212 966-5777
Pa J F Orsi Assoc Box 346 Bryn Mawr 215 525-6212
Can Percy Hobson 3425 Montgomery St
Montreal, Que..................514 527-0201

GELMAN INSTRUMENT CO 600 S WAGNER RD
ANN ARBOR MICH 48106
TWX 810-223-6037 ....313 665-0651
P STODDARD EMP 150 ENG 7 $2,500-$5,000M
Cal Gelman Western Sales 15544 Cabrito Rd
Van Nuys 873-6010
Colo Engineering Research Assoc 231 Detroit St
Denver 377-8306
Mich Gelman Midwestern Sales 600 S Wagner Rd
Ann Arbor 665-0651
Va Gelman Eastern Sales 8027 Leesburg Pike
McLean 893-5800

GEMP TERMINALS INC 20 WOODWORTH AVE
YONKERS N Y 10701 ....914 476-7300
J DONOVAN EMP 6 $100-$250M

GEMS CO INC SPRING LANE FARMINGTON
CONN 06032 TWX 710-423-2035 ......203 677-1311
R WHITE EMP 72 ENG 4 $1,000-$2,500M
Ala Vaughn Electrosources Co Sahara Off Park
Huntsville 881-8830
Cal Con-Val, Inc 412 Pendleton Way Oakland ...568-8922
Colo Petromotive Co 9839 West 65th St Arvada .422-0990
Conn Northeast Engineering 3013 Dixwell Ave
Hamden 248-4481
Fla Vaughn Electrosurces Box 250
Cocoa Beach 784-0784
Haw Berkley Engineering Box 3856 Honolulu 581-921
Ill Affiliated Control Equip 8934 W Ogden Ave
Brookfield 485-9353
Md Ray Cantwell Co 9321 Fresno Rd Bethesda ..530-2698
Mass Northeast Engineering 5 Elm St Danvers ...774-3010
Mich Robert H Jackson Co 10534 Ludlow Ave
Huntington Woods 542-5059
Minn Guy Speaker Co Inc 9 Ninth Ave N Hopkins ..935-0135
Mo Louis Helekamp 128 W Mermod Kirkwood ..727-7670
NY Northeast Engineering 124 Trumbull Rd
Manhasset 365-9633
NC Robert W Chapman & Co Box 4430
Charlotte 375-4495
Ohio Gallagher Co 15 Ritchie Ave Cincinnati 761-1288
Pa C A Briggs Assoc Box 151 Glenside........885-2244
Tex Tech-Controls Inc Box 6151 Pasadena 473-8111
Wash Fairman B Lee Co Box 66099 Burien Sta
Seattle 244-7262
Wis Norman Engineering Co 9730 W Bluemound Rd
Milwaukee 771-3100
Can Electrodesign Ltd 9124 St Lawrence Blvd
Quebec PQ..........................399-5914
For Comercial Tecnocientificia Ltda Caixa PO 954
Campinas-Sao Paulo
Fr Saint-Cyr Electro Ind Paris 923-10-46
Neth Savri N V Box 41 Amstelveen..........02964-3236
Ital S M E R I di Ing F Pirrone srl via Soperga 45
Milano
Jap Pacific Projects Trading Co, Ltd CPO Box 444
Tokyo
SAfr Balco Co New Centre Johannesburg
NZ Pye Ltd Box 2839 Glen Innes Auckland
Spn Manzanera Plaza de los Mostenses 1 2 Madrid
Aust Wheaton Australia Pty Ltd Box 133
New South Wales

GENERAL ACOUSTICS CORP
12248 SANTA MONICA BLVD LOS ANGELES
CAL 90025 ....213 GR 9-3187
C SMITH ENG 6 $500-$1,000M
Ala David H Wise Box 225 Huntsville 539-0871
Cal Thornton Assoc 2132 Vista Laredo
Newport Beach
Tex Merit Co 10110 Monroe Dallas

GENERAL ATRONICS CORP INDUSTRIAL DIV
1200 E MERMAID LANE PHILADELPHIA
PA 19118 TWX 215-242-1295 215-248-3700
A CANNON EMP 250 ENG 40 $2,500-$5,000M

GENERAL ATRONICS CORP, MILITARY ELCTNS DIV
1200 E MERMAID LANE PHILADELPHIA
PA 19118 TWX 215-242-1295 ....215 248-3700
J COMMINS EMP 250 ENG 40 $2,500-$5,000M
DC General Atronics Corp 1330 Mass Ave NW
Washington 202 737-7766
Mass General Atronics Corp 127 Alewife Brook Pkwy
Cambridge 617-354-1241
Ohio F L Ohmer Box 2013, Kettering Br Dayton ..434-1454

GENERAL ATRONICS CORP TUBE DIV
1200 E MERMAID LANE PHILADELPHIA
PA 19118 TWX 215-242-1295 215-248-3700
R KOEBERT EMP 250 ENG 40 $2,500-$5,000M
Cal Cain & Co 522 S Sepulveda Bldg
Los Angeles 213-783-4700
Conn Glenn M Hathaway Elctns Ducillo Bldg
Canaan 203-824-7215
Fla Cain & Co 3112 W Kennedy Bldg
Tampa 813-876-1233
Ill Cain & Co 1203 Ironwood Dr
Mt Prospect 312-253-3578
Md Cain & Co Inc 7515 Annapolis Rd
Hyattsville 301-892-8313
Mass Glenn M Hathaway Elctns 7-11 Mystic St
Arlington 617-646-1380
Ohio Frederic L Ohmer & Assoc Box 2013 Kettering Br
Dayton 513-434-1454
Pa Cain & Co 1 Bala Ave Bala-Cynwyd ...215-664-3797
Tex Cain & Co 8609 NW Plaza Dr Dallas ...214-369-2897
Wash Dewar & Assoc 6361 First Ave Seattle .206-763-2233
Can Ben Manis Assoc 6600 St Urbain St
Montreal 514-274-8271
Fr Europelec 78 Les Clayes-Sous-Bois
Boite Postale 1
GB Roberts Electronics Ltd 17 Hermitage Rd
Hitchin Herts
Ind Kashinath & Co 10-2-289/71 Shantinagar
Hyderabad

GENERAL AUTOMATIC CORP 235 W FIRST ST
BAYONNE N J 07002 ....201 437-7500
M BARRON

GENERAL AVIATION ELECTRONICS INC
4141 KINGMAN DR INDIANAPOLIS
IND 46226 317-546-1113
M DECHTER EMP 65 ENG 8
Cal Beckman Sales Co Box 1877
Costa Mesa.....................714 546-2474
Ohio A Weltman & Assoc Cayahoga Cty Airport
Cleveland 216 731-1284

GENERAL BATTERY & CERAMIC CORP BOX 1262
READING PA 19603 ....215 929-0771
EMP 2000 OVER $10,000M

GENERAL BINDING CORP 1101 SKOKIE BLVD
NORTHBROOK ILL 60062 ....312 CR 2-3700
P JASON EMP 1064 ENG 18 OVER $10,000M
Ala GBC 1203 S 20th St Birmingham 328-5240
Ariz Gen Binding Sales Corp 3422 W Osborn Rd
Phoenix 272-2618
Cal Gen Binding Sales Corp 7308 S La Cienga Blvd
Inglewood 678-1124
Colo Gen Binding Sales Corp 645 Delaware St
Denver.........................AM 6-1416
Conn GBC 20 Beaver Rd Wethersfield 529-2531
DC Gen Binding Sales Corp
6620 Sandy Spring Rd NW Washington...882-2536
Fla GBC 1765 Tully Cir NE Atlanta 633-0411
Haw Gen Binding Sales Corp 603 Coral St
Honolulu..........................533-7684
Ill GBC 6515 Stanley Ave Berwyn 277-5025
Ind GBC 726 E 65th St Indianapolis 253-1564
Iowa GBC 1812 High St Des Moines 283-0654
La GBC 422 Poydras St New Orleans 525-2247
Mass GBC 13 Highland Circle Needham Hgts 449-2850
Mich GBC 8530 W McNichols St Detroit 342-2223
Minn Gen Binding Sales Corp 2200 Edgewood Ave S
Minneapolis 544-4242
Mo Gen Binding Sales Corp 1304 E Eighth St
Kansas City ....BA 1-1997
NJ GBC 740 Jefferson Ave Kenilworth.........687-8500
NY Gen Binding Sales Corp 959 Kenmore Ave
Buffalo 875-6886
NC GBC 2230 Lyndhurst Ave Charlotte 525-5831
Ohio GBC 3808 Redbank Rd Cincinnati 272-3322
Pa Gen Binding Sales Corp 7416 W Chester Pike
Upper Darby 352-9100
Tex GBC 1307 Chemical Ave Dallas ....ME 1-2870
Va Gen Binding Sales Corp 3000 W Cary St
Richmond 355-4746
Wash Gen Binding Sales Corp 3533 Stoneway N
Seattle 632-1889
Wis Gen Binding Sales Corp 7212 W Fond du Lac Ave
Milwaukee 464-1720
Can Gen Binding Corp (Canada) Ltd 49 Railside Rd
Don Mills, Ont
For GBC Fernandez Juncos 903 Santurce, P R ..722-3101
For Gen Binding Corp de Venzuela S A
Esquina Coliseo Piso 2-of.12 Caracas, Venz
Fr GBC Buro & Bindemaschinen GMBH
Lerchenweg 6 Lottstetten/Baden
Ger GBC Buro & Bindemaschinen GMBH
Schloss Str 57B Stuttgart
GB Gen Binding Co, Ltd Doman Rd Camberley, Surrey
Neth Gen Binding (Nederland) N V Spaarne 59 Haarlem
Ital Gen Binding Corp Italia S R L Via Sondrio 3-5
Milan
Jap Gen Binding Corp (Japan) K K
8-6 4-Chome Nisson Bldg Tokyo
Swit GBC Mfg Corp Seestr 346 Zurich, 2738
Mex Gen Binding Corp S A de C V
Alvaro Obregon 213-1er Mexico 7 D F
Aust Gen Binding Corp (Australia) Pty Ltd
24-26 Lyndhurst St Glebe N S W

GENERAL CABLE CORP 730 THIRD AVE NEW YORK
N Y 10017 ....212 YU 6-3800
J DAVIS EMP 10,000 ENG 200 OVER $10,000M

GENERAL CIRCUITS INC 95 MT READ BLVD
ROCHESTER N Y 14611 ....716 235-2880
A PLUTA EMP 268 ENG 6 $2,500-$5,000M
Cal General Circuits 2750 E Lizbeth Ave
Anaheim 630-0131
Ill General Circuits 325 Central Ave
Highland Park ....ID 3-1020
Mass General Circuits Waltham ....TW 9-8837
NY General Circuits 177 Brampton Rd Syracuse .463-4507

GENERAL COIL PRODUCTS CORP 156 HINSDALE ST
BROOKLYN N Y 11207................212 DI 6-8600
E GREENSTEIN EMP 50 ENG 4 $500-$1,000M
NJ Martin Klein Assoc Box 92 Hillsdale ...201-664-8711

GENERAL COMPONENTS, INC
7425 124TH AVE N BOX 10248 ST PETERSBURG
FLA 33733 ....813 544-8879
R SPIERS EMP 44 ENG 8 $500-$1,000M

GENERAL COMPOUNDS CO, DIV KAI R KUHL CO
1044 E 22ND ST LOS ANGELES
CAL 90011 ....213 749-0162
K KUHL EMP 27 ENG 1 $100-$250M

GENERAL COMPUTERS INC 5990 W PICO BLVD
LOS ANGELES CAL 90035 ....213 939-7687
C ESTES EMP 20 ENG 2
Ala Applied Dynamics Inc Holiday Office Ctr
Huntsville 883-2710
Cal C R Estes 5990 W Pico Los Angeles ...213-939-7687
Ill Chandler Assoc Inc Box 229 Genesco ...309 944-2010
Mich Chandler Assoc Inc 32401 W 8 Mile Rd
Livonia...........................476-5800
NM C Schmidt Sales 9611 Acoma Rd S E
Albuquerque 505 298-2415
Ohio Chandler Assoc Inc 9701 Brookpark Rd
Cleveland 216 661-9835
Pa Emlen-Peterson Co 237 Lancaster Ave
Devon 687-3535
Wash Showalter-Judd Inc 1806 S Bush Pl
Seattle ....206 EA 4-7911

GENERAL CONTROL CO 1212 SOLDIERS FIELD RD
BOSTON MASS 02134 ....617 782-7440
W KELLEIGH EMP 25 ENG 2 $100-$250M
Cal C B Rush & Assoc 1830 W Olympic Blvd
Los Angeles.....................213 388-7111
Md Leff Sales Assoc 408 York Rd Towson ..301 823-0774
Mass Electrical Apparatus Co Inc
1200 soldiers Field Rd Boston 617 782-7440
NJ Ballou Inc 51 N Broad St Ridgewood ...201 444-6990
Ohio Electro-Com Inc 8761 Snow Rd
Cleveland 216 886-2404

GENERAL DESIGN INC 11676 TUXFORD ST
SUN VALLEY CAL 91352 ....213 875-1260
L ALLAN EMP 98 ENG 14 $1,000-$2,500M

GENERAL DESIGN INC SYSTEMS DIV
893 W 16TH ST NEWPORT BEACH CAL 92660

GENERAL DEVICES INC, INSTRUMENTATION DIV
BOX 253 PRINCETON N J 08540
TWX 710-480-5654 ....609 WA 42500
M MEDVIN EMP 75 ENG 18 $500-$1,000M
Kan Aerotronics Inc Box 11026, Washington Sta
Wichita 264-7925
Mo Aerotronics Inc Box 6236, Lambert Fld
St Louis ....HA 6-4060
NY S F Foster Co Inc 2806 Henngberry Rd
Pompey 677-3333
Ohio RDP Assoc 5899 Hubgrville Ave Dayton ....CL 3-6175
For Akhatar Trading Corp Box 4852
Karachi 2 Pak 223156
Den Technitron A/S 24 Klosterstraede
Copenhagen ....PAL 2632
Fr Technitron SA 26 Rue De Boulainvilliers
Paris ....ELY 30-33
Ger Technitron GmbH Sonngstr 14 Munich 55-78-32
GB Technitron England Walmgate Rd Perivale ..PER-9949
Neth Techmitron MV Rottumerstr 15 Amstelvegn ...727823
Ital Technitron Srl Viale Bruno Buozzi 68 Rome ...800 235
Isrl Elina Ltd Box 960 Tel-Aviv 52068

GENERAL DIODE CORP 90 EAMES ST
FRAMINGHAM MASS 01701 ....617 879-0880
A TANG EMP 24 ENG 6 $500-$1,000M
Ariz E Black Box 933 Scottsdale
Cal Winco Sales Box 881 Mountain View ...415 961-8510
Ill Karl D Engle Co Inc 3621 W Devon Ave
Chicago 539-1820
Mass Tech Sales 52 N Washington St N Attleboro

GENERAL DYNAMICS, ELECTRONICS DIV
1400 N GOODMAN ST ROCHESTER N Y 14601
TWX 510-253-0805..................716-342-8000
M ROEBUCK EMP 7900 OVER $10,000M
Cal Gen Dynamics Elctn Div 3090 Pacific Hwy
San Diego
Fla Gen Dynamics Elctn Div Hiway 17-92 N Orlando
NJ Electro Dynamic 150 Avenel St Avenel

GENERAL ELECTRIC CO COMMUNICATION
PRODUCTS DEPT BOX 4197 LYNCHBURG
VA 24502 ....703 VI 6-7311
G FLOYD

For Sales Office listings refer to Page 7 in this issue.

GENERAL ELECTRIC CO, ECSO 1 RIVER RD
SCHENECTADY N Y 12305 ....518 374-2211
OVER $10,000M
ADV PGS 7,55,84,347,386,544,887

GENERAL ELECTRIC CO, INFORMATION DEVICES
DEPT. 4000 N W 39TH ST OKLAHOMA CITY
OKLA 73112 405-946-5421
R FRANCIS OVER $10,000M
NJ J Leahey 1010 James St Syracuse 315-456-3177
Pa E H Gillette 511 N Broad St
Philadelphia 215-925-4343

GENERAL ELECTRIC CO INFO SYS EQUIP DIV
13430 N BLACK CANYON HWY PHOENIX
ARIZ 85029 ....602 941-2142
T VANDERSLICE EMP 6000

GENERAL ELECTRIC CO LAMINATED PRODUCTS
DEPT COSHOCTON OHIO 43812
TWX 614-623-7803 ....614 622-5310
A SCOGGIN EMP 1100
Ariz G-E Laminated Prods 719 Old Scottsdale Rd
Scottsdale 602 946-8448
Cal G-E Laminated Prods 8555 E Florence Ave
Downey 213-869-3391
Fla G-E Laminated Prods 2104 S Lois Ave
Tampa 813-877-8294
Ill G-E Laminated Prods 720 Lee St
Elk Grove Village..............312-439-9080
Ind G-E Laminated Prods 1250 Stadium Dr
Indpls 317 634-8443
Mass G-E Laminated Prods 2120 Commonwealth Ave
Auburndale 617 969-5552
Minn G-E Laminated Prods 2524 Hennepin Ave
Mnpls 612 377-3810
Mo G-E Laminated Prods 10449 St Chas Rock Rd
St Ann 314-426-7220
NJ G-E Laminated Prods 4000 Westside Ave
North Bergen 201 864-3150
NY G-E Laminated Prods 4294 Albany St
Albany 518-374-2211
NY G-E Laminated Prods 3532 James St
Syracuse.........................315 456-7140
NC L A Merritt 1828 Banking St
Greensboro 919 273-6981
Ohio G-E Laminated Prods 6890 Pearl Rd
Cleveland 216-842-1000
Pa G S Velimesis 570 W DeKalb Pike
King of Prussia 215 962-3685

GENERAL ELECTRIC CO, LAMP GLASS DEPT
EUCLID AVE & CAMPBELL RD WILLOUGHBY
OHIO 44094 ....216 266-4011
EMP 250,000 OVER $10,000M
Cal GE - Lamp Glass Dept 2747 S Malt Ave
Los Angeles 723-2541
Ill GE-Lamp Glass Dept 5901 N Cicero Ave
Chicago 312 282-4905
Mass GE - Lamp Glass Dept 50 Industrial Pl
Newton Upper Falls 332-6200
NJ GE - Lamp Glass Dept 133 Boyd St Newark .824-5200
Can GE-Lamp Glass Dept 165 Dufferin St
Toronto Ont 416 537-4481

GENERAL ELECTRIC CO LAMP METALS &
COMPONENTS DEPT 21800 TUNGSTEN RD
CLEVELAND OHIO 44117.............216 266-3786
J GALVIN
Cal Gen Electric Co 349 First St Los Altos 948-5000
Ill Gen Electric Co 5901 N Cicero Ave Chicago .282-7902
NJ Gen Electric Co 99 Washington St E Orange .675-6100
Ohio Gen Electric Co 21800 Tungsten Rd
Cleveland 266-3788
RI Gen Electric Co 586 Atwells Ave Providence .421-1610

GENERAL ELECTRIC CO MAGNETIC MATLS BUS
SECT 7842 N NEFF PL EDMORE
MICH 48829 ....616 427-5151
R TSCHAEKOFSKE

GENERAL ELECTRIC CO MINIATURE LAMP DEPT
NELA PARK CLEVELAND OHIO 44112...216 266-2121
G DAVIS
Cal General Electric Co 2747 S Malt Ave
Los Angeles 723-2541
Colo General Electric Co 6501 Stapleton Dr N
Denver 388-4611
Fla General Electric Co 3655 NW 71st St
Miami 693-3811
Ga General Electric Co 120 Ottley Dr NE
Atlanta 875-0921
Haw General Electric Co 1109 Bethel St Honolulu .537-3280
Ill General Electric Co 550 W Jackson Blvd
Chicago 332-4712
Ind General Electric Co 2511 E 46th St F-1
Indnpls............................547-5511
Ky General Electric Co 2311 S Brook St
Louisville 637-3651
La General Electric Co 4800 River Rd
New Orleans.......................835-6421
Md General Electric Co 1401 Parker Rd
Baltimore..........................242-5700
Mass General Electric Co 50 Industrial Pl
Newton Upper Falls 332-6200
Mich General Electric Co 15135 Hamilton Ave
Detroit.............................883-0200
Minn General Electric Co 500 Stinson Blvd
Minneapolis 331-4050
Mo General Electric Co 535 E 14th Ave
N Kansas City 471-0123
NJ General Electric Co 133 Boyd St Newark ...824-5200
NY General Electric Co 219 E 42nd St
New York...........................751-1311
NC General Electric Co 1001 Tuckaseegee Rd
Charlotte 376-6585
Ohio General Electric Co 49 Central Ave
Cincinnati..........................421-6810
Okla General Electric Co 2809 NW Expwy
Oklahoma City 842-4028
Pa General Electric Co Rt 202 at Expwy
King of Prussia....................688-5900
Tenn General Electric Co 2021 S Latham St
Memphis 948-2642
Tex General Electric Co 6500 Cedar Springs Rd
Dallas 351-3725
Va General Electric Co 1510 Willow Lawn Dr
Richmond..........................282-7644
Wash General Electric Co 2400 6th Ave S Seattle .622-8081
Wis General Electric Co 8100 W Florist Ave
Milwaukee 462-3860

GENERAL ELECTRIC CO, MOBILE RADIO DEPT
BOX 4197 LYNCHBURG VA 24502 ......703-VI6-7311
J LIGHTNER

GENERAL ELECTRIC CO ORDNANCE SYSTEMS
100 PLASTICS AVE PITTSFIELD
MASS 01201 ....413 443-3561
R HARDESTY EMP 4000 ENG 900
OVER $10,000M
DC H H Dearing Jr 777 14th St N W
Washington 393-3600

GENERAL ELECTRIC CO SILICONE PRODS DEPT
SECTION EBG WATERFORD N Y 12188 ..518 237-3330
V TAYLOR
Cal GE-Silicone Prods 8555 E Florence Ave
Downey 773-3144
Conn GE-Silicone Prods 935 Whiteplains Rd Trumbull
DC GE-Silicone Prods 777 14th St NW
Washington 393-3600
Ga GE-Silicone Prods 1819 Peachtree Rd NE
Atlanta 404 351-4400
Ill GE-Silicone Prods 1301 W 22nd St
Oak Brook 654-4570
La GE-Silicone Prods Box 19201 New Orleans ..488-6684
Mass GE-Silicone Prods 2120 Commonwealth Ave
Auburndale 969-5550
Mich GE-Silicone Prods 700 Antoinette St
Detroit...........................872-2600
Minn GE-Silicone Prods 7710 Computer Ave
Mnpls 926-0026
Mo GE-Silicone Prods 1530 Fairview Ave
St Louis..........................429-6930
NJ GE-Silicone Prods 134 Evergreen Pl
East Orange.......................678-5080
NY GE-Silicone Prods 1495 Fillmore Ave
Buffalo 892-8002
NC GE-Silicone Prods 1828 Banking St
Greensboro........................273-6981
Ohio GE-Silicone Prods 3430 S Dixie Hwy Dayton .298-0311
Pa GE-Silicone Prods 4930 Buttermilk Hollow Rd
W Mifflin 466-6700
Tex GE-Silicone Prods 3130 Southwest Frwy
Houston 528-6356
Wash GE-Silicone Prods Box 6100 Seattle 244-7750
Can GE-Silicone Prods 940 Lansdowne Ave
Toronto, Ont 534-6511

GENERAL ELECTRIC CO, SPECIALTY CONTROLS
WAYNESBORO VA 22980
EMP 2000
Sales Office in all major citie

GENERAL ELECTRIC CO WIRE & CABLE DEPT
1285 BOSTON AVE BRIDGEPORT
CONN 06602......................203 334-1012
Ala GE-Wire & Cable Dept 2151 Highland Ave
Birmingham 322-7683
Cal GE-Wire & Cable Dept 2142 S Tubeway Ave
LA................................685-7030
Cal GE-Wire & Cable Dept 1034 66th Ave
Oakland 638-0725
Fla GE-Wire & Cable Dept 1010 Executive Ctr Dr
Orlando 841-7601
Ga GE-Wire & Cable Dept 1699 Tully Circle NE
Atlanta 633-4522
Ill GE-Wire & Cable Dept 5726 W 51st St
Chicago 735-2244
Ind GE-Wire & Cable Dept 3750 N Meridian St
Indianapolis 923-7221
Iowa GE-Wire & Cable Dept 131 E 4th St
Davenport 355-0231
Ky GE-Wire & Cable Dept 4840 Brownsboro Rd
Louisville 452-3191
La GE-Wire & Cable Dept 4833 Conti St
New Orleans.......................488-6684
Md GE-Wire & Cable Dept 1 N Charles St
Baltimore.........................685-6500
Mass GE-Wire & Cable Dept 375 Elliot St
Newton Highlands..................969-8200
Mich GE-Wire & Cable Dept 700 Antoinette St
Detroit...........................872-2600
Minn GE-Wire & Cable Dept 1500 Lilac Dr S
Minneapolis 544-6699
Mo GE-Wire & Cable Dept 1015 Locust St
St Louis..........................436-4343
Mo GE-Wire & Cable Dept 911 Main St
Kansas City 842-9745
NY GE-Wire & Cable Dept 8 Colvin Ave Albany ..459-1500
NY GE-Wire & Cable Dept 111 8th Ave
New York..........................924-7300
NY GE-Wire & Cable Dept 3532 James St
Syracuse 456-7568
NC GE-Wire & Cable Dept 816 Lawton Rd
Charlotte 399-8371
NC GE-Wire & Cable Dept 801 Summit Ave
Greensboro........................274-2208
Ohio GE-Wire & Cable Dept 4520 W 160th St
Cleveland 267-6300
Ohio GE-Wire & Cable Dept 2702 Erie Ave
Cincinnati........................871-6300
Okla GE-Wire & Cable Dept 1330 Classen Bldg
Oklahoma City 236-5022
Ore GE-Wire & Cable Dept 2929 NW 29th Ave
Portland 228-0281
Pa GE-Wire & Cable Dept 875 Greentree Rd
Pittsburgh 921-5150
Pa GE-Wire & Cable Dept 4311 N G St
Philadelphia 289-6310
Tenn GE-Wire & Cable Dept 1805 Hayes St
Nashville 242-7785
Tex GE-Wire & Cable Dept 8101 Stemmons Expwy
Dallas 631-0530
Tex GE-Wire & Cable Dept 5718 Armour Dr
Houston 928-5491
Utah GE-Wire & Cable Dept 431 S 3rd E
Salt Lake City 364-1891
Va GE-Wire & Cable Dept 1508 Willow Lawn Dr
Richmond..........................282-4071
Wash GE-Wire & Cable Dept 660 S Othello St
Seattle 722-6176
Wis GE-Wire & Cable Dept 615 E Michigan St
Milwaukee 271-5000

GENERAL ELECTRODYNAMICS CORP
4430 FOREST LN GARLAND TEX 75040
TWX 910 860 5193..................214 BR 61161
M NICHOLSON EMP 180 ENG 32
$5,000-$10,000M
Cal Griot Assoc 3002 Midvale Ave Los Angeles
Va North American Engrg Corp 1925 N Lynn St
Arlington

GENERAL-ELECTRO MECHANICAL CORP
785 HERTEL AVE BUFFALO N Y 14207 ..716 876-9685
J RANDOLPH EMP 196 ENG 36 $2,500-$5,000M
Cal E R Conn 499 E Rowland Covina 213-966-1664

GENERAL ELECTRONIC LABS DIV SIPPICAN CORP
1085 COMMONWEALTH AVE BOSTON
MASS 02215 ....617 783-0460
E MARTIN EMP 250 ENG 50 $2,500-$5,000M

GENERAL EQUIPMENT & MFG CO
3300 FERN VALLEY RD LOUISVILLE
KY 40213 ....502 969-2386
D WEST EMP 25 ENG 5 $500-$1,000M
Ala Gaines & Co, Inc 2910 Linden Ave
Birmingham 205-879-0574
Ariz Portis & Assoc 132 E Stetson Dr
Scottsdale 602 945-4925
Cal R B Clapp Co 5404 Alhambra Ave
Los Angeles..................213 225-2395
Colo J H Dorough Co Inc 6096 W 55th Pl
Arvada 904 422-1487
Fla Industrial Systematics Corp 1802 S Bay St
Eustis 904-357-5100
Haw Natl Electric Supply Co Ltd 611 Keeaumoku St
Honolulu..........................941-3091
Ill Electro-Kinetics, Inc 7040 Higgins Ave
Chicago 312-763-2200
Ind J & F Distributing Co, Inc 2700 N College Ave
Indianapolis 317-925-8259
Ky Air Hydro Power Co 4400 Bishop La
Louisville 502-454-1000
La Rema Inc 3315 Magazine St
New Orleans 504 895-2065
Md McCourt Co Inc 28 W Penna Ave
Towson 301 823-3455
Mass Bordewieck Eng Sales Co 221 Grove St
Braintree 617 843-0845
Mich Basic Service Corp 16544 Plymouth Rd
Detroit......................313-837-8820
Mo Alfred F Gliedt Assoc 10869 Spring Garden Dr
St Louis 314 868-7445
NM A & B Sales Co Box 11312 Sta E
Albuquerque..................505-298-0770
NY MWM Assoc 590 Merrick Rd Lynbrook .516-593-6190
Ohio Hutco Electric, Inc 6212 Carnegie Ave
Cleveland 216-432-2155
Pa Fluid Power, Inc Mt Pleasant & RR Ave
Ambler............................643-0350
Tex Industrial Equip Co of Houston
6831 Navigation Blvd Houston 928-3463
Utah Control Equip Co 2255 S 2d W
Salt Lake City...............801 487-7741
Va Virginia Tech Assoc Inc 15 S Belmont Ave
Richmond..........................353-6411
Wash H M Denny Co 3410 16th Ave W
Seattle 206 282-7200
Wis Automation Engrg Co Inc 12740 N River Rd, 43W
Mequon 354-4984
Can Forster Instruments, Ltd 33 Algie Ave
Toronto Ont 255-5991
GB Kempston Electrical Co Ltd Rushden
Northamptonshire ....RU 4351
Neth Handelscompagnie NV Waalhaven OZ 1
Rotterdam
Belg NV Pleuger SA Turnhoutsebaan 511/529
Wijnegem Belgium
Aust Clarke-Strickland Pty Ltd 7 Vale St
St Kilda Aust 69-3193

GENERAL FINDINGS CO INDUSTRIAL DIV
56 SCHOOL ST ATTLEBORO
MASS 02703 ....617 CA 2-1155
A MARCELLO, JR EMP 250 ENG 4
$1,000-$2,500M
Cal Ken Babin 7327 Lankershim Blvd
N Hollywood 877-0458
Ill R Snow 801 E Marion St Arlington Hgts 392-9026
NY S Greenbaum 153-25 88th St
Howard Beach 848-6578
RI G Forman 21 Stratford Rd Edgewood 351-3000

GENERAL GASKETS INC MIDDLETOWN
CONN 06457 ....203 346-6203
J LONDON EMP 12 UP TO $100M

GENERAL HARDWARE MFG CO INC 80 WHITE ST
NEW YORK N Y 10013 ....212 BA 72648
A ROSENBERG EMP 60 ENG 4 $5,000-$10,000M

GENERAL ILLUMINATION INC
2429 UNIVERSITY AVE ST PAUL
MINN 55114 612-646-2823
J COUTURE EMP 150 ENG 2 $2,500-$5,000M
Ariz Coronado Electronics Assoc Box 3176
Scottsdale 602-947-9060
Cal Coplan Assoc 4206a Glencoe Ave
Venice 213-397-2166
Colo J F Hurlbut Co 2240 S Adams St
Denver 303-756-2046
Fla Spartak Inc Box 915 Winter Park
Ill Flat Engrg Assoc 5133 St Charles Rd
Bellwood.....................312-547-6200
Mass 7new England Elctn Sls Corp 590 Washington St
Canton 617-828-4835

Mich Butchart-Rathsburg & Assoc
16637 E Warren Ave Detroit 313-882-1717
Minn Technical Assoc 6121 Excelsior Blvd
Mnpls 612-929-6721
Mo JC Mankus & Assoc 400 Brookes La
Hazelwood 314-731-4334
NJ A Wetterhahn Co 201 W Cuthbert Blvd
Oaklyn 609-858-3003
NY Graydon-Sherman Inc 230 Madison Ave
Morristown N J 201-538-9246
NC Byrd & Barbour Sales Inc Box 30
Smithfield 919-934-8136
Ohio John O Olsen Co 16201 Shaker Blvd
Cleveland 216-752-5444
Ore Van Voorhees Assoc Box 4383
Portland 503-287-6633
Tex Ev Smith Sales Co 7007 Gulf Fwy
Houston 713-649-5756
Can Atkinson & Vail Ltd 5 Allenbury Gdns
Willowdale Ont 416-225-7494

GENERAL INDUSTRIES CO TAYLOR & OLIVE STS
ELYRIA OHIO 44035
TWX 810-424-2109 ......216 323-3136
EMP 1415 ENG 14 OVER $10,000M
Ark Meredith Young Assoc Rte 2, Box 705
Hot Springs ......CO 2-1365
Cal R S Hopkins Co 15016 Ventura Blvd
Sherman Oaks ......ST 8-5501
Ill Jack A Funk 526 Main St Glen Ellyn 858-1110
Mich J E Murtagh Assoc Inc 29600 Northwestern Hwy
Southfield ......EL 7-1266
Minn J B Wright & Assoc Bus Lumber Exchange Bldg
Minneapolis 335-7833
NJ Mech-Elec Sales Co 16 S Main St Medford .654-8209
NY P Saftler Assoc Inc 157 W 57th St
New York ......CI 7-3855
Ohio Mong & Assoc Box 1033 Mansfield 419-524-2835
SC G E Younginer & Assoc 249 Lancewood Rd
Columbia 256-1358
Tex Koch Engineering & Sales Co 309 Meadows Bldg
Dallas 369-5136
Wash James J Backer Co 221 W Galer St
Seattle ......AT 3-6470
For Rocke Intl Corp 13 E 40th St
New York, NY ......MU 9-0200

GENERAL INSTRUMENT CORP AUTOMATIC MFG
DIV 65 GOUVERNEUR ST NEWARK N J 07104
TWX 710-995-4545 ......201 485-2100
A ADESSA EMP 876 ENG 46 OVER $10,000M
Cal Starr Sales Co 20300 Reaza Pl
Woodland Hills 213-348-5241
Conn Gerber Sales Co Inc Box 2917
New Haven 203 777-6279
Fla General Corp 321 Northlake Blvd
No Palm Beach 305 842-5259
Ill General Instrument Corp 6054 W Touhy Ave
Chicago 312 774-7800
Ind Morris & Cunningham Assoc 720 E 65th St
Indianapolis 317 255-2458
Iowa Howard R Brown Sales Co 3400 Indian Rd SE
Cedar Rapids
Mass Gerber Sales Co Inc 170 Second Ave
Waltham 617 891-8040
Minn R G Ragon Inc 1136 W Larpenteur Ave
St Paul 612 488-6634
NY Harry Zion 125 E 72nd St New York ...212 744-3382
Ohio G&H Sales Co Box 37416 Cincinnati ...513 761-6185
Pa Philip Lepofsky Box 144 Upper Darby ..215 477-2764
Tex Delzell & Evans Assoc Box 35093
Dallas 214 351-1839
For General Instrument Intl 600 W John St
Hicksville, NY ......OV 1-8000

GENERAL INSTRUMENT CORP, CAPACITOR GRP
WALNUT ST TAZEWELL VA 24651 .....703 988-5551
R BURKE EMP 2020 ENG 45 OVER $10,000M
Ariz Jarko Assoc 2032 N 27th Ave Phoenix .602-272-2684
Cal Starr Sales 20300 Reaza Pl
Woodland Hills 213-348-5241
Colo Electronic Component Sales, Inc 2340 W Main St
Littleton 303 798-8481
Conn Comp Rep Assoc Inc 14 Bowling Green Dr
North Haven 203 239-9762
Fla General Corp 321 N Lake Blvd
North Palm Beach 305 842-5259
Ill Gianaras Sales Co 7051 W Wilson Ave
Chicago 312 774-4600
Ind Needler Sales Co 5402 Fairfield
Fort Wayne 219 744-5226
Iowa Kelley/Schmitz/Winkeler Assoc 3831 43rd St
Des Moines 515 279-9235
La Jack F McKinney Sales Co 2012 Condon Ave
Metairie 504 887-1723
Md Barnhill & Assoc Inc 1931 Greenspring Dr
Timonium 301 252-5610
Mass Comp Rep Assoc Inc 116 Great Plain Ave
Needham 617 444-2484
Mich G & H Sales Co 24001 Southfield Rd
Southfield 313 358-1910
Minn Industrial Components, Inc 4004 W 78th St
Minneapolis 612 927-9991
Miss Herron Assoc Box 3008 Meridan 601 482-3631
Mo Kelly-Schmitz-Winkeler Assoc 7546 Troost Ave
Kansas City 816 363-5651
NJ General Instr Corp 65 Gouverneur St
Newark 201 485-2100
NM Electronic Component Sales, Inc 209 San Pablo
Albuquerque 505 256-3663
NY W A Franklin Sales Corp 2 Standish Terr
Syracuse 315 446-1120
Ohio G & H Sales Co 13690 Fox Hill Dr
Novelty 216 338-1122
Okla Jack F McKinney Sales Co Box 3958
Tulsa 918 742-4595
Pa Jerry Bresson Assoc 107 Forest Ave
Narberth 215 839-6770
Tenn Herron Assoc Box 1521 Chattanooga ..615 698-4188
Tex Jack F McKinney Sales Co Box 1026
Bellaire 713 665-3653
Utah Electronic Component Sales, Inc Box 2066
Salt Lake City 801 278-6044
Va Barnhill & Assoc Inc Box 1104
Lynchburg 703 384-2062
Wash Bill Waddell Co 10211 NE 31st Pl
Bellevue 206 822-9629
Can Gen Instr of Can, Ltd 151 Weber St, S
Waterloo, Ont 519 744-8104

GENERAL INSTRUMENT CORP ELECTRONICS SYS
DIV. 100 ANDREWS RD HICKSVILLE
N Y 11802 ......516-OV1-4300
M SCHWARTZ EMP 900 ENG 250 OVER $10,000M

GENERAL INSTRUMENT CORP, HARRIS ASW DIV
33 SOUTHWEST PARK WESTWOOD
MASS 02090 ......617 326-7815
J IVES EMP 200 ENG 40 $2,500-$5,000M
DC General Instrument Corp 2600 Virginia Ave NW
Wash 965-3712
NY General Instrument Corp Andrews Rd
Hicksville 681-4300

GENERAL INSTRUMENT CORP, SEMICONDUCTOR
PRODS GRP 600 W JOHN ST HICKSVILLE
N Y 11802 TWX 510-222-2388 ....516 681-8000
L SOLOMON EMP 2526
Ala General Instrument Corp 2021 Clinton Ave W
Huntsville 536-9671
Ariz General Instrument Corp 100 W Camelback Rd
Phoenix 277-6295
Cal General Instrument Corp 18455 Burbank Blvd
Tarzana 873-6500
Colo Electronic Component Sales 2340 W Main St
Littleton 798-8481
Conn General Instrument Corp 608 Ferry Blvd
Stratford 203 378-9308
DC General Instrument Corp 2600 Virginia Ave NW
Washington 965-3620
Fla General Corp 321 Northlake Blvd
North Palm Beach 842-5259
Ill General Instrument Corp 6054 W Touhy Ave
Chicago 774-7800
Ind G & H Sales 100 W Main St Fort Wayne ...744-3072
Iowa Jerry Vrbik Co 2818A Ave NE Cedar Rapids .365-0461
Md Component Sales Inc 7 Church La Baltimore .484-3647
Mass General Instrument Corp Southwest Park
Westwood 329-1480
Mich G & H Sales 24001 Southfield Rd Southfield .358-1910
Minn Hamilton, Grayden & Flemmer Hamilton Rd
Hopkins 941-1120
NJ R T Reid Assoc 530 Main St Fort Lee 944-9323
NY Harries-Kershaw 15 Centerbury La
E Aurora 652-1221
Ohio G&H Sales Box 37416 Cincinnati 761-6185
Okla Ammon & Champion 5500 E Skelly Dr Tulsa .627-7670
Pa C H Newson & Assoc 627 Bethlehem Pike
Phila 248-3377
Tex Ammon & Champion Box 35263 Dallas 357-8441
Wash Bill Waddell Co 10211 NE 31st Pl Bellevue ..822-9629
Can General Instrument of Can Ltd 151 Weber St
Waterloo, Ont 519 744-8101
Fr General Instrument France 8 Rue de Montyon
Paris 9 8247121
Ger General Instrument Deutschland
Sonnenbergerstr 64 62 Wiesbaden ..06121 3037-50
GB General Instrument (U.K.) Ltd 136 Cromwell Rd
London S W 7 01-370-5133
Ital General Instrument Europe Via Turati 28
Milano 654475

GENERAL INSTRUMENT CORP F W SICKLES DIV
165 FRONT ST CHICOPEE MASS 01014
TWX 710-353-1301 ......413 594-4781
M WAGENER EMP 1100 ENG 100
OVER $10,000M
Cal Mann & Smith Box 852 Northbridge 349-2073
Colo Electronic Components Sales P O Box 784
Littleton 798-8481
Fla General Corp 321 Northlake Blvd
North Palm Beach 842-5259
Ill General Instrument Corp 6054 W Touhy Ave
Chicago 774-7800
Mass Gerber Sales Co, Inc 176 2nd Ave Waltham .891-8040
Minn R G Ragon Co 1136 Larpenteur Ave St Paul .488-6634
NM Electronic Component Sales Inc Box 3087, Sta D
Albuquerque 256-3663
NY Donert Assoc 125 E 50th St New York 355-4190
Ohio G&H Sales Co 7215 Market Pl Cincinnati ...761-6185
Tex Dunbar Assoc Inc 417 Meadows Bldg Dallas .363-2536
Utah Electronic Component Sales Box 2066
Salt Lake City 262-3700
Wash Jas J Backer Co 221 W Galer St Seattle ...283-6470
Can General Instrument of Canada, Ltd
151 Weber St S Waterloo 744-8101

GENERAL INSTRUMENT CORP THERMOELECTRIC
DIV 65 GOUVERNEUR ST NEWARK
N J 07104 ......201 485-2100
O SCHRIBER EMP 40 ENG 12 $500-$1,000M
DC General Instrument 2600 Virginia Ave N W
Washington 965-3712

GENERAL INSTRUMENT EUROPE SPA
PIAZZA AMENDOLA 9 MILANO ITALY
TWX 31454 4697751
S MINORETTI EMP 500 ENG 140
$5,000-$10,000M
Den A/S Nordisk Elektronik Danasvej 2
Copenhagen V ......EVA 8285/8238
Fr G I France 8 Rue de Montyon Paris 9e 824-7121
Ger General Instr Deutchland Neumarkter Stra 64
Munich 2 80 ......44 85 66
GB G I (UK) Ltd Victoria Rd South Ruislip Mdsx .845-1288
Neth Eurolectron Soestdijkseweg 328 Bilthoven F83607
Swed Svenska Telekon Bolaget Box 328 Farsta 3 ...949023
Swit Ingenieurburo Dam Box 219 Zurich 8055 335515
Belg C P Clare Intl NV 102 Av Gen Gratry
Bruxelles 4 ......02-36019F
Isrl Alexander Schneider Ltd 44 Petachtiqua Rd
Tel Aviv 32089

GENERAL INSTRUMENT OF CANADA LTD
151 WEBER ST S WATERLOO ONT 519 744-8101
J THOMPSON EMP 500 ENG 20 $5,000-$10,000M

GENERAL KINETICS INC
11425 ISAAC NEWTON SQ S RESTON
VA 22070 ......703 471-7522
E OLSEN EMP 212 ENG 12 $1,000-$2,500M
Cal General Kinetics Inc 633 S LaBrea
Los Angeles 213-935-0201
Colo Klein Aerospace Box 1056 Englewood ..303-781-4967
Fla MacDonald Computer Supplies Co
11730 W Biscayne Canal Rd Miami ..305-PL7-1091
Fla Consulting Assoc Inc 1623 Prudential Bldg
Jacksonville 904-359-2886
Ga General Kinetics Inc 5279 Buford Hwy
Atlanta 404-457-7770
Ill General Kinetics Inc 9b N Elmhurst
Prospect Hts 312-255-0240
Ill Datapower Inc Executive Plaza
Park Ridge 312 692-4183
Ill Time Brokers Inc 75 East Wacker St
Chicago 312-641-1970
Mass W E Weeton Co 42 Newbury Pk
Needham 617-444-1012
Mich Ace Tel-A-Tape Paper, Inc 15324 Mack Ave
Grosse Pointe 313-881-9060
Mich Jenca Assoc Box 9547 Lansing 517-484-2134
Minn Sexton Supply Co 324 N First St
Minneapolis 612-333-1281
Mo Conner Universal Co 3930 Lindell Blvd
St Louis 314-652-4892
Neb Sahler Business Forms 2530 Harney St
Omaha 402-341-4278
NJ General Kinetics Inc 155 Church St
New Brunswick 201-545-4315
NY Machine & Prods Co 52 Wall St
New York 212-944-4370
NY Time Brokers, Inc 380 Lexington Ave
New York 212-867-5661
Okla Davis Equip Co 5110 E 15th St Tulsa ..918 939-3344
Tenn Dixie Business Systems 731 Commerce St
Nashville 615-242-4595
Tex Davis Equip Co 5146 Richmond Ave
Houston 713 622-1153
Can Barshaw Office Systems Corp 740 St Maurice St
Montreal 3 Que 514-866-2849
For B Freudenberg Inc 50 Rockefeller Plaza
New York ......212 PL 7-9130
Fr Technique et Produits Cite des Bruyeres Rue Carle
Vernet 92 Sevres 408-14-00
Ger BFI Elektronik Gmbh Hainer Weg 26-28
Frankfurt 0611 617099
GB Willis (London) Ltd 10 New St
Bishopsgate London EC 2 ......BIS 3425
Neth N Samsom Ltd Alphen aan den Rijn
Jap Kanematsu Gosho USA Inc 1 Whitehall St
New York, NY 212-HA5-2700
Swit Robinco Ag Zurich Bellerivest 67
8034 Zurich 25-47-96-98
Mex PRIC/SA Zacatecas Num 229 Desp 517
Mexico City 25 147416
Fin K Osakeyhtio Postilokero 20120 Helsinki 20
Aust Magnecord Australasia Pty Ltd Box 882, G P O
Sydney 29-1704

GENERAL LABORATORY ASSOC INC BOX 310
NORWICH N Y 13815
TWX 607-334-3228 ......607 334-3264
W BERBERIAN EMP 550 ENG 60
$5,000-$10,000M
Ohio Joseph Minarovich 35 S St Clair St Dayton

GENERAL LASER CORP 8 ERIE DR NATICK
MASS 01760 617-653-9310
K WOOD EMP 40 ENG 10 $250-$500M

GENERAL MAGNETIC CORP 10001 ERWIN AVE
DETROIT MICH 48234 ......313 921-7558
R CAMPBELL EMP 85 ENG 6
Cal G B Leland Box 8166 Universal City 465-6545
Ill R Thompson 125 S Elm Palatine 625-4085
Ill Corey 2538 W Peterson Ave Chicago 973-5300
Mass Gysan Assoc Box 172 Beverly 774-2012
NJ H Delaney 78 Sweetbriar Dr Clark 382-7643
Ohio Rockford Controls Ohio, Inc
2077 Embury Park Rd Dayton 374-1911

GENERAL MAGNETICS INC 135 BLOOMFIELD AVE
BLOOMFIELD N J 07003
TWX 710 994-4779 ......201 743-2700
R FROESE EMP 75 ENG 4 $1,000-$2,500M
Mass Fred R Lesser Box 241 Bedford

GENERAL MICROWAVE CORP 155 MARINE ST
FARMINGDALE N Y 11735 ......516 694-3600
M WIND EMP 100 ENG 12 $1,000-$2,500M
Ala Gentry Assoc 2109 W Clinton Ave
Huntsville 205 534-9771
Cal RF Assoc Inc 1621 Pontius Ave
Los Angeles 213 478-1586
Colo D E Bond Assoc 2149 S Clermont
Denver 303 756-1234
Conn Burlingame Assoc 310 S Fulton Ave
Mt Vernon, NY 914 664-7530
Fla Gentry Assoc 550 N Bumby Ave
Orlando 305-841-7740
Ga Gentry Assoc Box 13513, Sta K
Atlanta 404 233-3816
Ill Cain & Co 1203 Ironwood Dr
Mt Prospect 312 253-3578
Kan Palatine Engrg Sales, Inc 7520 W 63 St
Overland Park 913-831-3033
Md S & S Assoc 7720 Wisconsin Ave
Bethesda 301-654-1434

Mass Burlingame Assoc 7 Wellington St Waltham 617 894-1955
Mo Palatine Engrg Sales, Inc 8622 St Charles Rock Rd St Louis ... 314 426-7055
NM D E Bond Assoc 401-D San Pedro NE Albuquerque 505-255-7634
NY Bertram D Aaron & Co 55 Northern Blvd Greenvale 516-621-0630
NC Gentry Assoc 116 E O'Neal Ave Burlington 919-227-2581
Pa S & S Assoc Inc Boro Line Rd King of Prussia 215 265-3450
Tex Cain & Co 8609 NW Plaza Dr Dallas ... 214 369-2897
For Sylvan Ginsbury Ltd 72 W 45th St New York, NY 212 687-3213
For Overseas Distributing Co Box 7342 Karachi Pak
For Guevara & Sons Inc Box 3130 Manila
Den J Arndt Jensen Kongevejen Allerod
Fr Salies S.A. 11, rue Leon Morane Paris
Ger Ginsbury Electronic Zaenglweg 20 8 Munich 56
GB Livingston Labs 31 Camden Rd London NW 1
Neth Heijnen N.V. Postbus 10 Gennep
Ital G G Gorgatti Via Borromei 5 Milan
Swed R E O Olsson Tradgardsgatan 7 Motala
Swit Metravel S.A. Chemin de la Dode Onex-Geneva
Belg Heijnen N.V. Gaerveldstr 40 Hasselt
Braz H Merenholz Rua Mexico 70-803 Rio de Janeiro
Ind Forbes, Forbes, Campbell & Co Ltd Box 79 Bombay
Isrl Racom Electronics 74 Nordau Blvd Tel-Aviv
Spn Instr Electronicos Del Olmo SA La Gleva 3 Barcelona
Fin Havulinna Oy Vuorikatu 16 Box 468 Helsinki
Aust Jacoby, Mitchell & Co Pty Ltd 469-475 Kent St Sydney, NSW

GENERAL OCEONOLOGY INC 27 MOULTON ST CAMBRIDGE MASS 02138 617-492-6300
A BLOCK EMP 25 ENG 17
Ala Technical Assoc Box 4088 Huntsville ... 205-883-0872
Ariz R A Mayes Co 4747 N 16th St Phoenix . 602-279-5243
Cal Abco Co 555 W 9th St San Pedro 213-833-8333
Colo R A Mayes Co Box 9 Broomfield 303-421-0706
Fla Technical Assoc 2319 E South St Orlando 305-424-5681
La Technical Assoc Box 731 Slidell 504-643-0868
Mich Electro Sales Assocs 10745 Morang Dr Detroit 313-886-2280
NM R A Mayes Co 8016 Zuni Rd S E Albuquerque 505-265-7989
NY Wm Printz Co 358 5th Ave New York .. 212-WI7-7764
Ohio Electro Sales Assoc 851 E 222nd Cleveland 216-261-5440
Pa Electro Sales Assoc 201 Penn Ctr Blvd Pittsburgh 412-371-9449
SC Technical Assocs Box 5583 Spartanburg 803-585-1461
Tex R A Mayes Co Box 1021 Richardson ... 214-235-3043
Va Gans Fryling Inc 2030 16th St N Arlington 703-527-3262
Wash Cane-Topp Co 1433 130th St NE Bellevue 206-GL4-0691

GENERAL OPTICS INC 12 PROSPECT ST BLOOMFIELD N J 07003 201-748-0510
J MUTCH EMP 6 ENG 2 $100-$250M

GENERAL PLASTICS CORP 55 LA FRANCE AVE BLOOMFIELD N J 07003
TWX 710-994-4781 ..... 201 748-5500
J DESMOND EMP 85 ENG 4
Cal Sentec Co 821 Glenhaven Dr LaHabra
Wash Bill Waddell Co Box 1051 Bellevue

GENERAL POWER CORP 1122 N LABREA AVE INGLEWOOD CAL 90302 213-678-6311
C HUDDLESTON EMP 25 ENG 5 $250-$500M

GENERAL PRODUCTS CORP 107 SALEM ST UNION SPRINGS N Y 13160 ..... 315 889-7361
J WILLIAMS EMP 375 ENG 7 $5,000-$10,000M
Mich General Prods Corp 17500 Northland Park Ct Southfield 444-4434

GENERAL PRODUCTS LAB 111 LOCK ST NASHUA N H 03060 603-883-1561
D PATTERSON EMP 25 ENG 6
Colo Bill Hayes Co 4205 Moorhead Ave Boulder 303-443-2858
Ill Hutchison Assoc 1147 Oxford Dr Deerfield
Kan R ONeil 4200 W 99th St Overland Pk .. 913-649-0742
Md Oakmont Engineering 99 Eldrid Dr Silver Spring 301-622-2100
Mich Electro-Enterprises 10745 Morang Dr Detroit 313-886-2281
NH Cesco Inc 111 Lock St Nashua 603-883-3434
NJ Van Valkenburg Assoc 11 Meadow Dr Little Falls 201-256-9191
Tex Lomax Engrg 6338 Prestonshire La Dallas 214-361-1134
Wash Jon B Jolly Pier 59 Seattle 206-624-2152
Can Brock Electronics Ltd 27 Perth St Lyn Ont 613-342-0152

GENERAL RADIO CO 300 BAKER AVE WEST CONCORD MASS 01781
TWX 710 347-1051 ..... 617 369-4400
L CHAMBERLAIN EMP 1200 ENG 120 OVER $10,000M
Cal General Radio Co 1000 N Seward St Los Angeles 213-469-6201
Cal General Radio Co 626 San Antonio Rd Mountain View 415-948-8233
Cal General Radio Co SanJuan Capistrano .. 714-232-2727
Colo General Radio Co Boulder 303-447-9225
Conn General Radio Co Westbrook 203-399-6882
Fla General Radio Co Coco Beach 800-241-5122
Ga General Radio Co 1711 Tullie Circle NE Atlanta 404-633-6183
Ill General Radio Co 9440 W Foster Ave Chicago 312-992-0800
Ind General Radio Co Carmel 317-636-3907
Md General Radio Co 11420 Rockville Pike Rockville 301-946-1600
Mich General Radio Co Livonia 313-261-1750
NJ General Radio Co 845 Broad Ave Ridgefield 201-943-3140
NM General Radio Co Albuquerque 505-255-0611
NY General Radio Co E Molloy Rd Syracuse 315-454-9323
NY General Radio Co Canandaigua 315-394-2037
NC General Radio Co Greensboro 919-288-4316
Ohio General Radio Co 5579 Pearl Rd Cleveland 216-886-0150
Ohio General Radio Co Kettering 513-434-6979
Pa General Radio Co Ft Wash Ind Pk Ft Washington 215-646-8030
Tex General Radio Co 2600 Stemmons Frwy Dallas 214-637-2240
Tex General Radio Co Houston 713-464-5112
Wash General Radio Co Bellevue 206-454-7545
Can General Radio Can Ltd 99 Floral Pkwy Toronto Ont 416-247-2171
Can General Radio Can Ltd 1255 Laird Blvd Mt Royal Que 514-737-3673
Can General Radio Can Ltd Ottawa Ont 613-233-4237
Fr General Radio France SA 14 Rue Crespin-Du-Gast Paris Ile 023-18-73
Ger General Radio GMBH Ampfing Str 46 D-8 Munchen 80 ..... 0811-40 18 17
Ger General Radio GMBH Rissener Str 102 D-2000 Wedel bei Hamburg ..... WED 3842
GB General Radio Co UK Ltd Bourne End Buckinghamshire 22567
Swit General Radio Co Overseas Helenestr 3 PO 124 Zurich 34 ..... (051) 47 70 20

GENERAL RAILWAY SIGNAL CO ROCHESTER N Y 14602 TWX 978317 716-436-2020
O STOWELL EMP 1400 OVER $10,000M
Cal Gen Railway Signal Co 1330 Broadway Oakland 893-3100
Ga Gen Railway Signal Co 3379 Peachtree Rd NE Atlanta 233-7373
Ill Gen Railway Signal Co Prudential Plaza Chicago 467-1221
Mass Gen Railway Signal Co 1029 Statler Office Bldg Boston 426-1003
Minn Gen Railway Signal Co 370 Wabasha St N St Paul 222-2319
Mo Gen Railway Signal Co 818 Olive St St Louis . 621-4696
NY Gen Railway Signal Co 230 Park Ave New York 689-7533
Can Gen Railway Signal Co Place Ville Marie Montreal 2 861-1536

GENERAL REED CO 19 WALNUT AVE CLARK N J 07066 ..... 201 382-7373
H SUNDERMEYER EMP 115 ENG 4 $500-$1,000M
ADV PG 541
Cal Willard Nott & Co 1485 Bayshore Blvd San Francisco 587-2091
Cal R L Assoc 14401 Gilmore St Van Nuys 780-1666
Fla Buchanan & Abrams Assoc Inc 1512 E Concord Ave Orlando ..... GA 3-8995
Ill Jack H Beck Assoc, Inc 7956 N Karlov Skokie 674-5151
Md Aeron Assoc 1110 Fidler La Silver Spring ... 585-3141
Mass Cirolia, Le Blanc Sales Co Inc 976 Main St Waltham 893-2742
Mich J C Hofstetter Co 700 E Maple St Birmingham 642-0590
Minn Caco, Inc Box 517 Lakeville 469-2171
Mo Harlan J Weisler Assoc 2050 Woodson Rd St Louis ..... HA 8-3934
NJ Ear Assoc Box 6132 Newark 762-9200
NY S Glassman Assoc Inc 28 Prestwick Terr Glen Cove ..... OR 6-1039
Ohio J C Hofstetter 5168 Valley View Dr Medina . 241-4880
Ore Dale G Weber Weatherly Bldg Portland 234-7671
Pa W Reeves Assoc 2973 N Providence Rd Media LO-6-6709
Wash Dale G Weber 403 Maritime Bldg Seattle ... 623-5990

GENERAL RELAY CORP 20 MERCER ST DOVER N J 07801 TWX 710-987-7929 ..... 201 361-1400
W SNEL EMP 100 ENG 5 $1,000-$2,500M

GENERAL RELIANCE DIV GEN RELAY CORP 20 MERCER ST DOVER N J 07801
TWX 710-987-7929 ..... 201 361-1400
W SNEL EMP 100 ENG 5 $1,000-$2,500M

GENERAL RESEARCH INC 309 S UNION SPARTA MICH 49345 ..... 616 887-0751
H NIES EMP 50 ENG 5
Ill G Andersen 1331 S Crescent Ave Park Ridge ..... TA 5-3627

GENERAL RESISTANCE INC DIV CHRONETICS INC 500 NUBER AVE MOUNT VERNON N Y 10550
TWX 710-560-0014 914-699-4400
L SILVERMAN EMP 100 ENG 8 $1,000-$2,500M
Ala Kemp Inst Inc 4306 Governors Dr Huntsville . 837-4304
Cal Q P L, Inc 1015 Fremont Ave South Pasadena 682-3705
Fla Fact-Tronics Box 3202 Orlando 423-7069
Ill Loren F Green & Assoc 5218 W Diversey Ave Chicago 312-286-6824
Md QED Elctns 880 Bonifant St Silver Spring 301-588-8134
Mass Vector Sales Inc 774 Pleasant St Belmont .. 489-1400
Mich Anderson Elec Co 19471 James Couzens Hwy Detroit 342-7133
Minn L F Green & Assoc 6225 University Ave NE Minneapolis 612-781-1611
Mo Harris-Hanson Co 7916 Paseo St Kansas City 816-444-9494
NJ QED Elctns Inc 2916 Federal St Canden 215-925-8711
NY QED Electronics 500 Nuber Ave Mt Vernon 914-664-0080
Ohio Rixan Assoc 5752 Wadsworth Rd Dayton ... 222-0011
Tex Kemp Engineering Co 2618 Manana Dr Dallas 357-6663
Wash Brennan Assoc Inc 208 Carlson Bldg Bellevue 206-454-9332
Wis Loren F Green & Assoc 830 Plateau Waukesha 414-786-2180
Can Whittaker Electronics 42 Howden Ave Ottawa, Ont 224-1221
Fr Imex-France 2 Rue Navoiseau Montreuil Seine
Ger Wenzel Elektronik Lamontstr 32 8 Munich 27
GB A E P Intl, Ltd London Rd Isleworth, Mdsx
Neth Heijnen N V Box 10 Maasweg 63, Gennep
Ital G G Gorgatti Via Borromei, 5 Rome
Jap Seki & Co, Ltd 9, 2-Chome Nihonbashi-Koamicho Chuo-Ku, Tokyo
Swed Svenksa AB Oltronix Jamtlandsgatan 125 Stockholm-Vallingby
Swit Chronetics Inc 39 rue Rothschild 1202 Geneva
Isrl S T G Intl, Ltd 52 Nachlat Benyamin St Tel-Aviv

GENERAL SCIENTIFIC DIV. 1535 FIRST ST SAN FERNANDO CAL 91341
TWX 213-764-5963 ..... 213 361-1193
L SMITH EMP 250 ENG 15
For Sales Reps see San Fernando Electric Mfg Co Listing

GENERAL SCIENTIFIC EQUIPMENT CO LIMEKILN PIKE & WMS AVE PHILADELPHIA PA 19150 215-424-1550
J KLINE EMP 25 $500-$1,000M

GENERAL SEMICONDUCTOR INDUSTRIES INC 230 W 5TH ST TEMPE ARIZ 85281 ..... 602 966-7263
R WINTERS EMP 35 ENG 6 $500-$1,000M
Ariz Carter Assoc 201 W. 1st St Scottsdale . 602 947-4355
Cal W J Purdy Co 312 7th St San Francisco 415-863-3300
Fla W Ben Wimberly Co 525 S Ft Harrison Ave Clearwater 813-446-7072
Ill Harry Grubb & Co 880 Nicholas Blvd Elk Grove Vlg 312-956-0330
Md Stemler Assoc 6707 Whitestone Rd Baltimore 301 944-8262
Mass V J Huntoon Assoc 272 Centre St Newton 617-BI4-2278
Minn R G Ragon Inc 1136 W Larpenteur Ave St Paul 488-6634
NJ Graydon-Sherman Inc 230 Madison Ave Morristown 201-538-9265
NY Era, Inc 330 Great Neck Rd Great Neck ... HU 2-9320
Ohio Electro Com 8761 Snow Rd Cleveland .. 216-886-2404
Pa Electro Com 201 Penn Center Blvd Pittsburgh 412-241-5717
Tex Ev Smith Sales Co Box 12583 Houston . 713-649-5756
Vt V J Huntoon Assoc 272 Centre St Newton .. BI 4-5871
For Thomson Electric Co 50 Rockefeller Plaza New York, N Y 212-245-3900

GENERAL SENSORS INC BOX 231 ATHENS TEX 75751 ..... 214 OR 5-5229
D FUREY $100-$250M

GENERAL STAPLE CO. CONNECTROL DIV 28 E 22ND ST NEW YORK N Y 10010 ... 212 674-4370
I ZAHN EMP 15 ENG 5 $500-$1,000M
Ariz Abbott Sales Co 2030 W McDowell Rd Phoenix 252-6171
Cal Gordon Elliot Inc 13615 Victory Blvd Van Nuys 873-6862
Colo Fred White Assoc Inc Box 1551 Colorado Springs 633-0248
Fla MacGregor Assoc Box 1711 Clearwater 446-7310
Ga MacGregor Assoc Box 327 Lilburn
Ill M L Friedman Co 2814 W Balmoral Ave Chicago 561-4257
Ind Delta Sales 1407 N Illinois St Indianapolis
Iowa KSW Assoc 3831 43 St Des Moines 279-9235
Md Oakmont Engrg 99 Eldrid Dr Silver Spring .. 622-2100
Mass Production Devices Corp 489 Main St Stoneham 438-2772
Mich Lamparter Assoc 17901 E Warren Detroit .. 885-4444
Minn Abbott Metals Co Griggs Midway Bldg St Paul 646-8131
Mo KSW Assoc 2319 Hampton Ave St Louis ... 781-6111
NJ L A Garten & Assoc 375 Passaic Ave Fairfield CA6-7800
NY C Ehrlich 548 Madison Ave West Hempstead . IV3-9652
NC MacGregor Assoc Starbrooke Dr Charlotte
Ohio George L Herrick Co 845 Canterbury Rd Westlake 871-8855
Pa L A Garten & Assoc 9470 Old York Rd Abbington 927-1200
Tex Lomax Engrg 6338 Prestonshire La Dallas . EM1-1134
Wash Paratech 2208 NW Market St Seattle .... SU 3-3900
Wis Automated Process 7869 N 73 St Milwaukee 354-4370

GENERAL SYSTEMS INC 4238 W 12TH ST ERIE PA 16505 ..... 814 838-3564
W ZELINA EMP 30 ENG 2 $250-$500M

GENERAL TELEVISION NETWORK 901 LIVERNOIS FERNDALE MICH 48220 ..... 313 LI 8-2500
R HIPPLER EMP 25 ENG 15 $500-$1,000M
Cal Wholesale Equip Co 81 Minna San Francisco ..... YU 6-6972

GENERAL THERMODYNAMICS CORP 175 BALLARDVALE ST NORTH WILMINGTON MASS 01887 ..... 617 933-7370
S LETO EMP 15 ENG 2 UP TO $100M
Wis Wm A Klinger & Son Co 743 N 4th St Milwaukee 332-6898

GENERAL TIME, INDUSTRIAL CONTROLS DIV RTE 8
TORRINGTON CONN 06790 .... 203 482-4481
R REYNOLDS EMP 500 ENG 30 $5,000-$10,000M
Ariz Dorton Enterprizes Box 1297 Scottsdale
Cal C Williams 2401 San Pasqual
Pasadena 213-793-1161
Colo Simpson Assoc 8000 S Kendall Blvd
Littleton 303-798-8439
Conn J Walker 35 Zimmer Rd Granby 203-233-5083
Ga R Karr 3224 Peachtree Rd N E
Atlanta 404-636-7556
Ill H L Baumgartner 2510 Dempster St
Des Plaines 312-775-7003
Md P Allison 132 Andover Dr Exton 363-7813
Mass D Sleeper 2 Granvaile Rd Southboro ... 617-762-1466
Mich A Letorneau 6346 W McNichols Rd Detroit
Minn F Olson 6390 Monroe St NE Mnpls 612-333-2815
NJ G Blower K Chalson 3 Pennaquid Rd
Coram 201-289-5959
NY D Lynch Box 9809 Southtown Plaza Sta
Rochester 716-546-4766
Ohio S Sea Carew Tower Cincinnati 421-3366
Ore David Fry Co Box 3803 Portland 503-226-3903
Tex D Jordan Stemmons Tower N Dallas ... 214-638-6562
Wash David Fry Co Box 66417 Burien 206-246-1170
Wis B Bergeron 11121 W Mill Rd
Milwaukee 414-353-5422
Can General Time-Canada Box 239 Peterborough Ont

GENERAL TIRE & RUBBER CO
1708 ENGLEWOOD AVE AKRON
OHIO 44309 .... 216 733-6311
L MCQUEEN EMP 3500 ENG 450 OVER $10,000M

GENESYS SYSTEMS INC 1479 PLYMOUTH ST
MOUNTAIN VIEW CAL 94040 415-964-2300
J GERLING EMP 25 ENG 10 $500-$1,000M

GENISCO TECHNOLOGY CORP 18435 SUSANA RD
COMPTON CAL 90221
TWX 910-346-6773 .... 213 774-1850
D SUDDUTH EMP 500 ENG 60 OVER $10,000M
Ala W A Brown & Assoc Inc 1314 Burford St NW
Huntsville 536-8393
Fla W A Brown & Assoc Inc 3039 NE 32nd Ave
Fort Lauderdale 564-8000
Ga W A Brown Assoc 1590 Cooledge Rd Tucker . 939-1674
Kan Kemco Inc 6115 E 13th St Wichita ...... MU 4-8224
La W A Brown & Assoc Inc 8500 Chef Menteur Hwy
New Orleans 242-5575
Minn Fred Peterson Co 4501 Minnetonko Blvd
Minneapolis 927-4453
NM R A Mayes Co 8016 Zuni St SE
Albuquerque 265-7989
NC W A Brown & Assoc Inc 440 West-End Blvd
Winston-Salem 725-5385
Pa Control Equip Sales Tomlinson & Tracey Rds
Bethayres .... OR 6-1808
Tex Kemco Inc 6440 Hillcrest Houston .... PR 1-1291
Can Lisle Instrument Sys Ltd 70 Sheffield St
Toronto 15, Ont 249-9151
Can Lisle Instruments 997 Decarie Montreal, Que

GENISCO TECHNOLOGY CORP COMPONENTS,
GENISTRON DIVS 18435 SUSANA RD COMPTON
CAL 90221 TWX 910-346-6773 .... 213 774-1850
W ESSER EMP 250 ENG 40 $5,000-$10,000M
Ala Craft Assoc Box 1053 Huntsville 837-0221
Ariz Bennewitz Assoc 532 N Brown Ave
Scottsdale 947-7379
Cal Genisco Technology Corp 378 Cambridge Ave
Palo Alto 321-9242
Colo Bennewitz Assoc 2801 E Colfax Ave Denver . 399-1132
Fla Irby & Connolly Inc Box 6034B Orlando 423-8270
Ga Craft Assoc Box 11716 Atlanta 237-2282
Ill Genisco Technology Corp 9367 William St
Rosemont 671-0632
Iowa Engineering Services Co 1026 3rd Ave SE
Cedar Rapids 366-1591
Kan Engineering Services Co 7924A State Line
Prairie Village 649-4000
Md Genisco Technology Corp 10774 Tucker St
Beltsville 345-8900
Minn Countryman Assoc 1821 University Ave
St Paul 645-9151
Mo Engineering Services Co 6717 Vernon Ave
St Louis 726-2233
NM Bennewitz Assoc 9720 Candelaria NE
Albuquerque 298-6775
NY Henry G Richter Inc 50 Foxcroft Fayetteville . 637-6713
Ohio Genisco Technology Corp 21877 Euclid Ave
Cleveland 531-4664
Tex Delzell & Evans Assoc Box 35093 Dallas ... FL 1-1839
Can Dart Elctns Ltd 3650 Weston Rd
Weston, Ont 742-3577/8
Can Intl Elect Components Inc 2055 Mountain St
Montreal, Que 849-1282

GENISCO TECHNOLOGY INSTRUMENT DIV
18435 SUSANA RD COMPTON CAL 90221
TWX 910-343-6860 213-774-1850
J MCKENNA EMP 163 ENG 25 $5,000-$10,000M
Ala Foster Reynolds Assoc 904 Bob Wallace Ave
Huntsville 536-1941
Cal Stark Instr Sales 2125 Louise Ave Arcadia .. 445-3756
Colo Thorson Co 0601300 E Hampden w8ave
Englewood 789-1841
Fla Foster Reynolds Assoc P O 1043 Eau Gallie .. 727-3205
Ill Bard Assoc LaGrange Ind Pk LaGrange 354-0660
Ind Delta Sales Inc 1407 N Illinois St
Indianapolis 631-4136
Kan Palatine Engrg Sales 5514 Johnson Dr
Mission 262-5643
Mass Daner Assoc 684 Commonwealth Ave
Newton Centre 631-4136
Mich W K M Assoc 1474 E Outer Dr Detroit 892-2500
NC Foster Reynolds Assoc 412 W Market
Greensboro 275-3725
Ohio W K•M Assoc 6741 Ridge Rd Cleveland 885-5616
Pa Control Instr Sales Co 2727 Philmont Ave
Bethayres 215-676-1808
Wash Cane-Jessup Co Inc 1433 130th N E
Bellevue GL4-0691

GENTAPE CORP 51 LA FRANCE AVE BLOOMFIELD
N J 07003 TWX 710-994-4781 .... 201 748-5506
P HESS EMP 65 ENG 5
Cal Sentec Co 821 Glenhaven Dr La Habra . 213 697-7614
Kan Aero Hill Sales Inc 901 N Broadway
Wichita 316-AM 7-7167

GENTRAN INC 2961 CORVIN DR SANTA CLARA
CAL 95051 408-245-5501
L DUCKOR EMP 25 ENG 4 $250-$500M
Ala Electro-Pneumatic Control Co
416 Shenandoah Dr Birmingham 205-822-5350
Cal Richard Grey Assoc Redwood City
Md East Coast Liaison Inc Box 243
Lutherville 301-252-1288
Mass D H Stewart 216 Burroughs Rd Braintree
Mich H E Frakie 124 Fulton E Grand Rapids . 616-949-4366
NJ R N Juntwait & Co Box 295 Ridgewood 652-9191
NM Southwestern Engrg & Equip Co
707 1st Natl Bank Bldg E
Albuquerque 505-265-6675
NC Ronson Wallace & Co 116 1/2 E 4th St Charlotte
Ohio Rep/Corp 2077 Embury Park Rd
Dayton 513-278-5885
Tex Southwestern Engrg & Equip Co
6300 N Central Expwy Dallas 214-363-6501
Wash Lee Co Box 66099 Seattle CH4-7262
Can Electrodesign 9124 St Lawrence Blvd
Montreal Que

GENTRONICS INC 26 KNOLLWOOD DR CLINTON
CONN 06413 .... 203 669-5741
G PIANTONI EMP 25 ENG 2 $250-$500M
Cal R Capell Co Box 723 Tarzana 213-987-2233
Conn Com/Pak Box 37 Apple Hill
Wethersfield 203-643-0863
Iowa Jerry Vrbik Co 2818 A Ave NE
Cedar Rapids 319-365-0461
Mich Elko Sales Corp 2151 Beaufait
Grosse Pte Woods 313-884-7893
Minn White Sales Co Box 4530 Minneapolis . 612-929-4661
NJ Abbott-Gordon Assoc 628 W Englewood Ave
Teaneck 201-TE 6-3876
NY Abbott-Gordon Assoc 3939 Wicks Ave
Seaford 516-SU 1-5256
Tex Stasco 13310 Spring Grove Dallas 214-239-5054
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 514-389-5914

GEODYNE DIV EG&G INT'L 151 BEAR HILL RD
WALTHAM MASS 02154 .... 617 899-3710
J MCCARTHY
Cal W Saxe Montgomery 1360 Rosecran St
San Diego 714 224-2932
DC R M Shamp 1500 Massachusetts Ave NW
Washington 202-659-8800
Mass P F Smith 10 Water St Woods Hole
Tex Geodyne Div 3920 Honey Brook Dr
Houston 713-785-4020
Wash Jon B Jolly Pier 59 Seattle 206-624-2152

GEOPHYSICAL INSTRUMENT CO DIV GEORATOR
CORP 315 TUDOR LN MANASSAS
VA 22110 .... 703 368-3434
E BARROW UP TO $100M

GEORATOR CORP 315 TUDOR LN MANASSAS
VA 22110 .... 703 368-2101
E BARROW
ADV PG 186
Cal King-Way & Assocs 17100 Ventura Blvd
Encino 213-788-4124
Fla Lynch-Gentry Assoc Box 13248
St Petersburg 813-347-5131
Mass Besco 221 Grove St Braintree 617-843-0845
Minn Dossett Engr Co 128 Jackson Ave N
Hopkins 612-938-3332
NY Travco Assocs, Inc 142 Mineola Ave
Roslyn Heights 516-621-3223
Ohio Orr Assoc 6510 Farnsworth Dr
Cleveland 216-885-1324
Tex Carey & Assoc, Inc 3315 W 12th St
Houston 713-869-3623

GEOSCIENCE INSTRUMENTS CORP 435E 3RD ST
MT VERNON N Y 10553 .... 914 664-5100
A MONASEBIAN EMP 30 ENG 6 $500-$1,000M
Cal Peninsula Assoc 1447 Bayshore Palo Alto

GEO SPACE CORP 5803 GLENMONT DR HOUSTON
TEX 77036 TWX 077-374 713-666-1611
J DEPIERRI EMP 545 ENG 39
Cal Long & Assoc 505 Middlefield Rd
Redwood City 415 369-3324

GEO SPACE SYSTEMS INC
6301 49TH ST N, BOX 13575 ST PETERSBURG
FLA 33733 .... 813 525-1161
E CARLOUGH EMP 100 ENG 25 $2,500-$5,000M

GEOTECH A TELEDYNE CO 3401 SHILOH RD GARLAND
TEX 75040 TWX 214-278-9516 .... 214 271-2561
T NORMAN EMP 650 ENG 150 $5,000-$10,000M
ADV PG 516

GERBER SCIENTIFIC INSTRUMENT CO BOX 305
HARTFORD CONN 06101
TWX 7104272218 .... 203 644-1551
T BRETT EMP 250 ENG 60 $5,000-$10,000M
Cal Gerber Scien Instru Co 16024 Ventura Blvd
Encino 981-2044
Ore Showalter-Judd, Inc 1445 NE Arrington
Hillsboro 503 648-6372
Pa H H Roth 458 Woodhaven Plaza
Philadelphia 215 464-1570
Tex D Thayer 11333 N Central Expwy
Dallas 214 368-5394
Va A S Milliken 3834 Mt Vernon Ave
Alexandria 703-549-2700
Wash Showalter-Judd Inc 1806 S Bush Pl
Seattle .... EA 4-7911
Can Electromechanical Products Markham Rd
Agincourt .... AX 3-7011
For Frathom Co Inc 202 E 44th St
New York, NY .... MU 7-9390
Jap T Suzuki Tokyo CPO Box 595 Tokyo
Belg A A Foussoul 23 Narcissen Laan Brussels
Aust Distributors Corp Pty Ltd 24-26 Johnston St
Fitzroy, Victoria

G & H TECHNOLOGY INC 1649 17TH ST
SANTA MONICA CAL 90404
TWX 65-2438 213-871-0760
T MORGAN EMP 150 ENG 20 $2,500-$5,000M
Md E A Magyar Box 1922 Wheaton 301-871-8833
Wash M Baxley Box 368 Mercer Island 206-232-5951

GHV ELECTRONICS 319 KNICKERBOCKER AV
HILLSDALE N J 07642 201-666-1510
R GREENQUIST EMP 10 ENG 2 $250-$500M

GIANNINI-VOLTEX-RADEX-IRVINE
12140 E RIVERA RD WHITTIER CAL 90606
TWX 910-986-1382 .... 213 698-1245
D MANNING EMP 195 ENG 23 $2,500-$5,000M
Ala Giannini Holiday Office Huntsville 205-881-6420
NY Giannini Box 243 Commack 516-724-2992
Ohio Giannini 5335 Far Hills Ave Dayton 513-434-0914
Va Giannini 3702 Quaint Acres Cir
Falls Church 703-256-7231

GIBBS MFG & RESEARCH CORP 450 N MAIN ST
JANESVILLE WIS 53545
TWX 910-288-2927 .... 608 754-4467
K SCOTT EMP 750 ENG 75 OVER $10,000M
Ariz Toward Engrg Assoc Box 15268 Arcadia St
Phoenix 602-955-3193
Cal Smith & Assoc Central Tower Union Bank Sq
Orange 714-532-4061
Conn Ray Perron & Co Inc 36 Louis St
Trumbull 203 268-9631
Conn Ray Perron & Co Inc 10 Briarwood La
Farmington 203 673-4825
DC James B Guttridge 2125 R St NW
Washington 206 667-2730
Fla Gra-Mar, Inc 999 Woodcock Rd Orlando ... 841-2330
Fla Noel A Wright Box 3208 Tallahassee .. 305-385-1111
Ind McDonald Sales Co 227 S Cernell Cir
Fort Wayne 754-9214
Mass Ray Perron & Co Inc 159 Morse St
Norwood 617-762-8114
NH Ray Perron & Co Inc 1 Elm St Dover ... 603 472-3030
NJ Schibley Assoc 401 Cooper Landing Rd
Cherry Hill 609-667-1894
NY H A F Spectrum Assocs 35 Broadfield Rd
New Rochelle 516 433-4615
Tex Roberts Sales Co 9704 Lanward Dr
Dallas 214-348-4283
Va Schibley Assoc 10604 Warwick Ave
Fairfax 703-591-3008
For Dumann World Trade Co
6833 W Fond Du Lac Ave
Milwaukee, Wis 414-464-0100
Ger Dumann World Trade Co Postfach 765
415 Krefeld 1
Jap Dumann World Trade Co
1 Chome Kanda Sakumacho Chiyodo-Ku Tokyo
SAfr Dumann World Trade Co Labratass Hertzog Blvd
Capetown

GIBSON-EGAN CO 34 LA PORTE ST ARCADIA
CAL 91006 213-446-5259
G EGAN EMP 25 ENG 2 $250-$500M
Cal Bert Oppenheim Inc 2179 Park Blvd
Palo Alto 415-321-7323
Fla ECA Assoc 711 N Magnolia Ave
Orlando 305 424-0701
Mass Electronic Sales Assocs 1 A Chelmsford Rd
N Billerica 617-667-1331
Minn P J Codute & Co 4542-4th St NE
Minneapolis 612-560-1222
Pa B & A Assoc 237 Lancaster Ave
Devon .... 215 MU 8-5173
Tex Allied Components Inc 10464 E Northwest Hwy
Dallas 214-348-6660
GB EPAK Assoc 73 Cherry Orchard Rd
Croydon CR9 6AH 01-688 9201

GIBSON ELECTRIC-TALON DIV TEXTRON DELMONT
PA 15626 TWX 510 468-3567 .... 412 468-4121
P PAICER EMP 220 ENG 16
Cal E M I Inc 11350 Ventura Blvd
Studio City 213 763-6262
Conn Hale-Forden Assoc Inc 1245 Farmington Ave
W Hartford 203 521-5620
Ill O V Miller Box 505 Libertyville 312 362-0038
Mich Elko Sales Corp 3119 Midland Dr SE
Grand Rapids 616 949-1451
Minn C R Bergquist Co 3529 Webster Ave S
Minneapolis 612 929-6082
Mo Bob Klorer Co 7500 Natural Bridge
St Louis 314 381-6530
NC W K Hile Co Inc Box 1015 Matthews ... 704 847-9125
Ohio R R Stone & Assoc Inc Box 47 Mentor .. 216 946-6766
Pa Electro-Plast Inc 2 Radnor Sta Bldg
Radnor 215-688-5581
Wash R Johnston Co Inc 1011 NE 69th St
Seattle 206 524-5170
Can Gibson Elec Div, UNIMCO Ltd 50 Niagara St
St Catharines 685-7321
For G L Williamson Old Wm Penn Hwy
Delmont, Pa 412 468-4121

GILARDONI S P A VIA E FERMI 2
MANDELLO LARIO COMO ITALY 71.583
A GILARDONI EMP 35 ENG 11

GILBRETH CO 212 E COURTLAND ST
PHILADELPHIA PA 19120 . . . . .215 457-5858
E IRISH
NY H Kaplan Box 15 Franklin Square

GILLEN CO, JOHN 2540 S 50TH AVE CICERO
ILL 60650 . . . . .312 242-4575
G ANDREWS EMP 80
Ala Oliver Assoc, Inc Box 374 Decatur 205-355-5210
Cal W W Curtis 1326 E Edinger Ave
Santa Ana .714 835-6067
Colo Al Roth 1719 Boulder Denver 303-433-1376
Conn D W Dickinson Box 146 Trumbull 203-268-7537
Ind Lowell Black 1503 E 80th St Indpls . . .317-CL 1-8758
Kan E & M Co Box 6053 Leawood 816-942-1303
Mich R M Richardson 28880 Southfield Rd
Lathrup Village 313-353-7860
Minn Palmer Selness 6705 Cahill Rd Mnpls . .612-941-1246
NY Sigma Sales Co 2293 Bedford Ave
Brooklyn 212 856-7800
NC G O'Hara Box 17762 Charlotte 704-364-0397
Ohio R E Glenn Co 3109 Mayfield Rd
Cleveland Hts 216-ER 1-1080
Pa Paul J Fleming 907 W Wagner Ave
Phila 215-WA 4-1608
Tex Jack I Gronberg Box 291 Bellaire 713-688-7729

GILLETTE ELECTRONIC PRODUCTS CO
201 LAUREL ST BEVERLY N J 08010 . . .609 387-1166
M GREEN EMP 20 ENG 1 $100-$250M

GILLIES CO INC, DUNCAN M 66 CENTRAL ST
WEST BOYLSTON MASS 01583 . . . . . . .617 835-4445
D GILLIES EMP 16 ENG 2
Cal Thompson Assoc Box 487 Harbor City 326-5580
GB Northampton Machinery Co Ltd Northampton
Swed Akriebolaget Common Stockholm
Aust A F Bambach Co Ltd Stanmore, NSW

GILMONT INSTRUMENTS INC ROGER
161 GREAT NECK RD GREAT NECK
N Y 11021 . . . . .516 487-0120
B GEPNER EMP 5 ENG 1 $250-$500M

GILMORE INDUSTRIES INC 3355 RICHMOND RD
CLEVELAND OHIO 44122
TWX 810-421-8672 . . . . .216 464-1200
C GREANOFF EMP 140 ENG 40 $2,500-$5,000M

GLASS BEADS CO BOX 266 LATROBE
PA 15650 . . . . .412 KE 7-7791
T FREDERICK EMP 100 ENG 8 $500-$1,000M

GLASSCO INSTRUMENT CO 777 S ARROYO PKWY
PASADENA CAL 91105
TWX 910-588-1974 . . . . .213 795-3278
J GREGORIO EMP 80 ENG 6 $1,000-$2,500M
Ala Rep, Inc 8100 S Memorial Pkwy Huntsville . .881-9270
Cal Kirk-Anderson Sales Co 666 E Ocean Blvd
Long Beach 436-9756
Cal Marketek, Inc One First St Los Altos 941-0882
Conn Northeast Engineering Inc 3013 Dixwell Ave
Hamden 248-4481
Ga Rep, Inc 1483 Monroe Dr, NE Atlanta 876-1591
Kan D & O Engrg Co Box 1800 Wichita 264-7358
Md Ray Cantwell 9321 Fresno Rd Bethesda 530-2698
Mass Northeast Engineering Inc 5 Elm St Danvers . 774-3010
Mo RODAMAC Corp 625 Hickory La St Louis . . .966-4815
NY Northeast Engineering Inc 124 Trumbull Rd
Manhasset 365-9633
Ohio Ed Griffin Box 2084 Dayton 298-5421
Tex D & O Engrg Co Box 8433, Park City Br
Dallas 368-3544
Tex Herman Markowitz Co 500 E Main El Paso . .533-2860
Wash Doland Co 545 108th NE Bellevue 454-4952
Can Wm Pass Assoc 172 Ellis Park Rd Toronto . .635-1678
For Allied Intl Corp 230 Park Ave New York 689-6126
Fr Allied Intl Corp 53 Rue Pierre Charron Paris . Ely 80-22
Ital Aircraft & Electronics SP A 15 Corso Italia Milan

GLASSEAL PRODUCTS CO INC 725 COMMERCE RD
LINDEN N J 07036 TWX 710-996-5918 .201 486-2067
R MCCARTHY EMP 175 ENG 12 $2,500-$5,000M
Ala Young & Lawrence Assoc 2907 Governors Dr SW
Huntsville 205 539-6575
Ariz Runyon Co 6825 E Thomas Dr Scottsdale . . .947-5711
Cal Glasseal Products 1811 Katella Ave
Anaheim 714-776-3780
Colo Waugaman Assoc 2785 N Speer Denver 255-5000
Fla Young & Lawrence Assoc 601 N New York Ave
Winter Park .305 647-6929
Ill Nero Electronic Sales Corp 3516 Elmwood Ave
Wilmette 256-1045
Kan Technical Marketing Assoc 2050 Woodson Rd
St Louis . . . . .HA 7-3600
Mass Near, Inc 99 Highland Ave Somerville 776-2262
Minn Electro Serv Co 1455 W Lake St
Minneapolis 827-2907
NJ Gilbert Sales Assoc 70 Glenwood Rd
Ridgewood . . . . .GI 4-2604
NY Advanced Components 119 Luther Ave
Liverpool 472-7886
NC A E Over 3723 Country Ridge Rd
Charlotte 704 366-8601
Ohio R G Sidnell & Co 14701 Detroit Ave
Cleveland 221-1313
Pa Glasseal Products 5850 Chestnut St
Phila 215-474-4700
Tex Aymond Co Inc 4340 N Central Expwy
Dallas 827-8043
Va Tom Davis Marketers Inc 4210 Daniels Ave
Annandale 703-941-2313
Can Aeromotive Engrg Prods 1700 Montee de Liesse
St Laurent, Que

GLASTIC CORP 4321 GLENRIDGE RD CLEVELAND
OHIO 44121 216-486-0100
G GRANT EMP 250 ENG 29 $5,000-$10,000M
Cal Spaulding Fibre Co 2000 S Hoefner Ave
Los Angeles 213-685-6710
Ill Spaulding Fibre Co 965 Rand Rd
Des Plaines .312-775-7070
Ind Spaulding Fibre Co 5244 N Tacoma
Indianapolis 311-253-4477
Md Spaulding Fibre Co 2104 N Charles
Baltimore 301-837-7566
Mass Spaulding Fibre Co 554 Washington
Wellesley 617-235-2100
Mich Spaulding Fibre Co 3370 Washtenaw
Ann Arbor 313-971-0311
Mo Spaulding Fibre Co 1850 S Hanley
St Louis 314-647-4781
NY Spaulding Fibre Co 310 Wheeler St
Tonawanda .716-692-2000
Ohio Spaulding Fibre Co 136 S Ludlow St
Dayton 513-223-2286
Pa Spaulding Fibre Co 7 Heather Rd
Bala Cynwyd .215-839-3767
Wis Spaulding Fibre Co 3718 N 92nd St
Milwaukee 414-466-1210
For Spaulding Fibre Co 310 Wheeler St
Tonawanda .716-692-2000

GLEASON-AVERY CO 45 AURELIUS AVE AUBURN
N Y 13022 . . . . .315 253-7396
J ZABRISKIE EMP 25 ENG 2 $100-$250M
Cal Slocum Industries Inc 7219 Canby Ave
Reseda 345-8544
Conn Shick's Selling Service 766 Main St
Newington . . . . .MO 6-4233
Ind Law Instrument Co Box 95 Angola 665-6016
Md Ansell Engineering Co 816 Thayer Ave
Silver Spring 588-4222
Ohio R M Nelson, Inc Marshall Bldg Cleveland 241-4581
For Gleason/Avery Intl 278 Plandome Rd
Manhasset NY 365-8836

GLENAIR INC 1211 AIRWAY GLENDALE CAL 91201
TWX 910-497-2066 . . . . .213 247-6000
J MERRELL EMP 115 ENG 7 $1,000-$2,500M
Ala Brandel-Stephens & Co Inc
2003 Byrd-Springs Rd Huntsville 205 883-0445
Ariz Runyon Co Inc Box 1567 Scottsdale . . .602-947-5711
Cal Glenair, Inc 2207 Barrett San Jose . . .408-377-9050
Colo Klein Aerospace Box 1056 Englewood . .303-781-4967
Conn William McCoy Co Box 387 Branford . .203-488-2012
DC Mechtronics Sales, Inc 7600 Georgia Ave NW
Washington .202 291-6004
Fla Brandel-Stephens & Co Inc 132 E Colonial Dr
Orlando 305 425-3202
Ga Brandel-Stephens & Co Inc 3110 Maple Dr NE
Atlanta 404-261-7579
Ill Marsten Sales Co 6535 Northwest Hwy
Chicago 312-775-6611
Kan Harris-Hanson Co 7916 Paseo Blvd
Kansas City 816-444-9494
Mass William McCoy Co 55 Prospect
Holliston 617 429-2369
Minn Fred B Hill Co 6110 Excelsior Blvd
Mnpls 612-929-6727
Mo Harris Hanson Co 2814 S Brentwood Blvd
St Louis 314-962-9895
NJ Thomas Mills Co 13 B Tanner St
Haddonfield 609-429-1005
NY Willgold Electronic Sales Co 100 N Village Ave
Rockville Ctr 516-764-4022
Ohio Arthur H Baier Co 4399 Industrial Pkwy
Willoughby .216-946-6080
Tex Dyna-Reps Box 5154 Fort Worth 817-926-3344
Wash Glenair Inc Box 382 Bellevue 206-885-6991

GLENMARC MFG CO 330 MELVIN DR NORTHBROOK
ILL 60062 . . . . .312 272-9030
J KREWER EMP 6 ENG 2 $100-$250M
Ariz Biztek Co Box 3091 Scottsdale 945-5781
Cal Biztek Co 10639 Riverside Dr N Hollywood . .766-4890
Del Pyles East Coast Co 2711 Market St
Wilmington . . . . .PO 2-4250
RI Ashby Sales & Eng Inc 292 Charles St
Providence .401-421-2038
Tex Pennington Sales Co Box 675
Richardson .214 231-7373

GLENN PACIFIC A TELEDYNE CO 703 37TH AVE
OAKLAND CAL 94601
TWX 415 891-9639 . . . . .415 532-7404
L PASALIS EMP 140 ENG 5 $2,500-$5,000M
Cal Halbar Assoc 1805 W 3rd St Los Angeles . . .387-8283
Cal Thomas Assoc Box 684 Diablo 837-8411
DC H C Howells 910 Washington Bldg
Washington 783-2800
Fla W C Smith 2000 NE 26th Dr Ft Lauderdale . 564-1477
Ga Osgood & Assoc Inc 1132 W Peachtree St NW
Atlanta 875-7804
Ill Weldy Assoc 4201 Irving Park Rd Chicago . .777-8575
Ind Kyle G Herder & Son 6249 Central Ave
Indianapolis 255-2523
Md Clisby & Assoc Inc 231 E 25th St Baltimore . 235-3726
Mass Sydney S Morgan Co 131 Clarendon St
Boston 536-8143
Mich Harris-Blancett & Assoc 14631 W McNichols
Detroit 272-0812
Minn Pinkney & Assoc 957 Winnetila Ave
Minneapolis 554-3628
Mo Kunkel Electrical Sales Co Box 13058
St Louis 968-3366
NJ Norman Bragar Co Inc 1060 Broad St
Newark 623-6554
NM R B Black Co Inc 1025 Hermosa Dr SE
Albuquerque 265-0144
Ohio Richard F Reske & Assoc 401 Euclid Ave
Cleveland 621-3166
Ore J A Tudor & Assoc Inc 1004 SE Belmont
Portland 233-4421
Pa Foster-McClinton Inc 5302 Wolf Rd Erie . . .833-1027
Pa Clisby & Assoc Inc 1817 N 5th St
Philadelphia 425-7724
Pa Foster-McClinton Inc 1675 Washington Rd
Pittsburgh 561-4803
Tex Jim Tuite Co Box 28176 Dallas 381-2103
Tex Jim Tuite Co Box 36234 Houston 782-6904
Wash J A Tudor & Assoc, Inc 2605 Western Ave
Seattle . . . . .MU 2-7444
WVa Foster McClinton Inc 6213 Brenda Ct
Huntington 736-5161
Wis Weldy Assoc Inc 2040 W Wisconsin Ave
Milwaukee 242-0635
For Kerby Intl Inc 80 Wall St New York, N Y . . .943-3370

GLENTEK INC 1557 7TH ST SANTA MONICA
CAL 90401 . . . . .213 451-4511
R VASAK EMP 10 ENG 3
Cal T P Chleboun 619 Phil Ct San Jose 252-2783

GLENTRONICS INC 748 E ALOSTA AVE GLENDORA
CAL 91740 TWX 67-0411 . . . . .213 963-1676
R BOYD EMP 95 ENG 4 $1,000-$2,500M
Ariz Runyon Co 6825 E Thomas Rd Scottsdale . . .947-5711
Cal E V Roberts & Assoc Inc 9601 W Jefferson Blvd
Culver City 870-9561
Conn Equipment Sales Co Box 5396 Hamden . . . . CH 8-5581
Fla Technical Marketing Inc 1511 E Robinson St
Orlando 424-8531
Pa K Randall Co 121 N Broad St Philadelphia . . LO 4-2151
Tex R W Mureen Co 5523 Dyer St Dallas . . . . . EM 1-0735

GLESCO ELECTRONICS INC 2135 N CENTRAL AVE
ROCKFORD ILL 61110 815-963-7634
EMP 6 ENG 2 $100-$250M

GLIDDEN METALS, SCM CORP
900 UNION COMMERCE BLDG CLEVELAND
OHIO 44115 . . . . .216 771-5121
J WALKER OVER $10,000M

GLIDELITE INDUSTRIES INC 180 CENTRAL AVE
HACKENSACK N J 07601 . . . . .201 487-0838
E BAUMAN EMP 20 ENG 1 $100-$250M
Del Ferrell S Carmine & Co 14 Knickerbocker Dr
Newark 302-368-7603
Fla K Kasselman Box 267 Miami 305-667-7728
Ill Mike Berman Sales 8631 E Prairie Rd
Skokie . . . . .312 OR 5-3740
Ind Howell-Moore & Assoc 5425 N College Ave
Indpls 317 255-8566
La Scott Ormsby Sales 7121 Catina St
New Orleans .504-488-2414
Md Geo B Pearlman & Assoc 2815 Shanandale Dr
Silver Spring . . . . .310 HE 4-7090
Mo K & M Sales Co 1627 Main St
Kansas City 816 471-1355
NM Lee Davis Co 1415 Richmond Dr NE
Albuquerque .505 256-1749
NY T G Weinstein Co 304 W 58th St
New York 212-JU 2-6795
Ohio Thomas Shelby & Co Inc 17 S Walnut St
New Bremen .419-629-6511
Tex E B Drew Co Box 3122 Fort Worth . . . .817 JE 5-3719
Va Arthur C Hoey Co 3364 Cedar Grove Rd
Richmond 703-272-3449

G-L INDUSTRIES INC, G-L ELECTRONICS DIV
300 HARVARD AVE WESTVILLE N J 08093
TWX 609-456-6429 . . . . .609 GL 6-7300
J BROOKS EMP 90 ENG 5 UP TO $100M
Ala W A Brown & Assoc 1314 Burford St
Huntsville 536-8393
Cal Collins & Hyde Inc 900 N San Antonio Rd
Los Altos 941-3355
Colo J F Hurlbut Co 2240 S Adams St Denver . . .756-2046
Conn Henry Lavin Assoc Inc Box 921 Meriden . . . . Be 7-5527
Fla W A Brown & Assoc Inc 222 Weber Ave
Orlando 425-5505
Ga W A Brown & Assoc Inc 3039 NE 32nd Ave
Ft Lauderdale . . . . .Lo 4-8000
Ill Paul K Pitt & Assoc 6022 N Rogers Ave
Chicago 478-3124
Ind R O Whitesell & Assoc 6691 E Washington St
Indpls . . . . .FI 9-5374
Ky R O Whitesell & Assoc 3620 Lexington Rd
Kentucky 893-7303
Mass Henry Lavin Assoc Inc 52 Pickering St
Needham . . . . .Hi 4-3446
Mich R O Whitesell & Assoc 16801 Wyoming Ave
Detroit 862-2225
Minn R G Ragon Inc 1136 W Larpenteur Ave
St Paul 488-6634
Mo L Ray Harry & Assoc 11202 Sunnyslope Dr
Kansas City .816 763-3634
NY H C Johnson Co 111 Mt Hope Ave Rochester . 232-2688
NC W A Brown & Assoc Inc 1108 Burke St
Winston-Salem .Pa 5-5384
Ohio R O Whitesell & Assoc 21139 Lorain Ave
Cleveland . . . . .Ed 3-2585
Pa R O Whitesell & Assoc Inc 201 Penn Center Blvd
Pittsburgh 242-0100
Tex Vista Engineering Assoc 777 N Central Expwy
Richardson . . . . .Ad 5-4547
Va W A Brown & Assoc Inc 325 First St
Alexandria . . . . .Te 6-1800
Can Ben Manis & Assoc 2690 Pittfield Blvd
Montreal Que 336-4500

GLOBE ELECTRICAL MFG CO SUB BELL ELCTN
CORP 1729 W 134TH ST GARDENA
CAL 90247 . . . . .213 321-3311
M 7SCHWARZWALTER EMP 80 ENG 3
$1,000-$2,500M
Ill PGM Components Inc 5642 W Diversey
Chicago 312-622-8183
Mass Neecco Co 700 Main St Acton 617-263-7566
Tex Tech-Ser Inc 10210 Monroe Dr Dallas . 214-358-2504

GLOBE INDUSTRIES DIV TRW INC
2275 STANLEY AVE DAYTON OHIO 45404
TWX 810-459-1642..................513-228-3171
J BRINKMAN EMP 750 ENG 125 OVER $10,000M
Ala J L Highsmith & Co 3322 S Memorial Pkwy
Huntsville............................881-3294
Ariz Jarko Assoc 2032 N 27th Ave Phoenix.....272-2684
Cal J Davidson Assoc Inc 2920 Nebraska Ave
Santa Monica.........................451-5761
Colo Williams-Assoc 4971 Jackson St Denver...388-4391
Conn Stockwell Technical Sales Overbrook Dr
Vernon...............................875-5414
Fla Lynch-Gentry Assoc Inc 6731 1st Ave S
St Petersburg.......................DI 7-5131
Ill Engineered Sales Co Inc 4738 N Harlem Ave
Chicago.............................UN 7-8434
Ind R O Whitesell & Assoc Inc 6620 E Washington St
Indnpls.............................FL 9-5374
Ky R O Whitesell & Assoc Inc 3620 Lexington Rd
Louisville...........................893-7303
Md R L Wilkinson Inc 707 Stevenson La Towson.377-7800
Mass Stockwell Technical Sales 44 Walker St
Cambridge............................876-5115
Mich S Sterling Co 21250 10 1/2 Mile Rd
Southfield...........................357-3700
Minn Nelson & Son Inc 4005 W 65th St Mnpls...920-3414
Mo Harris-Hanson Co 2814 S Brentwood Blvd
St Louis.............................444-9494
NJ Nat Kronstadt Assoc, Inc 815 Orlando Rd
Cherry Hill..........................662-2958
NM Williams-Assoc 420 Washington SE
Albuquerque..........................255-1638
NY Reed Electronics Inc 2815 Monroe Ave
Rochester...........................GR 3-2767
NC J L Highsmith & Co 3733 Monroe Rd
Charlotte............................333-7743
Ohio R O Whitesell & Assoc Inc 4133 S Dixie Ave
Dayton...............................298-9546
Pa R L Wilkinson Inc Box 215 Glenside.......HA 4-8400
Tex Aymond Co Inc 4340 N Central Expwy
Dallas...............................827-8043
Utah Williams-Assoc 2461 S Main St
Salt Lake City.......................466-8709
Va J L Highsmith & Co Box 9225 Richmond....266-2060
Wash Harry Levinson Co 1211 E Denny Way
Seattle..............................323-5100
Wis E A Dickinson & Assoc Inc 3612 N Green Bay Ave
Milwaukee............................264-1080
Can Leonard Electric Ltd 1008 Rangeview Rd
Pt Credit, Ont.......................274-3454
Fr Europelec Les Clayes-sous-Bois..........92328-24
Ger Uni-Office GmbH Box 8034 Dusseldorf......36 50 28
GB Lectropon Ltd Wellington St
Slough, Bucks.......................SLO 27629
Neth Uni-Office NV Box 1122 Rotterdam....010-13 22 20
Ital G Lo Porto 2 Largo Luigi Rome..........540-56-89
Swed Aero Material AB Grev Magnigatan 6
Stockholm............................23 49 30
Isrl S T G Intl Ltd 52 Nahlat Benyamin St Tel-Aviv .53459

GLOBE PLASTICS INC 1342 S SIGNAL DR POMONA
CAL 91766.........................714 623-2747
D YOUNG EMP 17 ENG 3 UP TO $100M
Cal Comark Co 2310 Fourth St Santa Rosa.707 544-1044
Fla T Duay 1515 Ensonada Dr Orlando....305 277-3296
Ga James F Elman 84 Silverwood Rd NE
Atlanta..........................404 255-0920
Ill Harry Halington Engrg Assoc Inc
6418 N Central Ave Chicago.......312 763-2131
La Jack M White 247 Phosphor Ave Metairie..729-6515
Md Ted Grossman 2110 Belvedere Blvd
Silver Spring....................301 587-0040
Mass Associated Elctns 45-47 Kirk St Lowell.617 454-4206
NY Verter Sales Co 2352 E 66th St
Brooklyn........................212 HI 4-3880
NC Bill Henry Assoc 1043 Providence Rd
Charlotte........................704 375-8958
NC R A Jackson 1043 Providence Rd
Charlotte........................704 375-8958
Ohio Clare Electronics 24-431 Oakhill Dr
Cleveland.......................216 IV 1-5364
Tex John Reynolds Co 307 Harman St
Duncanville.....................214 AX 8-2354
Tex T B Eaton 5810 Schumacher
Houston........................713-SU-2-8211
Wash F W Aurich & Co 3601 Gilman Ave W
Seattle..........................206 284-5561

GLOBE-UNION INC, BATTERY DIV
5757 N GREEN BAY AVE MILWAUKEE
WIS 53201 TWX 910-262-3084........414 228-2394
R DANCE EMP 1200 ENG 40 OVER $10,000M
Cal Logan Sales 463 Brewster St
Redwood City.....................415-369-6726
Colo Electro-Rep Inc 1051 S Platte River Dr
Denver...........................303-744-2821
Ill Globe-Union Inc 2200 E Devon Ave
Des Plaines......................312-827-4487
Ind L M DeVoe 665 E 61st St Indianapolis .317 283-1395
Iowa Jerry Vrbik Co 2818 A Ave NE
Cedar Rapids.....................319 365-0461
Kan Lowell-Kangas Assoc Box 4116
Overland Park....................913 888-3200
Mass Globe-Union Inc 60 Dedham Ave
Needham..........................617 444-4847
Mich R C Merchant & Co 18411 W McNichols Rd
Detroit..........................313-535-6000
Minn Globe-Union Inc 4901 W 77th St
Minneapolis......................612 920-4130
Mo Lowell-Kangas Assoc Box 26 Creve Coeur Sta
St Louis.........................314-647-1111
NJ Globe-Union Inc 136 Lakeview Ave
Clifton..........................201-478-5300
NM A L S Electronics Box 11626
Albuquerque......................505 268-9600
NY W H Zimmerman 112 Dewitt St
Syracuse.........................315-474-4889
Pa J Bresson Assoc 107 Forrest Ave
Narberth.........................215-839-6770
Tex Robt E Nesbitt Co 2930 Merrell Rd
Dallas...........................214-357-4601
Wash Jas J Backer Co 221 W Galer St
Seattle..........................206-283-6470

GLUCO BOX 315 MONROEVILLE PA 15146 .412-327-7575
W GLUCK EMP 10 ENG 3 $100-$250M

GMR, INC 1000 GILMAN ST BERKELEY CAL 94710
TWX 910-366-7409..................415 527-3200
EMP 17 ENG 4 $250-$500M

GODDARD VALVE CORP. 705 PLANTATION ST
WORCESTER MASS 01605.............617-755-8635
E BEATTIE EMP 25 ENG 3 $250-$500M
Ala Russell Assoc, Inc 2516 N Memorial Pkwy
Huntsville...........................539-7211
Cal Components Corp 232 N Lake Ave
Pasadena.............................681-7448
Colo O'Brien Sales Agency 2785 N Speer Blvd
Denver...............................477-4713
Fla R J Moody & Assoc 3600 Ocean Beach Blvd
Cocoa Beach..........................783-8102
Ill William D Barclay 6677 Northwest Hwy
Chicago..............................775-7047
Kan Andrews & Assoc 9620 Hurrelbrink Rd
Kansas City..........................299-8577
La Ross & Pethtel, Inc 3170 Florida Blvd
Baton Rouge..........................348-7206
Minn C F VanderVoort 1279 Osage St St Paul...489-5222
Mo George W Wehrle 9216 Clayton Rd St Louis.993-1751
NY Control Components Inc 401 Fay Rd
No Syracuse..........................458-6709
Ohio Aertronic Assoc Inc 5899 Huberville Ave
Dayton...............................253-8144
Okla Wallace Equip Co Box 3866 Tulsa........747-6749
Pa Tyler Griffin Co 46 Darby Rd Paoli.......647-1550
Tex Manufacturers Mktg Service 6306 Schevers
Houston..............................645-3581
Can Bowen Industrial Equip Ltd
5165 Sherbrooke St W Montreal........481-0356
For Pan Commercial Intl 108 Grove St
Worcester, Mass......................648-2001

GODFREY MFG CO 1633 N HALSTED ST CHICAGO
ILL 60614.........................312-M04-3516
W MARTIN EMP 1 ENG 1
Cal Rollins Electric 804 S Atlantic Blvd
Monterey Park.......................CU 3-1209

GOE ENGINEERING CO 250 S 9TH AVE
CITY-OF-INDUSTRY CAL 91746........213 330-7401
G REYNOLDS EMP 28 ENG 2 $500-$1,000M
Ariz Howe & Howe Box 10497 Phoenix..........955-1850
Cal Win W Tompkins & Co 3944 El Camino Real
Palo Alto...........................DA 6-9740
Colo Crump Co 1971 W 12th St Denver.........534-5183
Ill Ellinger Sales Corp 6580 N Northwest Hwy
Chicago.............................RO 3-1570
NJ Simberkoff Sales Inc 71 Valley St
South Orange........................OR 4-4100
Tex T M Curtis Co 5635 Yale St Dallas.......361-1666

GOERZ OPTICAL CO INC 461 DOUGHTY BLVD
INWOOD N Y 11696..................516 239-8700
B MILLER EMP 150 ENG 30 $2,500-$5,000M
Cal Dale/Dahl RDP Instr Box 2145 Fair Oaks
Pa Goerz Optical Co Box 11528 Pittsburgh

GOLDEN TECHNOLOGY INC 3017 SANTA ROSA AVE
SANTA ROSA CAL 95401..............707 545-5898
T PETERSON EMP 30 ENG 3 $1,000-$2,500M

GOLDING MFG CO 90 PORETE AVE
NORTH ARLINGTON N J 07032.........201 998-1805
J GOLDING EMP 35 ENG 1 $500-$1,000M

GOLDSMAN INC 1328-34 N 4TH ST PHILADELPHIA
PA 19122..........................215 PO 5-4468
R SAGER EMP 35 ENG 1 $500-$1,000M
Cal Wallace & Wallace Corp 1206 Maple Ave
Los Angeles.........................RI 7-0401
NJ M & S Assoc Inc Box 185 Haddonfield....HA 9-7055
NY S A M Assoc 150-08 87th Ave Jamaica...OL 8-8881
Ohio S Schusterman Box 18095 University Hgs..932-2355

GOMBOS MICROWAVE INC 40 WEBRO RD CLIFTON
N J 07012 TWX 710-989-7021........201 773-6633
A STEINHAUER EMP 110 ENG 10
$1,000-$2,500M
Ariz Jewett Co 138 E Stetson St Scottsdale....945-9711
Cal Jewett Co 13111 Ventura Blvd N Hollywood.789-8103
Colo A L S Electronics Boulder...........303 447-2436
Conn Astro-Tek Assoc 18 Diane Terr
Waterbury........................203 753-4129
Ga Spar-Tech Box 372 Tucker.................469-8240
Md Zenatronix Assoc 11215 Oak Leaf Dr
Silver Springs.......................593-9000
Mass Astro-Tek Assoc Lexington...........617 862-6424
NM A L S Electronics Box 11626
Albuquerque......................505 268-9600
NY James Sample Assoc 21 Edgewater La
Rochester............................342-1413
Can Electronic Mktg Co of Can Ltd 3600 Barclay Ave
Montreal.............................739-3206
For Henley & Co 202 E 44th St New York, NY..986-5544

GOOD ELECTRONIC CORP GENERAL DELIVERY
JUPITER FLA 33458.................305-VI-8-2341
EMP 5 ENG 2 UP TO $100M

GOODMANS LOUDSPEAKERS LTD
AXIOM WKS, WEMBLEY MIDDLESEX ENG
TWX 264038........................01-902 1200
K PORTER
NY Elite Elctns Inc 41 South Mall
Plainview........................516 694-9144

GOODRICH INDUSTRIAL PRODS CO, B F
500 S MAIN ST AKRON OHIO 44318
TWX 216 972-9100..................216 379-2000
J RICHARDS EMP 5000 OVER $10,000M
Cal B F Goodrich Ind Prods Co 3525 S Garfield Ave
LA..................................RA 3-6692
Colo B F Goodrich Ind Prods Co 2500 W 8th Ave
Denver...............................825-7671
Ga B F Goodrich Ind Prods Co 1721 DeKalb Ave NE
Atlanta.............................DR 8-4561
Ill B F Goodrich Ind Prods Co 10701 Belmont Ave
Franklin Park........................455-6600
Mass B F Goodrich Ind Prods Co 100 2nd Ave
Needham Heights.....................HI 4-6100
Mich B F Goodrich Ind Prods Co 16500 Oakwood Blvd
Allen Park..........................CR 8-7000
Minn B F Goodrich Ind Prods Co 800 Turners Crossrd S
Mnpls................................544-3321
Mo B F Goodrich Ind Prods Co 1975 Walton Rd
St Louis............................HA 9-4300
NY B F Goodrich Ind Prods Co 277 Park Ave
New York.............................826-9700
Ohio B F Goodrich Ind Prods Co 3770 Indianola Ave
Columbus............................AM 8-8631
Pa B F Goodrich Ind Prods Co 955 E Erie Ave
Philadelphia........................JE 5-5800
Tex B F Goodrich Ind Prods Co
1400 Turtle Creek Blvd Dallas.......RI 1-5601

GOODYEAR AEROSPACE CORP 1210 MASSILLON RD
AKRON OHIO 44315 TWX 810-431-2080 .216 794-2962
D MILLER EMP 8500 ENG 2300
Ariz Goodyear Aerospace Corp Litchfield Park
Phoenix.............................WE 5-9331
Ohio Goodyear Aerospace Corp 349 W First St
Dayton...............................224-8301

GOPIC DESIGNS CO 3679 VOLTAIRE ST SAN DIEGO
CAL 92106.........................714 222-6948
G PICKENS EMP 6 ENG 3 UP TO $100M

GORDON CO CLAUD S 5710 KENOSHA ST
RICHMOND ILL 60071
TWX 510-358-9220..................815-678-2211
C STONEHILL EMP 150 ENG 15 $2,500-$5,000M
Cal Claud S Gordon Co 1301 E El Segundo Blvd
El Segundo.......................213-772-3301
Colo AMCO 5659 S Greenwood Littleton...303-798-7553
Conn Claud S Gordon Co 124 Hebron Av
Glastonbury......................203-633-0227
Fla L E Rogers Co 110 Sea Island La Univ Pk
Boca Raton.......................305-395-7922
Ga Roy Freeman Assoc 305 Buckhead Av N E
Atlanta..........................404-233-2800
Ill Claud S Gordon Co 5710 Kenosha St
Richmond.........................815-678-2211
Ind Claud S Gordon Co 4165 Millersville Rd
Indianapolis.....................317-547-1057
Kan B J Alberts Co 502 S Main St Wichita .316-363-4941
La Hahn Sales Co Box 5-2795
Baton Rouge......................504-356-2596
Mich Claud S Gordon Co 7338 Woodward Av
Detroit..........................313-872-1837
Mo Valvtrol Inc 4049 Penna Av
Kansas City......................815-931-5995
NY Geo E Bowker Inc 85 Great Arrow Av
Buffalo..........................716-876-8387
NC Robt E Mason Co 1726 N Graham St
Charlotte........................704-375-5747
Ohio Claud S Gordon Co 2035 Hamilton Av
Cleveland........................216-861-6871
Okla Dave Allert Co Box 7351 Tulsa.......918-324-3871
Pa Claud S Gordon Co Box 209
Springfield......................215-546-7255
Tenn Engineered Instr Inc Box 14944
Memphis..........................901-324-3871
Tex Claud S Gordon Co Box 985 Houston...713-224-2964
Utah Wayne Wiscomb Co 768 E 9th So
Salt Lake City...................801-328-3205
Va D W Larcen & Co 401 Ridge Rd
Richmond.........................703-288-4061
Wash Eustis Co 69 Marion St Seattle......206-623-7060
WVa Claud S Gordon Co 789 Penn Av
Pittsburgh Pa....................412-371-2600
Wis Claud S Gordon Co 4646 W Mitchell St
Milwaukee........................414-645-2380
Can Aeromotive Engrg Prods Ltd
1700 Montee de Liesse
St Laurent Mon...................514-332-1020
For Minthorne Intl Inc 2200 Shames Dr
Westbury N Y.....................212-895-3120

GORDON ENTERPRISES INC, ALAN
5362 N CAHUENGA BLVD NORTH HOLLYWOOD
CAL 91601.........................213 985-5500
G ANDREWS EMP 136 ENG 6 $2,500-$5,000M
Cal Photographic Engineering Co Box 344
San Jose.............................356-5856
Mich Jack Doerr Co 22407 Bayview St
St Claire Shores
Tex Producer Services Inc 3011 Midas Dallas...631-5670
Tex Universal Cine Photo 1430 Slocum St
Dallas..........................204 RI 8-6645
Wash Vince E Johnson Co 2614 NE 86th St
Seattle.............................LA 4-4595

GORDOS CORP 250 GLENWOOD AVE BLOOMFIELD
N J 07003.........................201 743-6800
M TURSI EMP 450 ENG 15
Ariz Engineering Sales Assoc Box 544
Scottsdale...........................945-5781
Cal Paul Nurches Co 999 Commercial St
Palo Alto...........................DA 6-7842
Cal Paul Nurches Co 2396 E Foothill Blvd
Pasadena............................MU 1-8957
Colo Waugaman Assoc 2785 N Speer Denver....255-5000
Ill Rockford Controls Co 21 W 181 Hill Ave
Glen Ellyn...........................469-6016
Iowa Ellinger Sales Corp 309 4th Ave SE Clarion .532-3218
Md Heller-Freedman Assoc Box 293 Timonium..252-4780

Mass R F Duffy Assoc Inc 49 Century Rd
So Weymouth 335-7724
Mich L H Dickelman Co 13331 Puritan Ave
Detroit..........................273-0806
Minn Wenco Sales 7728 Morgan Ave S
Minneapolis 866-3639
Mo Ellinger Sales Corp 4969 Bancroft St Louis .352-2027
NJ Murray Co 25 W Northfield Rd Livingston . . .992-0520
NY Milton C Matthews Co Box 612 Rochester . . BR 1-2143
NC Jake Rudisill Assoc 2009 N Tryon St
Charlotte 377-6901
Ohio Rockford Controls Ohio Inc 2077 Embury Park Rd
Dayton..........................274-1911
Ohio Rockford Controls Ohio Inc 19200 Villaview Rd
Cleveland 216-531-4841
Pa Murray Co Box 253 Newtown, Bucks Co . . WO 8-2497
Tex R F Kimball Co 5531 Dyer St Dallas 363-5431
Wash Harry Levinson Co 1211 E Denny Way
Seattle ....EA 3-5100
Ger Willy Gunther Co Humbolstr 3739
8500 Nurnberg 9 ....0911-4442/41
GB B & R Relays Ltd Temple Fields
Harlow-Essex ....HAR 2-5231
Jap Sankyo Intl Corp 4-1 2 Chome Nishi-Kanda
Chiyoda-Ku, Tokyo....................262-6376
SAfr GKN Sankey Ltd First St, Booysens Reserve
Johannesburg......................834-6251
Swit Walter Blum Assoc Hoenggerstr 115
Zurich........................42-23-42-44
Aust Arcos Industries Pty Ltd Lisbon St Fairfield, NSW

GORE & ASSOC INC, W L 555 PAPER MILL RD
NEWARK DEL 19711
TWX 510-666-0825..................302-738-4880
R KRUEGER EMP 200 ENG 18
Ariz W L Gore & Assoc 1505 N 4th St
Flagstaff 602 774-0611
Cal W L Gore & Assoc 8542 Florence Ave
Downey 869-4511
Fla W L Gore & Assoc 711 N Magnolia Ave
Orlando 305-424-0060
Mass W L Gore & Assoc 363 Great Oak Rd
Bedford 275-8877
Minn W L Gore & Assoc 7728 Morgan Ave
Minneapolis 612 861-1800
NJ S R Morrow Co Box 465 Chatham ....ME 5-8960
NY W L Gore & Assoc 3001 James St
Syracuse 315-463-0925
Ohio Schlemmer Assoc 1172 W Galbraith Rd
Cincinnati..........................522-8340
Pa Tyler Griffin Co 46 Darby Rd Paoli 647-1550
Tex W L Gore & Assoc 6434 Maple Ave
Dallas........................214-351-6543
Wash Martin J Poggi Box 786 Bellevue ....FL 4-5648
Can Lake Engrg Co Ltd 123 Manville Rd
Scarborough, Ont ....PL 7-3253
For W L Gore & Assoc 75 Inglis St
Fief, Dunfermline, Scot 25216
Ger W L Gore & Co, Gmbh Siemenstr 10
8012 Munchen, Ottobrunn 0811-460-2949
Swed A B Galco Gavelgatan 12B, 7 TR Stockholm . . .237620
Ind Garg Assoc (P) Ltd 5 Nai Abadi Ghaziabad UP . . .2958
Isrl Palec Ltd Box 960 Tel-Aviv 64568

GORMAN MACHINE CORP 480 S MAIN ST
RANDOLPH MASS 02368
TWX 710-348-0450 ....617 963-7333
H SNIDER EMP 30 ENG 3 $500-$1,000M
Ala Space Engrg Sales 4306 Governors Dr SW
Huntsville 837-6060
Cal Gorman Sales Corp 4338 W Artesia Ave
Fullerton 523-2480
Fla Space Engrg Sales 999 Woodcock Dr
Orlando 841-2271
Ill Kennedy Engrg Inc 6713 N Oliphant Ave
Chicago 631-8283
Mass Gorman Sales Corp 480 S Main St
Randolph 963-7335
Minn D A Schultz Co 801 SE 8th St Minneapolis . .339-7701
NY Alderman & Eckerson Inc 8 Pleasant St
Fairport..........................377-5740
NC Space Engineering Sales 2509 Lakeshore Dr
Greensboro..........................299-0987
Pa Wm Paul Co 400 Bethlehem Pike
Philadelphia 247-0567
Tex Noakes Engineering Box 968 Irving ....BL 5-0441
Can Anbak Sales Canada Ltd 3208 Lenworth Dr
Cooksville Ont..........................625-1061
GB Avel Products Ltd Ayron Rd - So Ockendon
Essex..........................SO 2263
Jap U S - Asiatic Co Ltd 1-18 Shimbashi, Minato-Ku
Tokyo 591-5181

GORN CORP 845 MAIN ST STAMFORD CONN 06902
TWX 710-474-2156 ....203 348-7591
G SPIEGEL EMP 80 ENG 8 $1,000-$2,500M
Ala Russell Assoc 2516 N Memorial Pkwy
Huntsville 205-539-7211
Cal Russell Assoc 3951 Huntington Dr
Pasadena 213-795-9521
Cal Thorson Co 444 Olive St San Diego CY-8-8385
Fla Russell Assoc 211 W Fairbanks
Winter Park 305-MI-7-2251
Ga Russell Assoc 6427 Roswell Rd Atlanta .404-255-8422
Kan D & O Engrg Co Box 2349 Kansas City
Ky Russell Assoc 4 Eswin St
Greenhills Ohio 513-825-0930
Md Russell Assoc 102 N Main St Bel Air . . .301-838-9292
Mo D & O Engrg Co Box 1800
Wichita Kan 316-AM-4-7358
NJ Russell Assoc 569 River Rd Fair Haven .201-447-1050
NY Russell Assoc 165 Orinoco Dr
Brightwaters 516-MO-6-6500
Ohio Bek Assoc 1700 Needmore Rd Dayton .513-CR-8-1343
Okla D & O Engrg Co Box 5037 Tulsa
Tex D & O Engrg Co 4924 Greenville Ave
Dallas 214-EM-8-3544
Wash Russell Assoc 6361 1st Ave S Seattle .206-RO-2-1213
Can Winnett Boyd Ltd 129 Centre St
Richmond Hill Ont 416-889-6255

GORTON MACHINE CORP 1106 13TH ST RACINE
WIS 53403 TWX 910-271-2400 414-886-3711
K CHRISTOPHERSON EMP 300 ENG 15
$5,000-$10,000M

GOTHAM AUDIO CORP 2 W 46TH ST NEW YORK
N Y 10036 ....212 CO 5-4111
E PASSIN EMP 15 ENG 4 $1,000-$2,500M
Cal Gotham Audio Corp 1710 N LaBrea Hollywood

GOULD MARATHON BATTERY CO DIV GOULD-NATL
BATTERIES INC 931 VANDALIA ST ST PAUL
MINN 55114..........................612 222-4171
MATTESON EMP 835 ENG 26 OVER $10,000M
Cal W F White 3773 Hillway Dr Glendale . . .213 249-9110
Conn B Paule 12 Victoria La W Simsbury 203 658-5966
DC W C Kuhl 5454 Wisconsin Ave
Washington 301 652-2638
Fla C E Stinson 4117 Bougainvilla Dr
Lauderdale by the Sea 305-565-7223
Ga B Kirk 3094 Wanda Woods Dr Atlanta .404-939-7510
Ill D L Thompson 1098 E Country Side Dr
Hanover Park 312-529-8787
Mass R A Harrow 220 E Central St Natick . .617-655-0212
NJ B S Huret 58 Crane Cir
New Providence 212-267-8818
Ohio R P Degel 421 Chestnut Dr Berea 216-234-1683
Ore A Polich 5940 SW Hood Ave Portland . .503 246-5451
Tex J W Juderjohn 735 Brentwood
Richardson 214-231-3366
Wash Andrew L Polich, Inc 2636 Thorndyke W
Seattle 206 283-7100
Wis C Marcoux 840 Henrietta St Wausau . .715 845-7361

GOW-MAC INSTRUMENT CO 100 KINGS RD
MADISON N J 07940 ....201 377-3450
R MATHIEU EMP 40 ENG 2 $500-$1,000M
Ala Alabama Controls Co 2775 Springhill Ave
Mobile 205 479-2345
Cal Tech Inst Equip Box 5205 San Jose . . .408-378-8221
Tex Antek Instruments Inc Box 7903
Houston 713 443-1292
For Gow Mac Instrument Co (Ireland) Ltd
Shannon Free Airport Limerick
Fr Touzart & Matignon 3 Rue Amyot Paris V
Ger W Seifert, KG Dusseldorfer-Str 71
Duesseldorf-Oberkassel
GB Field Instr Co Ltd Tetrapac House Orchard Rd
Richmond, Surrey
Neth van Oortmerssen NV de Ruyterstr 48-50
The Hague
Ital Orlando Valentini via Esterle 11 Milano
Jap Tokyo Kogyo Boyeki Shokai Ltd Box 7 Shiba
Tokyo 105-91
SAfr A Keller 38 Stiemens St Braamfortein
Johannesburg
Swit Werner Ness Zurichstr 129, Kusnacht Zurich
Belg van Oortmerssen pvba Arenbergstr 22 Antwerp
Aust John Morris Pty Ltd 61 Victoria Ave
Chatswood, NSW

GPL TELEVISION THE SINGER CO PLEASANTVILLE
N Y 10570 TWX 914 769-7217 914-769-5000
T BART EMP 80 ENG 60
Cal GPL Div Los Angeles 678-5418
DC GPL Div Washington 223-4104
Ohio GPL Div Dayton....................222-5892

GPS INSTRUMENT CO INC 14 BURR ST
FRAMINGHAM MASS 01701 617-875-0607
S GISER EMP 40 ENG 10 $500-$1,000M
Cal Wieler & Co 10842 S Paramount Blvd
Downey 213-861-9233
Colo Vinson Assoc 3600 S Lincoln Englewood.303 789-2203
Conn Applied Measurements Inc Hamden 203 288-5288
Ill Megatek, Inc 1915 N Harlem Ave
Chicago 312 889-1277
Md S & S Assoc 7720 Wisconsin Ave
Bethesda 301 654-2420
Mass Applied Measurements Inc 86 Hayward Rd
Acton 617 263-2766
Mich OEM Sales Co 106 S Woodward
Birmingham 313 647-1172
Minn Megatek 6810 Irving Ave S Mnpls 612-866-9769
Mo Ozark Electronic Mktg Inc 2573 Woodson Rd
St Louis 314 423-7200
NJ Smith Co 111 S Orange Ave
South Orange 201 763-1770
NM Vinson Assoc Box 3295 Albuquerque . . .505 298-7442
NY Duda Assoc 24 Edison Dr
Huntington Sta 516-427-5863
NC Radco 614 Nissen Bldg Winston Salem .919-722-9671
Ohio Compar Ohio Box 4791 Fairview Park . .216 333-4120
Pa S & S Assoc Boro Line Rd
King of Prussia 215 265-3450
Tex J Y Schoonmaker Co 2995 Ladybird La
Dallas 214 357-8481
Can Technitron Assoc Ltd 769 Lajoie Ave
Dorval, Que 514 631-6859

GRACE ELECTRONICS INC 4380 WARNER RD
CLEVELAND OHIO 44105 ....216 341-7950
M GRACE EMP 8 ENG 2 $100-$250M

GRAFIX INC 2014 RIDGECREST DR SE
ALBUQUERQUE N MEX 87108 ....505 265-6903
G BUSSEY EMP 20 ENG 3 $250-$500M
Cal Persons & Assoc Box 370 Lafayette 283-3760
For Astrex Intl Corp 360 Glenwood Ave
East Orange, NJ 676-7020

GRAFO COLLOIDS CORP BOX 195 SHARON
PA 16146..........................412-981-1773
W. FORD, JR. EMP 18 ENG 3 $250-$500M

GRAHAM TESTERS INC 4220 CENTRAL AVE NE
MINNEAPOLIS MINN 55421 ....612 788-9489
R LEE EMP 15 ENG 1 $100-$250M

GRALEX INDUSTRIES INC 28 DITOMAS CT
COPIAGUE N Y 11726..................516 691-2502
B GRAND EMP 7 ENG 3 UP TO $100M
Cal Richards Assoc 900 N San Antonio Rd
Los Altos....................415 941-3226
Mass Instrument Consultants, Inc 25 Waban Ave
Waban 969-9881
Mo Gordon Fixman Engrg Co 8160 Stanford Ave
St Louis....................314 PA 5-5219
NJ Friedman Assoc 110 Halsted St
E Orange 201 673-2500

GRAND TRANSFORMERS INC
BEECHTREE & MARION STS GRAND HAVEN
MICH 49417 ....616 842-5430
G RETZLAFF EMP 160 ENG 4 $1,000-$2,500M
Ill Edward Flaxman Co 52 James Ct Glenview . .729-1880
Kan D D Darnell & Co 6005 Martway Mission . . .722-1736
Md Rothenheber & Co Inc 14211 Chesterfield Rd
Rockville 929-3388
Mass Henry P Segel Inc 38 Jordan Rd Brookline . .232-7525
Mich Willard Spenser Co 21500 Greenfield Rd
Oak Park 398-8005
Mo D D Darnell & Co Inc Park Lane Fenton 343-1254
NY Kahgan Sales Corp 1261 Broadway
New York ....MU 4-7772
Ohio Del Steffen & Asoc 25000 Euclid Ave
Cleveland 261-5055
Pa Rothenheber & Co Inc 53 Crickett Ave
Ardmore 642-6911
Tex W T Blackburn Assoc 137 Walnut Hill Vlg
Dallas 351-9991

GRANGER ASSOCIATES 1601 CALIFORNIA AVE
PALO ALTO CAL 94304
TWX 910-373-1291 ....415 321-4175
F CARR EMP 600 ENG 115 $1,000-$2,500M
Colo Granger Assoc 3025 Garland Terr
Colorado Springs 633-6068
DC Granger Assoc 818 18th St NW Washington . 298-7125
Ore Granger Assoc Box 584A Boring 503 658-2684
For Hwa Sheng Electronic Co Ltd 21 Nanking West Rd
Taipei, Taiwan 46076
For Intl Aeradio E A Ltd Nairobi Airport
Nairobi, Kenya, EA 82222
For Mushko & Co Ltd Oosman Chambers, Victoria Rd
Karachi 3, Pakis 51027
For A M Bravo & Filhos Praca de Londres 3
Lisbon 2, Port 728145
For General Equip Co Ltd Box 2198 Bangkok, Thai .55358
For L Forster & Sabbagh Co 436/1 Rashid St
Baghdad, Iraq 85126
For Nefan Ticaret Ltd P.K. 430 Karakoy
Istanbul, Tur 48 56 13
For Intl Electronic Engrg Ltd Huerfanos 521
Santiago, Chile 34439
For INESA Davalos Lisson 121, Aptdo 1742
Lima, Peru 43470
For African Development & Engrg Co Box 2390
Tripoli Libya 33906
For Associated Tech Services Ltd
8-15 Amber Mansions Singapore 9 361610
For Industria Electronica Larco
Aptda Postal 866 13 Calle 7-49 Zona 1
Gautemala..........................83913
Den H Rikard-Petersen Niels Hemmingsensgade 8-10
Copenhagen, K ....PA 6644
Fr Materiels & Constructions s a 44, Rue Paul Valery
Paris XIV 553-66-23
Ger Neuzeitliche Elektro & Motorentechnik GmbH
Postfach 1547 54 Koblenz 34 387
GB Granger Assoc Ltd Molesey Rd
Walton-on-Thames, Surrey 29913
Jap Marunbun Co Ltd
1 2-Chome Odemmacho Nihonbashi Chuo-Ku
Tokyo 662-8151
Nor Datamatik, A/S Ostensjoveein 7 Oslo 6 672847
SAfr A C Gowlett (Pty) Ltd Box 1257
Johannesburg..........................729-9341
Swed Allgon Antennspecialisten AB Akersberga . .08-552443
Arg SADELCO
Tucuman 834, 5 Piso, Casilla Correo 2693
Buenos Aires..........................42 8026
Braz S A de Comercio Tec Aer
Av Roosevelt 137, 11 Andar
ZC 39, Rio de Janeiro
Gr Telectrotec 18 Voulis St Athens 126 ....227 267
Ind Motwane Private Ltd Box 1312 Bombay 1 252337
Mex DEKSA, S A Ave Juarez 42, Edif B Piso 9
Mexico 1, D F 10 25 66
Spn Busling SA Fernan Gonzalez 26 Madrid. 225 22 95
Fin Oy Imporex, AB Ultivilantie 29/3 Helsinki 455676
Aust Granger Assoc Pty Ltd 1-3 Dale St
Brookvale, NSW 936288

GRANT PULLEY & HARDWARE CORP 505 HIGH ST
WEST NYACK N Y 10994
TWX 914-358-3541 ....914 EL 84400
J BROSS EMP 300 ENG 15 $2,500-$5,000M
Cal Grant Pulley & Hdwe 944 Long Beach Ave
Los Angeles ....MA 7-4851
Colo William Assoc 4971 Jackson St Denver .303-388-4391
Conn Harold Belanger 38 Woolsley Ave Trumbull .AM 8-5352
Fla Ben W Wimberly Co 532 S Fort Harrison St
Clearwater..........................446-7072
Haw Haneberg & Co 1100 Ward Ave Honolulu 65-402
Ill Walter Hess 1780 Maple St Northfield.....HI 6-8077
Kan J Singer 6324 W 102 St Overland Park . . .DU 1-3684
Mich Carter McCormic & Peirce
23995 Freeway Park Dr Farmington .313-477-7700
Minn R G Ragon Inc 1136 W Larpenteur Ave
St Paul 488-6634
NJ Components for Electronics 60 Midvale Rd
Mountain Lakes ....DE 4-2921
NY Megatone Corp 240 Grand Ave Leonia, NJ . .652-8273
NC Bill Henry Assoc Box 6097 Charlotte . . .704-375-8958
Ohio Tri State Mktg Inc 1717 Section Rd
Cincinnati..........................631-5060
Tex Blackburn Assoc 137 Walnut Hill Vlg Dallas .FL 1-9991

Wash Don Smith Sales Co 2320 N 45 St
Seattle 206-ME-3-3160
Can Electrodesign Ltd 9124 St Lawrence Blvd
Montreal 389-5914
For Devero Co of America 1275 Prospect Ave
Brooklyn....................EV 8-5507
For E M Amy & Sons 888 Munoz River St
Rio Piedras, PR 766-1208
Fr CPI Aeronautique 57 Ave D'IE'NA Paris
GB Grant Slides Ltd Wotton Rd, Kingsnorth Ind Est
Ashford, Kent ....ASH 22675
Belg E T I 36 Rue Ravenstein Brussels

GRANVILLE-PHILIPS CO 5675 E ARAPAHOE AVE
BOULDER COLO 80302 TWX 045-791 ....303 443-7660
D BARNETT EMP 75 ENG 11 $1,000-$2,500M
ADV PG 696
Cal Granville-Phillips Co 2015 Latham St
Mountain View 961-2717
Ga W L Schoonover Inc 6427 Roswell Rd NE
Atlanta 255-0761
Mass Granville-Phillips Co 60 Williams St
Wellesley Hills....................237-1873
Mich Anger Assoc Inc 13126 Michigan Ave
Dearborn 233-2214
NJ Granville-Phillips Co 35 Charles St
Westwood 664-6667
Ohio Anger Assoc Inc 21139 Lorain Rd Cleveland .333-4180
Can Technical Mktg Assoc Ltd 6 Thorncliff Sq
Toronto 17 Ont 425-1975
Ger E Leybold's Nachfolger Bonner Str 504
Koeln-Bayental
GB Leybold Vacuum Ltd Blackwall La London SE 10
Jap Marubun Co Ltd
1-2 chome, Odenmacho, Nihonbashi
Chuo-ku, Tokyo
Isrl Landseas Corp 48 W 48th St New York 265-8323
Isrl Landseas (Israel) Ltd 29 Bezalel St Tel Aviv

GRAPHIC CONTROLS CORP
189 VAN RENSSELAER ST BUFFALO NY 14210
TWX 091-306 ....716 853-7500
W GREENHOLT EMP 700 ENG 5 OVER $10,000M
Cal Graphic Controls Corp 7142 E Condor St
Los Angeles 723-0251
Colo Graphic Controls Corp Box 3286 Boulder ...444-3917
Fla Graphic Controls Corp 2455 E Sunrise Blvd
Ft Lauderdale 563-4077
Ill Graphic Controls Corp Box 535 Barrington ..381-6540
Mass Graphic Controls Corp 2155 Columbus Ave
Springfield 733-2181
Mich Graphic Controls Corp 27224 Southfield Rd
Lathrup Vil 357-5006
Minn Graphic Controls Corp 1153 Plymouth Bldg
Mnpls 335-2341
Mo Graphic Controls Corp 11005 Manchester Rd
St Louis....................965-0088
NY Graphic Controls Corp 30 Church St
New York ....CO 7-3037
Ohio Graphic Controls Corp 850 Euclid Ave
Cleveland 241-2217
Pa Graphic Controls Corp 1538 Lancaster Ave
Paoli....................NI 4-9636
Tex Graphic Controls Corp Box 9451 Austin....GL 3-5242
Tex Graphic Controls Corp 3216 E 21st St
Tulsa 936-5246
Va Graphic Controls Corp 801 N Pitt St
Alexandria 549-5565

GRAPHIC ELECTRONICS INC 426 SECOND ST
LA SALLE ILL 61301 ....815 894-2337
W BARRON EMP 25 ENG 5 $1,000-$2,500M

GRAPHICS, INC HWY 59 N, POTEAU
OKLA 74953 ....918 647-2195
W SCHINDEL EMP 100 ENG 4
Ala J L Highsmith & Co 3322 S Mem Dr
Huntsville 205 881-3294
NY M P Andrews, Inc 319 Mott Rd Fayetteville .637-3144
Okla Dave Allert Co Box 7351 Tulsa 918 743-1107
Tex Elgin B Robertson Inc 1339 Plowman Ave
Dallas....................214 WH 2-8486
Tex E B Robertson Inc 4101 San Jacinto
Houston ....713 JA 9-3797

GRAPHIC SYSTEMS 925 DANVILLE RD
YANCEYVILLE N C 27379 ....919 694-4138
V MOORE EMP 20 ENG 3

GRAPHITE METALLIZING CORP 1052 NEPPERHAN AVE
YONKERS N Y 10702 TWX 914-476-2411 . 914 968-8400
W WALKER EMP 165 ENG 6 $500-$1,000M
ADV PG 65

GRAPHTEX INC 1 DELL GLEN AVE LODI
N J 07644....................201 478-1166
G MARKOFF EMP 38 ENG 3 $500-$1,000M
Mass A & M Elect Rep Inc 1492 Highland Ave
Needham 444-8170
NY Reptech, Inc Box 98 Syracuse
Tex R P Votteler 3508 Greenville Ave Dallas....TA 3-2320

GRASON STADLER CO INC 65 WINTHROP ST
WEST CONCORD MASS 01781.........617 369-3787
R NICHOLS EMP 75 ENG 5 $1,000-$2,500M

GRAYHILL INC 537 HILLGROVE AVE LA GRANGE
ILL 60525 TWX 910-683-1850.........312 354-1040
B VINKEMULDER
ADV PGS 601,605
Ala J L Highsmith Co Holiday Off Ctr Huntsville..881-3294
Cal F Huddleston Assocs 408 S Rosemead Blvd
Pasadena....................MU 1-3751
Cal Nickerson-Gray & Assoc Inc 4600 El Camino Real
Los Altos 941-5777
Colo R E Cathey Co 200 Garrison St Denver 238-1506
Conn Michael Scott Comp Inc 46 Rockefeller Ave
West Haven 934-0261
Fla Geartner Assoc Inc 2101 Mohawk Trail
Maitland 647-4000
Fla Geartner Assoc Inc 350 Lincoln Rd
Miami Beach....................JE 1-0200
Ill Hill-Gray Assoc 2 Salt Creek La Hinsdale ...325-4810
Ind Menze Sales 6010 Lower Huntington Rd
Ft Wayne....................747-5616
Iowa Reid Assoc 526 MNB Bldg Cedar Rapids....362-6302
Kan Penzer-Mankus Assoc Box 6264
Overland Park....................DU 1-0004
Md Naudain Assoc Box 1 Timonium 252-5378
Mass Michael Scott Co Inc 20 Walnut St
Wellesley Hills....................235-0102
Mich C B Jensen & Assoc 26711 Woodward Ave
Royal Oak 399-0900
Minn Northport Engineering Inc 2027 Grand Ave
St Paul 698-3841
Mo Penzner-Mankus 400 Brookes La Hazelwood.731-4334
NM Vermillion Co 3621 Headingly NE
Albuquerque....................344-9823
NY Bob Dean Inc 714 W Clinton St Ithaca 272-2187
NY Frank Tylinski Co 338 Northern Blvd
Great Neck 466-9070
NC James L Highsmith Co 3733 Monroe Rd
Charlotte 333-7743
Ohio Arthur H Baier Co 3300 S Dixie Dr Dayton ..298-9897
Ohio A H Baier Co & Assoc 4399 Industrial Pkwy
Willoughby 946-6080
Ore Seatronics Inc 6415 Canyon Ct Portland ...292-8887
Pa Naudain Associates 1032 Suburban Sta Bldg
Phila....................LO 4-3194
Pa Covert & Newman Co 300 Mt Lebanon Blvd
Pittsburgh 563-0303
Tex W Pat Fralia Co 6100 Camp Bowie
Ft Worth ....PE 8-2394
Va James L Highsmith Co 5003 Brook Rd
Richmond....................266-2060
Wash Seatronics Inc 5616 4th Ave S Seattle .206 767-4330
Can Frank Taylor Ltd 12 Howard Dr
Willowdale, Ont 222-6924
Fr Radio Television Francaise 73 Ave De Neuilly
Neuilly-Sur-Seine....................SAB 70-40
GB Highland Electronics Ltd 26 Underwood St
London N1 ....CLE 3723-4

GRAYHILL MOLDTRONICS INC 703 ROGERS ST
DOWNERS GROVE ILL 60515..........312 968-7000
D FOSKETT
Cal Nickerson-Gray & Assoc 4600 El Camino Real
Los Altos 941-5777
Cal F Huddelston Assoc 408 S Rosemead Blvd
Pasadena....................MU 1-3751
Colo R E Cathey Co 200 Garrison St Denver 238-1506
Fla Geartner Assoc Inc 2101 Mohawk Trail
Maitland 647-4000
Fla Geartner Assoc Inc 350 Lincoln Rd
Miami Beach....................JE 1-0200
Ill Hill & Gray Inc 2 Salt Creek La Hinsdale 325-4810
Ind Menze Sales 6010 Lower Huntington Rd
Ft Wayne....................747-5616
Iowa Reid Assoc 526 MNB Bldg Cedar Rapids....362-6302
Md Naudain Assoc Box 1 Timonium 252-5378
Mass Michael Scott Co Inc 20 Walnut St
Wellesley Hills....................235-0102
Mich C B Jensen & Assoc 26711 Woodward Ave
Royal Oak 313 399-0900
Minn Northport Engineering Inc 2027 Grand Ave
St Paul 698-3841
Mo L R Harry & Assoc 7603 Forsyth Clayton 5 .PA 7-6123
NM Vermillion Co 3621 Headingly NE
Albuquerque....................344-9823
NY Frank Tylinski Co 338 Northern Blvd
Great Neck 466-9070
NY Bob Dean Inc 714 W Clinton St Ithaca 272-2187
Ore Seatronics Inc 6415 Canyon Ct Portland ...292-8887
Pa Naudain Assoc 1032 Suburban Sta Bldg
Phila....................LO 4-3194
Pa Covert & Newman Co 300 Mt Lebanon Blvd
Pittsburgh 563-0303
Tenn Jackson & Assoc 1615 Williams St
Chattanooga 267-4260
Tex W Pat Fralia Co 6100 Camp Bowie
Ft Worth ....PE 8-2394
Wash Seatronics Inc 5616 4th Ave S Seattle.....767-4330
Can Frank Taylor Ltd 12 Howard Dr
Willowdale, Ont 222-6924

GRAY RADIO CO INC 501 FOREST HILL BLVD
WEST PALM BEACH FLA 33405 ....305 582-2201
G GRAY EMP 5 ENG 3 UP TO $100M

GRAY RESEARCH & DEVELOPMENT CO DIV
150 PARK AVE EAST HARTFORD
CONN 06108....................203 289-2743
H LEARMAN EMP 15
Cal Osborne & Bidwell 17525 S Broadway Gardena
Can Applied Electronics 40 Torlake Crescent
Toronto, Ont
For Rocke Intl Corp 13 E 40th St New York, NY

GREAT EASTERN METAL PRODUCTS CO
22 WOODWORTH AVE YONKERS
N Y 10701 ....914 476-7300
L WEINBERG EMP 17 $250-$500M

GREENE ELECTRONICS INC 1840 CRANSTON ST
CRANSTON R I 02920 ....401 WI 2-3800
D PIPER EMP 50 ENG 1

GREEN ELECTRIC CORP 29-13 BROADWAY
FAIRLAWN NJ 07410...............201 796-4700
R BEISER EMP 55 ENG 2 $250-$500M

GREENFIELD COMPONENTS CORP
184 SHELBURNE RD GREENFIELD
MASS 01301 ....413 773-5494
E FLYNN EMP 75 ENG 5 $500-$1,000M
Tex Joseph E Taylor Co. Box 556 Richardson ...235-7011
Wash F W Aurich & Co 3601 Gilman Ave W
Seattle 282-2223

GREEN INSTRUMENT CO INC
295 VASSAR ST DEPT 63A CAMBRIDGE
MASS 02139 ....617 354-2989
W FULLERTON

GREENLEE DIAMOND TOOL CO 1222 HARDING AVE
DES PLAINES ILL 60016 ....312 299-0666
R CARLSON EMP 10 ENG 2 $500-$1,000M

GREENLEE TOOL CO 2136 12TH ST ROCKFORD
ILL 61101....................815 963-4881
M TUCKETT EMP 1400

GREENPAR ENGINEERING LTD, ELECTRONICS DIV
STATION WKS, HARLOW ESSEX ENGLAND 27192
N STEPHENSON EMP 200 ENG 15
$1,000-$2,500M
NJ Data Instr Div 7300 Crescent Blvd
Pennsauken 662-3031
Can Atlas Instruments Corp 50 Wingold Ave
Toronto ....RU 1-6174
Den Scaniameter A/S Finsenavej 39 Kobenhavn F
Ital GBC Italiana Casella PO 35 Milano.........21 10 51
Nor Rieck & Co A/S Box 2706 Industrihuset A7
Bergen 19977
SAfr United Electronics Corp Ltd
305 S Coast Rd Rossburgh Durban 81-8211
Belg Sait Electronics 66 Chaussee de Ruisbroek
Bruxelles 19 ....45 18 50
NZ Sonophone Distrs Ltd 5-7 Kingston ST
Auckland C 1 ....44 265

GREENRAY INDUSTRIES INC 840 W CHURCH RD
MECHANICSBURG PA 17055 ....717 766-0223
G KURZENKNABE EMP 106 ENG 10
$1,000-$2,500M
Cal Dorr Wagner Assoc Box 485 Altadena 681-4060
Cal John E Striker Co 1319 Howard Ave
Burlingame 342-1425
Colo O'Brein Sales Co 2785 Speer Blvd Denver ..477-4713
Conn Keyco Assoc Box 357 Farmington 677-1771
Fla Beacon Electronic Assoc Inc Box 1278
Maitland 647-3498
Fla Beacon Electronic Assoc Inc Box 10212
Ft Lauderdale 564-4298
Ga Beacon Electronics Assocs, Inc Box 29201
Atlanta 351-3654
Ill Branum Sales Co Box 516 Lake Zurich.....438-2356
Mass Keyco Assoc 551 Broadway Malden 321-2323
Mo A F Gliedt 10869 Spring Garden Dr St Louis .424-4711
NJ Andrews & Andrews, Inc 44 N Dean St
Englewood 569-8800
NY Andrews & Andrews Inc 140 E Main St
Huntington....................692-8686
NY Andrews & Andrews Inc 236 Erie Blvd E
Syracuse 471-8855
NC Beacon Electronics Assoc 305 Greenway St
Jamestown....................454-1010
Ohio McShane Box 523 Medina 725-4568
Okla John A Green Co Box 3209 Tulsa 742-4657
Pa Tyler Griffin Co 46 Darby Rd Paoli 647-1550
Tex John A Green Co Box 47206 Dallas 631-7450
Tex John A Green Co Box 66506 Houston 526-2959
Wash Dewar & Assoc 6361 First Ave S Seattle ...763-2233
Can McRann Copeland Co 7552 Mainville St
Montreal 451....................254-6369
For Greenray International 840 W Church Rd
Mechanicsburg, Pa....................766-0246

GREEN RECTIFIER CORP 1-10 THIRTIETH ST
FAIR LAWN N J 07410...............201 797-8100
I ROSE EMP 65 ENG 4 $500-$1,000M

GREENTREE ELECTRONICS CORP, A BELL &
HOWELL CO BOX B-G IRVINE
CAL 92664 ....714 833-0020
J SACK EMP 100 ENG 10 $1,000-$2,500M
Alas W P Watson Enterprises 3/4 Mil Bradway Rd
Fairbanks....................907-488-6835
Ariz Jack Rowe Assoc 3332 W Belmont Ave
Phoenix....................602 939-4772
Cal Steven Olson Sales Box 4061
San Mateo 415-573-8541
Colo B Olsen 14080 W 30th Golden 303 279-7450
Fla Winfield Elctn Sales Co 666 NE 125 St
North Miami 305 751-5566
Ga Winfield Southeast 2991 Druid Hills Rd SE
Atlanta 404 636-3023
Ill Loren F Green & Assoc 5218 W Diversey Ave
Chicago 312 286-6824
Md Jack Black Sales 4980 Wyaconda Rd
Rockville 301 933-5880
Mass Lawrence B Cole & Co 318 Weston Rd
Wellesley....................617 237-1260
Mich D Neumaier & Assoc 14135 Beatrice
Livonia 313 425-8686
Minn Felsen-Moscoe Co 4620 W 77th St
Minneapolis 612-926-1829
Mo Havercamp & Day 8115 Troost
Kansas City....................816 444-2871
Ohio Fred Ohman Box 363 Twinsburg 216 425-7445
Pa Hal Kellar & Co 653 Ferne Blvd
Drexel Hill 215 259-6758
Tex Texport Co 2411 Farrington St Dallas..214 631-6270
Wash Richard Wilkes Assoc 10306 NE 10th St
Bellevue 206-455-2105
BC Reptronic Sales Ltd 1859 W 4th Ave
Vancouver 1 604-685-4436

GREGORY MAGNETIC INDUSTRIES INC
317 SW 5TH ST POMPANO BEACH
FLA 33060 ....305 946-3306
H GREGORY EMP 20 ENG 4 $100-$250M

GRIDCRAFT INC 14520 LIMA RD RR 1 FORT WAYNE
IND 46805 219-637-3141
K HOWELL EMP 30 ENG 4 $250-$500M
Cal L & M Sales Box 6255 Anaheim 717-774-0492
Conn Keyline Inc Box 357 Farmington 203 677-1771
Pa Walch Co Box 261 Newtown 215 968-3989

GRIES REPRODUCER CO DIV COATS & CLARK INC
151 BEECHWOOD AVE NEW ROCHELLE
N Y 10802 ....914 633-8600
C CHASE EMP 385
Cal R C Dudek & Co 600 N Sepulveda Blvd
Los Angeles 272-8097
Conn S R Dube 2279 Edward La
Yorktown Hts NY 203-333-7611
Ill M LeVerso 2323 Carriage La
Lindenhurst 312-539-6767
Ind D G Teeling Co Box 20111 Indianapolis.....251-9571
Mass Schutter-Young Co 22 Franklin Pl
Beverly 617 922-6121
Mich H Lichtenberg 6436 Andersonville Rd
Waterford 313-332-0666
Minn Crum Co 1455 W Lake St Minn 824-5394
Mo Components & Equipment Co 501 Clark Ave
Webster Groves ....WO 2-2799
NY Stetler & Stetler 1807 Elmwood Ave
Buffalo ....TR 3-6435
Ohio Davis Assoc Inc 3725 Lee Rd
Shaker Heights 216 751-7400
Pa Riley & Aleshire Inc 306 Leedom St
Jenkintown ....TU 4-1708
Tenn B De Stefani 1161 Jameston Dr
Charlotte NC 704-375-3978
Tex Fastener Sales Co Box 9226 Ft Worth ....ED 5-1448
Wis W J Peters 10031 W Lisbon Ave
Milwaukee 414 463-9660
Can Precision-Exp Supply Ltd Box 422, Sta 'K'
Toronto, Ont 416 481-3504

GRIEVE CORP 1350 N ELSTON AVE CHICAGO
ILL 60622 ....312 BR 8-3400
P CALABRESE EMP 140 ENG 4
Ala Applebee-Church Inc 13 Office Park Cir
Birmingham 205 879-4417
Ariz Pacific Scientific Co 15 N 40th Pl Phoenix ..273-7464
Cal Pacific Scientific Co 6280 Chalet Dr
City of Commerce ....SP 3-2020
Conn William K Duff & Co Box 536 Avon 677-9175
Fla State Instruments Inc Box 18681 Tampa ...932-0633
Ga Applebee-Church Inc 1958-A Monroe Dr NE
Atlanta ....TR 5-7244
Ill W H Tesmer & Assoc 507 Catherine St
LaGrange Park ....FL 2-5720
Ind Couchman-Conant Inc 1400 N Illinois St
Indianapolis 635-5313
Kan Pacific Scientific Co 8020 Santa Fe
Overland Park......................DU 1-2600
La Church-Dailing Co 1401 S Rendon St
New Orleans........................866-9632
Mass Eastern Appliance Co 591 North Ave
Wakefield 245-8530
Mich Jesse W Eakins Co 13040 Captial Ave
Detroit ....JO 6-1461
Minn Pacific Scientific Co 7710 Computer Ave
Mnpls 927-4391
Mo Pacific Scientific Co 11771 Natural Bridge Rd
Bridgeton........................291-2440
NJ R L Faber & Assoc 460 Colfax Ave
Clifton 201 773-8900
NM Pacific Scientific Co 209 San Pablo SE
Albuquerque........................265-6638
NY Upstate Technical Equip Co Box 202
Solvay 315 458-5573
Ohio Cleveland Ind Equip Sales Co 4500 Euclid Ave
Cleveland ....HE 1-8640
Ore Pacific Scientific Co 1208 SE 7th Ave
Portland 233-6177
Pa F F Sahms Co 419 Twickenham Rd
Glenside ....TU 4-2559
SC Crotts & Saunders Engrg, Inc 235 N Main St
Winston-Salem 723-3643
Tex Pacific Scientific Co 702-A E Abram St
Arlington 275-3236
Va Virginia Tech Assoc, Inc Box 9524
Richmond 703 266-9654
Wash Pacific Scientific Co 8915 - 15th Ave S
Seattle ....RO 2-4260
Wis Gordon Hatch Co Inc 635 S 28th St
Milwaukee 671-6550
Can Masdom Corp Ltd 83 Sunrise Ave Toronto ..751-2380

GRIFFITH PLASTIC PRODUCTS CO
1027 CALIFORNIA DR BURLINGAME CAL 94011
TWX 910-374-2840 ....415 344-7691
J GRIFFITH EMP 25 ENG 2 $500-$1,000M
Ala Fred Wamble Sales Co 3475 Marie Cook Dr
Montgomery
Alas Hoffer Enterprises 129 Fifth Ave Anchorage
Cal Jack Logan & Assoc 801 Mahler Rd
Burlingame 697-6100
Colo Electro-Rep Inc 1051 So Platte River Dr
Denver 744-2821
Conn J L Feinberg Assoc 33 Shirley La
New London 442-2514
Ill Engineering Assoc 6418 N Central Ave
Chicago 763-2131
Md Barnhill & Assoc 1931 Greenspring Dr
Timonium........................252-5610
Mich R Hartwick 3371 Cummings Ave Royal Oak ..549-1160
Minn Wenco Sales Inc 7728 Morgan Ave
Minneapolis 866-3639
Mo Airborne Electronics Co 7759 Loma Vista Dr
Kansas City 763-0585
NY David Sonkin Assoc 10 Fiske Pl
Mount Vernon 668-9809
Pa L Anthony Iocono 6640 Roosevelt Blvd
Phila ....MA 4-1843
Tex Parvin Sales Co Box 307 Addison 363-6822
Wash C Lyle Reeve Mktg Assoc Box 7087 Seattle .542-5889
Wis Richard Rubenstein Sales Rte 2 Chedarburg .377-5436
Can Cantronics Ltd 17 Dellbank Rd
Downsview Ont 636-8311

GRIFFITHS ELECTRONICS INC 1301 E LINDEN AVE
LINDEN N J 07036 TWX FHL 201 925-7300
M POZNAK EMP 450 ENG 20 $5,000-$10,000M

GRIGSBY BARTON INC 107 N HICKORY AVE
ARLINGTON HEIGHTS ILL 60004 ....312 392-5900
R GRIGSBY EMP 40 ENG 3
ADV PG 542
Cal W S Harmon Co 6118 Venice Blvd
Los Angeles ....WE 7-1460
Cal Testco 941 Charleston Rd Palo Alto 326-5320
Fla A B Andrews & Co Box 38 Melbourne Beach .723-0127
Ill Lincoln & Hodges & Assoc 5875 N Lincoln Ave
Chicago 561-8440
Mass New England Area Reps 99 Highland Ave
Somerville........................PR 6-2262
Mich L H Dickleman Co 13331 Puritan Detroit ...273-0806
NJ Components for Electronics Inc 60 Midvale Rd
Mountain Lakes ....DE 4-2921
NY R P Kennedy Co 15 Warrington Dr
Rochester 271-6322
NC A B Andrews & Co Box 2627 Raleigh 833-5565
Ohio L H Dickelman Co 28829 Chagrin Blvd
Cleveland 831-1039
Pa Cooper Clement Assoc 835 Glenside Rd
Wyncote 887-8150
Tex Whiteside Sales Box 22 Garland 276-8382
Wash Testco Boeing Field Seattle ....RO 2-8220
Can Aztec Engineering 136 Tower Dr
Scarborough, Ont 755-7824

GRIMES MFG CO 515 N RUSSELL ST URBANA
OHIO 43078 ....513 653-5221
L MOORE EMP 800 ENG 75 OVER $10,000M
Cal Grimes Mfg Co 999 Sepulveda Blvd
El Segundo 322-6443
NY Harold DeSoye Co 600 Old Country Rd
Garden City ....PI 7-8500
Tex Grimes Mfg Co 1400 Sagebrush Trail
Euless ....BU 3-3437

GROOV-PIN CORP 1125 HENDRICKS CAUSEWAY
RIDGEFIELD N J 07657
TWX 710-992-8963..................201-945-6780
V MANO EMP 95 ENG 4 $1,000-$2,500M
Cal Dean Lewis Assoc 4444 Piedmont Ave
Oakland 654-0613
Cal Ray R Sweet & Son Inc 11150 Tennessee Ave
Los Angeles 477-4517
Colo CFL Co 1391 S Inca St Denver 777-4381
Conn Paul Wolfe & Assoc Inc Box 632 Orange....795-4343
Fla A-Gen-Teers Enterprises Box 7305 Orlando .293-6269
Ga R R Miller Box 28255 Atlanta 255-5287
Ill W L Barth, Jr Box 994 Wheaton 633-4970
Ind Alex Johnson 227 Sylvan Glen Dr S Bend ...232-4414
Iowa Robert Burchett 1821 State St Bettendorf .355-6332
Mass Thomas Wolfe Box 376 Southboro 481-1769
Mich H B Schweppe 7338 Woodward Ave Detroit .872-8149
Minn Nelson & Son Inc 4005 W 65th St Mnpls ...920-3414
Mo Smith-Moschner & Co
6025 Chippewa at Hampton St Louis 351-1177
NY Stampress Components Inc 834 Linden Ave
Rochester
NC Leo J Mortimer & Assoc Box 5256
High Point 882-9015
Ohio Stork & Assoc 613 Daniel St Dayton 222-3232
Pa Andrew Buchanan Box 456 Paoli 696-8323
SC Leo J Mortimer & Assocs 1105 Hampton St
Columbia 254-2228
Tex Tech Sales Co 1352 Chemical St Dallas 631-8820
Va A B Kreger, Jr Box 4605 Roanoke 345-7011
Wash F W Aurich & Co 3603 Gilman Ave W
Seattle 284-5561
Can Metal & Wood Fastening Devices Co
6302 Papineau Ave Montreal 274-9434

GROUND/DATA CORP 4014 N E 5TH TERR
FORT LAUDERDALE FLA 33308 305-563-2527
O STROCK EMP 25 ENG 15 $500-$1,000M

GRUENBERG ELECTRIC CO INC
585 COMMERCIAL AVE GARDEN CITY
N Y 11530 ....516 PI 1-4180
A GRUENBERG, JR EMP 40 ENG 3
Ariz Montgomery Bros Co Box 7234 Phoenix 277-9819
Ark Jack Greene Co 2312 Cantrell Rd
Little Rock ....FR 4-9398
Cal Montgomery Bros 1831 Bayshore Hwy
Burlingame....................415-697-6500
Conn Dittman & Greer Inc Box 780
Middletown....................203-346-9606
Ill Hanlon Equip Co Box 56176 Chicago ..312-725-6685
La Ross & Pethtel Inc 3170 Florida Blvd
Baton Rouge 504 348-7206
Mich Process Engrg Corp Box 4347 Dearborn
NY Owens & Co Skaneateles 315-685-5771
Ohio Anderson Bolds Co 10001 Carnegie Ave
Cleveland 229-4700
Ore Montgomery Bros Co 1632 NW Johnson St
Portland
Pa Tyler Griffin Co 46 Darby Rd Paoli 647-1550
Tenn H R Miles & Assoc 2500-B Franklin Rd
Nashville........................CY 2-7016
Tex Gay Sales Co 6414 Walnut Hill La
Dallas 214-EM 8-2325
Utah Montgomery Bros Co Box 6079 Salt Lake City
Wash Montgomery Bros Co 911 Western Ave
Seattle 624-7297
For R I Mendels Co 24 Grey Oaks Ave
Yonkers, NY 914-YO 5-4210

GTI CORP 310 CHESTNUT ST MEADVILLE PA 16335
TWX 91-4456 814-336-2191
J WALTON JR EMP 1252 ENG 28 OVER $10,000M
Ariz GTI Corp 3920 E Indian School Rd
Phoenix 602-955-7000
Cal GTI Corp 21044 Ventura Blvd
Woodland Hills 213-347-7015
Cal GTI Corp 1275 Piedmont Rd San Jose .408-259-1460
Mass GTI Corp 99 Cambridge St Burlington..617-272-4340
NY GTI Corp 122 E Main St
Wappingers Falls 914-297-6211
Pa GTI Corp 310 Chestnut St Meadville...814-336-2191
Pa GTI Corp 123 W Germantown Pike
Norristown 215-279-0251
Tex GTI Corp 3300 W Mockingbird La
Dallas........................214-358-4196
Fr Soc Francaise du Diamant 8 Rue Lafayette
Paris 523-2043
Ger GTI Corp 8 Munchen 90
Tegernseer Landstr 300 0811-63-70-52
GB Advanced Semiconductor Matls 44 Station Rd
Wokingham Berks
Neth Advanced Semiconductor Matls
Soestdijkseweg 28N Bilthoven Holl 03402-5045
Jap Tokyo Electron Labs 36 Akaska Tokyo 584-5611
Jap Marubeni-Iida Amer Inc 624 S Grand Ave
Los Angeles Cal
Swed Ingemar Beckman Box 97 Farsta Stockholm
Swit European Semiconductor Equip Ctr
Box 32 Baarestr 57 Zug 57-004142

GTI CORP, DIX ENGINEERING DIV 1399 LOGAN AVE
COSTA MESA CAL 92626 TWX 67-8421 .714 546-0411
M ST JOHN EMP 33 ENG 4 $1,000-$2,500M
Ariz GTI Corp 3920 Indian School Rd Phoenix ...955-7000
Cal GTI Corp 1275 Piedmont San Jose.........259-1460
Mass GTI Corp 99 Cambridge St Burlington 256-3112
NY GTI Corp 122 E Main St Wappingers Falls ..297-8833
Pa GTI Corp 310 Chestnut St Meadville 336-2191
Tex GTI Corp 3300 Mockingbird La Dallas 358-4196
Fr Soc Francaise Du Diamant 8 Rue Lafayette
Paris 523-20-43
Ger GTI Corp 8 Munchen 90
Tegernseer Landstr 300 0811-637052
GB Advanced Semiconductor Mtls 32 Reading Rd
Wokingham, Berks
Neth Advanced Semiconductor Mtls
Soestdijseweg 28 N Bilthoven ....(03402) 5045
Jap Tokyo Electron Labs, Inc 36 Akasaka Tokyo .584-0931
Swed Ingemar Beckman AB Box 97
Farsta, Stockholm 948300,643475
Braz Aplicacoes Elctns Artimar Largo
Sao-Bento 64-CJ.101 Sao Paulo 35-2452

GTI CORP DYTRONICS DIV BOX 217 LEESBURG
IND 46538 ....219 453-3261
J KOUGEL EMP 125 ENG 3 $1,000-$2,500M
Ariz GTI Corp 3920 E Indian School Rd Phoenix
Cal GTI Corp 21044 Ventura Blvd Woodland Hills
Ill D Dolin Sales Co 3525 W Peterson Ave Chicago
Ind Technical Reps 4000 Meadows Dr Indianapolis
Mass GTI Corp 99 Cambridge St Burlington
Mich K Rosenquist 322 Northwood Ave Rochester
NY GTI Corp 122 E Main St Wappingers Falls
Pa GTI Corp 316 Chestnut St Meadville
Tex GTI Corp 3300 W Mockingbird La Dallas

G T RESEARCH INC ROUTE 526 IMLAYSTOWN
N J 08526 201-431-2424
G POISSON EMP 30 ENG 5 $250-$500M
Del P Stevens 3327 Silverside Rd
Longwood........................302-478-3177
NJ G T Engineering Co 354 Shawnee Dr
Bricktown........................201-892-7615
Okla A Wayne Mullican Assoc R D 3 Box 335
Oklahoma City 405-789-4298

GUARDIAN ELECTRIC MFG CO 1550 W CARROLL AVE
CHICAGO ILL 60607 TWX 910-221-5073 ..312 243-1100
ADV PGS 537,581,594
Cal Guardian Elec Mfg Co Cal 5755 Camille Ave
Culver City........................870-4642
Colo D E Bond 2149 S Clermont St Denver 756-1234
Conn Sales Engrg Co Taunton Hill Rd Newtown ...426-4434
Fla Steele Technical Sales 2106 Woodcrest Dr
Winter Park 305-647-1304
Ga H L Macon & Co Box 19771, Sta N Atlanta .355-5282
Ga R A Chalmers & Co Box 29924 Atlanta .404-633-6325
Haw G Piety Factors Inc 160 Mokauea St
Honolulu........................837-185
Ind Needler Sales Co Box 2407, Sta C
Ft Wayne........................744-5226
Kan Thunderbird Eng Sls & Serv 7707 E Osie
Wichita ....MU 4-3941
Md McCourt Co, Inc 28 W Penna Ave Towson ..VA 3-3455
Mass Sales Engineering Co Baker Ave W Concord .369-3943
Mich Al Steere 600 Michigan Bldg Detroit .....WO 3-1913
Minn F A Nitti 324 S 4th St Mnpls 339-5878
Mo Thunderbird Engrg 400 Brooks Dr
Hazelwood....................314 731-4343
NY J Coughlin Assoc Box 281
Massapequa 516-PY 9-7743
Ohio W C Schmidt Box 105 Miamisburg 513-298-4451
Pa T Laslo 411 Manor Rd Delmont 412-468-5045
Tex William Reese Assoc 3130 Springwood
Dallas 339-4280
Wash R K Squibb Inc 655 NE Northlake Pl
Seattle ....ME 2-2450
Wis F Nitti 2340 W Wells St Milwaukee ......WE 3-1975
Can A C Simmonds & Sons Ltd 285 Yorkland Ave
Agincourt Ont ....HU 5-9111
Fr Techniques Europ de Commutation
31 Rue de General Leclerc 60 Many
Aust Lorimer Contacts, Pty, Ltd 511 Church St
Richmond El, Vic

GUARDIAN ELECTRIC MFG CO OF CAL INC
5755 CAMILLE AVE CULVER CITY
CAL 90230 ....213 870-4642
R HEYNE EMP 50 ENG 9 $1,000-$2,500M
Cal O'Donnell Assoc 11669 Santa Monica Blvd
Los Angeles..................213-GR 9-2232
Colo Brooks Feeger Assoc 2186 S Holly Denver ..757-3371
Conn Sales Engrg Baker St West Concord ...203 247-4015
Fla Steele Technical Sales 2106 Woodcrest Dr
Winter Park 647-1304
Ga R A Chalmers Inc 349 Peachtree Hills Ave NE
Atlanta 233-3208
Haw Gene Piety Factors Inc 160 Mokauea St
Honolulu........................837-185
Ill Guardian Electric Mfg Co 1550 W Carroll Ave
Chicago

Ind Needler Sales Co Mapleton Sta, Box 88153
Indianapolis 255-8056
Kan Thunderbird Eng Sals & Serv 6405 Kellogg
Wichita ....MU 4-3941
Md McCourt Co Inc 610 Washington Ave
Towson ....VA 3-3455
Mass Sales Engineering Co Baker Ave
West Concord 369-3943
Mich Guardian Electric Mfg Co 600 Michigan Bldg
Deroit ....WO 3-1913
Minn Guardian Electric Mfg Co 324 S 4thSt
Minneapolis 339-5878
Mo Thunderbird Eng Sales & Serv Box 6156
St Louis 838-6688
NJ F J Obici 207 Country Club Dr Oradell 568-5747
NY Elcom Sales Inc 907 Monroe Ave
Rochester ....CH 4-1960
Ohio James Burkell2077 Embury Park Rd
2077 Embury Pk Rd Dayton 298-4451
Pa Guardian Elec Mfg Co 7114 Rising Sun Ave
Philadelphia ....DE 2-1389
Tex Wm Reese Assoc 3130 Springwood
Dallas 214-FE 9-4280
Wash R K Squibb Inc 655 NE Northlake Pl
Seattle ....ME 2-2450
Wis Frank Nitti 2340 W Wells St Milwaukee . . .WE 3-1975
Can A C Simmonds & Sons Ltd 100 Merton St
Toronto, Ont 485-9111
Fr Techniques Europeennes de Commutation
70 Rue du Temple Paris IIIe

GUBELMAN CHART DIV NASHUA CORP
100 E KINNEY ST NEWARK N J 07105 . .201 589-5970
C SMOLINSKE EMP 150

GUDEBROD BROS SILK CO INC ELECTRONICS DIV
12 S 12TH ST PHILADELPHIA PA 19107 . 215-WA-2-1122
J BACSAK
ADV PG 195
Cal Gudebrod Bros Silk Co Inc 2636 Ontario St
Burbank 848-3962
Ill Gudebrod Bros Silk Co Inc
1362 Merchandise Mart Chicago ....DE 7-3025
Mass Gudebrod Bros Silk Co Inc 115 Chauncy St
Boston ....HA 6-5347
NY Gudebrod Bros Silk Co Inc 225 W 34th St
New York ....LA 4-5858
NC Gudebrod Bros Silk Co Inc 223 W Morehead St
Charlotte 333-9591
Pa Gudebrod Bros Silk Co Inc 12 S 12th St
Phila ....WA 2-1122
Can Whittaker Electronics Supply Ltd 42 Howden Ave
Ottawa, Ont

GUDEMAN DIV GULTON INDUSTRIES, INC
340 W HURON ST CHICAGO ILL 60610
TWX 910-221-3863 ....312 337-7400
P LOVECCHIO EMP 250 ENG 6
Cal M W Riedel Co 2215 W Valley Blvd
Alhambra 213-283-3375
Colo S-L Assoc Box 15096 Denver 303 238-1807
Fla W R Lehman Co 1010 Exec Ctr Dr
Orlando 305 841-4901
Ill Wasson-Gallagher Assoc 1024 North Blvd
Oak Park ....CO 1-7517
Ind Technical Representatives Co 4000 Meadows Dr
Indianapolis 317 546-4967
Iowa J R Sales Engrg Co 3550 Cottage Grove Ave SE
Cedar Rapids 319 365-5259
Md Warren Mount Co 7735 Old Georgetown Rd
Bethesda 301 657-9312
Mass Underwood Sales Corp 32 Shawsheen Plaza
Bedford 617 275-0780
Mich Elko Sales Co 3119 Midland Dr SE
Grand Rapids 616-949-1451
Minn Cullen & Assoc 1595 Selby Ave St Paul .612 646-7371
Mo R R Burton Sales Co 1016 Baltimore Ave
Kansas City 816-471-2850
NY Ed Glass Assoc 250 W 57th St New York . .JU 6-8440
NC Dula Assoc Inc 3389 Nottingham Rd
Winston-Salem 919-PA 3-4205
Ohio Components, Inc 7461 N Linden La
Cleveland 216 842-2737
Tex Techno Assoc Box 20544 Dallas ....FL 7-9213
Wash Electronic Sls Co 5600 Calif Ave SW
Seattle 206-932-0330
Can Samuel C Hooker Canada Ltd 2425 Grand Blvd
Montreal, Que ....HU 8-9114

GUIDE INDUSTRIES INC 11855 WICKS ST
SUN VALLEY CAL 91352
TWX 910-498-2707 ....213 767-2610
J GUARRERA EMP 65 ENG 12 $1,000-$2,500M

GUILDLINE INSTRUMENTS LTD BOX 99
SMITHS FALLS ONT
TWX 610·561-1681 ....613 283-3000
D MARTIN EMP 85 ENG 6 $1,000-$2,500M
Ala Technical Assoc, Inc Box 1443 Huntsville . . .881-8494
Ariz T Louis Snitzer Co 15 N 40th Pl Phoenix 273-1673
Cal T Louis Snitzer Co 9005 Exposition Blvd
Los Angeles 213 836-6170
Cal T Louis Snitzer Co 10320 Saratoga-Sunnyvale Rd
Cupertino 968-8304
Cal T Louis Snitzer Co 1150 Camino
DelMar ....714 GL 4-2191
Colo Hilleary Assoc 2552 Ridge Rd Littleton . .303 794-4279
Conn Applied Measurements Inc 2531 Whitney Ave
Hamden 203 288-5288
Fla Technical Assoc, Inc 2319 E South St
Orlando 424-5681
Ill Saffro & Assoc 3736 W Dempster St
Skokie 588-0905
Ind Law Instrument Co, Inc Box 95 Angola 665-6016
Kan Palatine Sales Inc 7520 W 63rd St
Overland Park 913-262-5643
Md Brimberg Assoc, Inc 814 Thayer Ave
Silver Spring 588-7790
Mass Applied Measurements, Inc 86 Hayward Road
Acton ....CO 3-2766
Mich WKM Assoc, Inc 1474 E Outer Dr Detroit . .892-2500
Minn Heimann Co, Inc 5603 Lyndale Ave S
Minneapolis 827-5457
NJ SONCO Crystal Brook Professional Bldg
Eatontown 542-1441
NM Hilleary Assoc 311 Washington SW
Albuquerque 505 265-7631
NY Robert F Lamb Co, Inc 1865 Kenmore Ave
Buffalo 876-3757
NY Robert F Lamb Co, Inc East Malloy Rd
Syracuse 454-2469
NY Robert F Lamb Co, Inc Box 661 Uptown Sta . . Kingston
NY QED Elctns Inc 500 Nuber Ave
Mt Vernon 914 968-2200
Ohio WKM Assoc, Inc 5335 Far Hills Ave Dayton .298-7203
Ohio WKM Assoc, Inc 6741 Ridge Rd Cleveland . .885-5616
Pa SONCO 556 W DeKalb Pike King of Prussia .265-3250
Pa WKM Assoc, Inc 90 Clairton Blvd
Pittsburgh 892-2953
Tex Roger Martin Assoc Box 1002 Bellevue .713-468-3877
Wash ARVA, Inc 1320 Prospect St Seattle .....MA 2-0177
Can Allan Crawford Assoc Ltd 65 Martin Ross Ave
Downsview, Ont
Can Allan Crawford Assoc Ltd 376 Churchill Ave
Ottawa, Ont
Can Allan Crawford Assoc Ltd 1285 Hodge St
Montreal 9 Que
Can Allan Crawford Assoc Ltd
721 Aldford Ave Annacis Ind Est
New Westminster BC

GULTON INDUSTRIES, GLASS TECHNOLOGY DIV
822 PRODUCTION PL NEWPORT BEACH
CAL 92660 TWX 910-596-1352 213-642-0163
D RUDENSKI EMP 14 ENG 2 $500-$1,000M
Ariz Carter Assoc Box 94 Scottsdale 602-947-4355
Cal Elzig & Assoc 1690 Plymouth
Mtn View 415-969-1121
Mass Henry Lavin Assoc 52 Pickering St
Needham 617-444-3446
Minn Milt Westlund Assoc 13th Ave S Mnpls .612-824-8302

GULTON INDUSTRIES INC METUCHEN N J 08840
TWX 710-998-0592 ....201 548-2800
EMP 5200 ENG 300 OVER $10,000M
Ala Young & Lawrence Assoc 2907 Governors Dr SW
Huntsville 205 894-0026
Ariz Hecht-Henschen & Assoc 2435 University Dr
Phoenix 602-275-4411
Cal Gulton Ind 1644 Whittier Ave
Costa Mesa 714 642-2400
Colo Gulton Indus 2765 S Colorado Blvd
Denver 303-757-3462
Conn Comp Rep Assoc Inc 14 Bowling Green Ave
North Haven 203-239-9462
Fla Conley May Assoc Box 668 Oviedo
Ill Wasson-Gallagher 1024 North Blvd Oak Park
Ind Robt U Whitesell & Assoc 6602 E Washington St
Indianapolis 317 359-5374
Iowa JR Sales Engineering
3550 Cottage Grove Ave, SE
Cedar Rapids 365-5259
Kan Thunderbird Eng Sales & Serv 7707 E Osie
Wichita 684-3941
Ky Robt O Whitesell & Assoc 3620 Lexington Rd
Louisville 502 893-9546
Mass Underwood Sales Box 375 Bedford
Mich Elko Sales Corp 3119 Midland Dr
Grand Rapids 313-884-7893
Minn Ed Melius & Assoc 3758 North Dunlap St St Paul
Mo Gulton Indus 400 Brookes Dr
Hazelwood 314-843-2166
NJ Mid Eastern Assoc 1579 Country Club Dr
Cherry Hill
NM Hyer Electronic Co 210 Laveta Dr
Albuquerque 505 265-5767
NY Ed Glass Assoc 250 W 57th St
New York 212-586-8440
NC Dula Assoc Box 5316 Winston-Salem . .919 723-4205
Ohio Robt O Whitesell & Assoc 21139 Lorain Ave
Cleveland 216 333-2585
Ore Seatronics Inc 6415 SW Canyon Ct
Portland 503 292-8887
Pa Robt O Whitesell & Assoc 201 Penn Center Bldg
Pittsburgh 412 242-0100
Tex Allied Components Inc Box 18146
Dallas 214-899-8754
Va Gulton Ind 14900 Carlhern Dr
Centreville 703 631-9666
Wash Seatronics Inc 5931 Fourth Ave S
Seattle 206 767-4330

GULTON INDUSTRIES INC CONTROLS & INSTRU
GRP 1644 WHITTIER AVE COSTA MESA
CAL 92627 TWX 910-596-1352 ....714 642-2400
J PREBICIN EMP 220 ENG 20 $5,000-$10,000M
Ala R Steckmesser Box 4006 Huntsville 201 881-1750
Ariz Carter Assoc Box 99 Scottsdale 602 947-4355
Cal S Pope 1644 Whittier Ave Costa Mesa .714 642-2400
Colo G Baker 2765 S Colorado Blvd Denver . .303 757-8462
Fla Steckmesser Assoc 3039 Saratoga Dr
Orlando 305 425-0788
Ind R O Whitesell & Assoc 6691 E Washington St
Indpls 317-359-5374
Minn R T Bathke Box 27104 Minneapolis 612 338-1031
Mo W Saunders 400 Brooks Dr Hazelwood .314 848-7003
NJ Bonn Assoc 206 Lake Ave Metuchen . . .201-549-9573
Wash Thorson Co 1767 5th Ave S Seattle . .206-EA 5-5000

GULTON INDUSTRIES INC ENGINEERED
MAGNETICS DIV 13041 CERISE AVE
HAWTHORNE CAL 90250
TWX 910 325-6208 ....213 679-0111
M EISEN EMP 350 ENG 30 $5,000-$10,000M
Ariz Carter Assoc Box 99 Scottsdale 602 947-4355
Cal J Corrado 13041 Cerise Ave
Hawthorne 213-679-0111
Colo Gulton Industries Inc 2765 S Colorado Blvd
Denver 757-3462
Minn R Bathke Box 27104 Minneapolis 612 338-1031
Mo W Saunders 400 Brooks Dr Hazelwood .314 848-7003
NJ C Bowland 304 Washington St
Glen Ridge 201 743-2826
NY M Bernard 43 Gail Dr New City.......914-634-9046
Tex B Bradley Box 446 Alvarado 817 783-2166
Va W Butler 14900 Carlbern Dr
Centerville 703-631-9666
Wash Seatronics Inc 5931 4th Ave S Seattle .206 767-4330

GUNNAR LABS INC 5803 14TH ST E BRADENTON
FLA 33505 ....813 755-2342
G KNOS EMP 4 ENG 1 UP TO $100M

G-V CONTROLS INC 101 OKNER PKWY LIVINGSTON
N J 07039 TWX 710-994-4852 ....201 992-6200
G COMPTON EMP 200 ENG 12 $1,000-$2,500M
ADV PG 546
Ariz Dorton Enterprises Box 1297
Scottsdale 602-946-6575
Cal M A Stolaroff Co 4622 W Slauson Ave
Los Angeles 213 295-7781
Colo J F Hurlbut Co 2240 S Adams St
Denver 303 756-2046
Conn Todino Engineering Sales Inc Box 402
Milford 203 874-6643
Ga Bill Brown Sales Co Box 407 Tucker . . .404-939-7075
Ill Bierhaus Sales Inc 1013 E 31st St LaGrange
Kan Thomas & Modrcin Assoc Inc
5450 Buena Vista Dr
Shawnee Mission 913 432-2131
Md L G White & Co 880 Bonifant St
Silver Spring 301 585-3141
Mass Todino Engineering Sales Inc Box 201
Needham Heights 617 444-7925
Mich Tant Enterprises 16257 Meyers Rd
Detroit 313 863-2665
Minn HMR, Inc 9 E 22nd St Minneapolis 612 335-7734
Mo Thomas & Modrcin Assoc Inc 47 Village Sq
Hazelwood 314 838-6446
NJ Grimm, Siegel Assoc Inc 246 Clifton Ave
Clifton 201 773-5010
NY C W Floring & H R Murray 6585 Kinne Rd
Syracuse 315 446-5555
NC L G White & Co 1020 Brookstown Ave
Winston-Salem 919 725-3612
Ohio Technical Assoc Inc 16 S Broad St
Fairborn 513 878-2484
Pa L G White & Co 100 N Essex Ave
Narberth 215 664-6505
Tex T M Curtis Co 5635 Yale Blvd Dallas . . .214 361-1666
Can Leonard Electric Ltd 1008 Rangeview Rd
Port Credit, Ont 416 274-3454
For Machine & Products Co 52 Wall St
New York, NY ....212 Wh 4-4370

G W ELECTRONICS INC 24049 S FRAMPTON AVE
HARBOR CITY CAL 90710 ....213 775-2747
R RADERMAN EMP 100 ENG 3 $2,500-$5,000M

GYREX PRODUCTS, VARO INC 402 E GUTIERREZ ST
SANTA BARBARA CAL 93101
TWX 805 449-7200 805-966-7131
B JOHNSON EMP 16 ENG 2

GYROTRON CORP 14 GROVE ST WATERBURY
CONN 06704 TWX 710-4772943 ....203 756-8007
EMP 55 ENG 8 $500-$1,000M

GYROTRONICS INC 3500 SUNSET AVE
ASBURY PARK N J 07712 ....201 988-0408
C COPPOLA EMP 22 ENG 1 $100-$250M

HACKENSACK CABLE CORP 116 ORCHARD ST
HACKENSACK N J 07602 ....201 487-1100
R WILSON EMP 138 ENG 3 $2,500-$5,000M
ADV PGS 72,720
Cal Hackensack Cable Corp 463 N Anaheim Blvd
Orange 714 538-9661
Fla J M Keely Sales Co 3802 NW 32nd Ave
Miami 305-634-8526
Ill Hackensack Cable Corp 330 Melvin Dr
Northbrook 312-272-0404
SC Earl V Aronson Jr 500 Brown Rd
Anderson 803-226-7752
Tex R D Chapman 9125 Chatsworth
Houston 713-682-9432
Wash John B Merifield Co 927 NW 50th St
Seattle 206-789-1800

HADDON TOOL & MFG CO BOX 1117
MERCHANTVILLE N J 08109
TWX 710-892-0725 ....609 662-8150
R WAHL EMP 104 ENG 4 $1,000-$2,500M
Cal Thomas Yeakle 171 Annandale Rd Pasadena . 681-1455

HADLEY CO INC, ROBERT M 750 W 51ST
LOS ANGELES CAL 90037 ....213 234-9091
C HADLEY EMP 100 ENG 2 $500-$1,000M

HADRON, INC. 300 SHAMES DR WESTBURY
N Y 11590 TWX 96-1420 516-334-4402
R FORESTIERI EMP 30 ENG 10
Md Ron Davies Assoc 11215 Oak Leaf Dr
Silver Spring 301-593-4900
NM Space Sys Sales & Engrg 1401 Valencia SE
Albuquerque 505-255-7058

HAFSTROM TECHNICAL PRODUCTS INC
4616 SANTA FE ST SAN DIEGO
CAL 92109 ....714 274-8822
J HAFSTROM EMP 10 ENG 4
Ariz E V Roberts 77 3rd Ave W Scottsdale . .602 947-7695
Cal Electronic Engrg Assoc 1293 Laurel
San Carlos 593-2189
Fla W Ben Wimberly Co 500 S Osceola Orlando .425-3083
Ill Megatek Inc 1915 N Harlem Ave
Chicago 312 889-1277
Kan Lee Mark Engrg Inc 4518 W 89th St
Prairie Village ....NI 8-0124

Mass J W McQuiston Assoc 74 Main St
Waltham........................617 899-3518
Mich Megatek Inc 26847 Grand River Ave
Detroit........................313 531-1403
Mo Lee Mark Engrg Inc 9623 St Charles Rock Rd
St Louis........................314 423-8700
NM Bowden Engineering Sales 2633 Texas NE
Albuq..........................299-0473
Ohio Magatek Inc 23203 Lorain Ave
Cleveland......................216 734-4433
Pa Lawrence C Fuller Jr 32 Rittenhouse Pl
Ardmore........................642-2468
Tex R W Mureen Co 5523 Dyer St Dallas......361-0735
Wash Fred H Haight Co 3212 Eastlake Ave
Seattle........................EA 2-1818
Can D F Beechey 3218 Weston Rd Weston, Ont
Fr Tranchant Electroniques S A
19-21 Rue Madame De Sanzillon Clichy Seine
GB Dage G B Ltd 1 Penn Pl Rickmansworth Herts
Spn Hispano Electronica S A Comandante zorita 8
Madrid 20

HAGAN COMPUTER SYSTEMS DIV WESTINGHOUSE
200 BETA DR PITTSBURGH PA 15238
TWX 86-6234......................412 782-1730
S HARRIS EMP 1009 ENG 252
Ala J W Eshelman & Co Inc 1812 28th Ave S
Birmingham......................879-3462
Cal Hagan Computer Sys 18020 S Santa Fe Ave
Compton........................638-7781
Colo Hagan Computer Sys 55 W 5th Ave Denver..825-0441
Conn Simler & Sengstaken Inc Box 127 Granby...653-2426
Ill Hagan Computer Sys 10 S Riverside Plaza
Chicago........................461-7162
La Hagan Computer Sys 400 N Carrolton Av
New Orleans......................486-6141
Md Parr Engineering Co 912 Thayer Ave
Silver Spring....................585-8280
Mass Ralph L Williams Inc 77 Summer St Boston .426-0696
Mich Hagan Computer Sys 5757 Trumbull Ave
Detroit........................872-7010
Minn Fuel Economy Eng Co 3094 Rice St Paul ...484-8404
Mo Matney & Co 11 E Gregory Blvd
Kansas City......................363-1771
NY Simler & Sengstaken Inc 271 Madison Ave
New York........................532-8385
NC Jos W Eshelman Co of Carolinas
1127 Commercial Av Charlotte..........376-6408
Ohio Hagan Computer Sys 55 Public Sq
Cleveland........................579-2165
Pa Parr Engineering Co Box 116
King of Prussia....................265-5150
Tex Hagan Computer Sys 1455 W Loop S
Houston........................621-9000
Utah Hagan Computer Sys 1680 S Redwood Rd
Salt Lake City....................486-8751
Wash Hagan Computer Sys 3451 E Marginal Way S
Seattle........................623-7001
Can Hagan Computer Sys Box 510
Hamilton, Ont.....................528-8811
For Westinghouse Elec Int Co 200 Park Ave
New York, N Y.....................692-3211

HALE INSTRUMENT INC 343 W 23RD ST HOUSTON
TEX 77008........................713 UN 1-7574
L WIGGINS EMP 8 ENG 2 $100-$250M

HALEX INC 3500 W TORRANCE BLVD TORRANCE
CAL 90509 TWX 65-3442...............213 772-4461
H HANSEN EMP 125 ENG 12
Ariz Hamilton Reps 9800 N Oracle Rd
Tucson........................602-297-2279
Cal Winco Sales Inc Box 1238
Mountain View....................415-961-8510
Fla R F Willett Co 1260 A S Highland
Clearwater......................813 446-0075
Md W F Satterthwaite & Co Box 51
Kensington......................301-942-1700
Mass Vector Sales 774 Pleasant St Belmont .617 489-1400
Minn Hamilton, Grayden & Flemmer Hamilton Rd
Hopkins........................612 941-1120
Mo Gordon Fixman Engrg Co 8160 Stanford Ave
St Louis........................314-725-5219
NM Hamilton Reps 10465 Melody Dr
Northglenn Colo...................303-466-6061
NY PAL Components 1295 Northern Blvd
Manhasset.......................516-365-9100
NY R P Kennedy Co 39 Saginaw Dr
Rochester.......................716-271-6322
NY R P Kennedy Co Box 56 Fayetteville ...315-637-9531
NY R P Kennedy Co Green Tree Dr N
Hyde Park.......................914-229-2269
Pa W F Satterthwaite & Co 237 N Lansdowne Ave
Lansdowne.......................215-623-5100

HALLIKAINEN INSTRUMENTS 750 NATIONAL CT
RICHMOND CAL 94804.................415 233-2010
T CLARK EMP 62 ENG 9 $1,000-$2,500M
Ala Alabama Controls Co 2775 Springhill Ave
Mobile.........................205-479-2345
Cal J F McNamara Assoc Box 388 Arcadia .213-446-7613
Colo L A Christopher Co 1751 Franklin St
Denver.........................303-534-1338
Fla Leroy E Rogers Co 110 Sea Island La
Boca Raton......................305-395-7922
Haw Berkley Engrg & Equip Co Box 3856
Honolulu........................538-1921
Ind Ray Welch Instruments 6336 Columbia Ave
Hammond........................219-932-4474
La Alpha Eng Co Box 15241 Baton Rouge .504-921-1401
Md Dynamation Inc 2060 Buford Rd
Bon Air.........................703-272-5001
Mass J M Devine Co 348 Lake Ave
Newton Highlands..................617-244-1132
Mich Basic Service Corp 16544 Plymouth Rd
Detroit.........................313-837-8820
Minn Industra Co 6504 Walker St
Minneapolis......................612-929-6224
Mo E B Miller Co 10117 Manchester Rd
St Louis........................314-966-8250

NJ George H Birchall Co Box 84 Westfield .201-232-3600
NY Nickles Eng 830 Linden Ave Rochester .716-586-4988
NC MacGuire & Crawford Instr Co
2915 Providence Rd Charlotte......704-366-3454
Ohio Franklyn W Kirk Co 15017 Detroit Ave
Cleveland.......................216-226-1970
Okla Ernie Graves Co Inc 201 S Houston
Tulsa..........................918-LU-4-4708
Ore Branom Instrument Co 6019 NE Union
Portland........................503-285-5205
Pa Penn-Del Instrument Sales Co Box 4361
Philadelphia.....................215-247-9600
Tex Bryer Assoc Box 35841 Dallas..........351-4350
Va Dynamation Inc 2060 Buford Rd Bon Air ...272-5001
Wash Branom Instr Co 2133-37 2nd Ave
Seattle.........................206-622-7320
Can Industron Corp 1 Phoebe St Toronto...416-368-4970
For Instru Ind Bombas de Vacio Box Casilla 10202
Santiago
For Ind Control & Elctn Services GPO 1598
San Juan PR
For Shurdut Ind Distributors Inc Box 1499 Manila
Braz K Bileski Box 5837 Sao Paulo

HALLMARK STANDARDS INC 257 WASHINGTON ST
MOUNT VERNON N Y 10553
TWX 710-566-1101..................914-664-4288
E NEMEROFF EMP 28 ENG 3 $1,000-$2,500M
Ala Technical Assoc Inc Box 4088 Huntsville....881-8494
Ariz T Louis Snitzer Co 15 N 40th Pl Phoenix....273-1673
Cal T Snitzer Co 10320 Saratoga-Sunnyvale Rd
Cupertino.......................408-257-8333
Conn Applied Measurements, Inc 2531 Whitney Ave
Hamden.........................288-5288
Fla Technical Assoc Inc 2319 E South St
Orlando.........................424-5681
Haw Hawaii Industrial Elctns Inc Box 135
Honolulu........................808-533-6095
Ill Saffro & Assoc 3736 W Dempster St
Skokie.........................588-0905
Ind Law Instrument Co Inc Box 95 Angola.....665-6016
Kan Palatine Engrg Sales 7520 W 63rd St
Overland Park....................913-262-5643
Md Brimberg Assoc Inc 814 Thayer Ave
Silver Spring.....................588-7790
Mass Applied Measurements, Inc 86 Hayward Rd
Acton..........................CO 3-2766
Mich WKM Assoc Inc 1474 E Outer Dr Detroit ...892-2500
Minn Heimann Co Inc 5603 Lyndale Ave S
Minneapolis......................827-5457
Mo Palatine Engrg Sales 8622 St Chas Rock Rd
St Louis........................314-426-7055
NJ SONCO 42R Monmouth Rd Eatontown..201 542-1441
NM Hilleary Assoc 311 Washington S E
Albuquerque.....................505 265-7631
NY Robert F Lamb Co, Inc 1865 Kenmore Ave
Buffalo.........................874-4900
Ohio WKM Assoc Inc 5335 Far Hills Ave Dayton..434-7500
Pa Sonco 107 Town Ctr Rd King of Prussia....265-3250
SC Technical Assoc 305 Fairlane Dr Spartanburg
Tex Roger Martin Assoc Box 1002 Bellaire.713-M08-3877
Wash Arva, Inc 1320 Prospect St Seattle......MA 2-0177

HALMAR ELECTRONICS INC 1544 W MOUND ST
COLUMBUS OHIO 43223..............614 276-5265
D YAUCH EMP 35 ENG 9 $500-$1,000M

HALM INSTRUMENT CO INC GLEN HEAD ROAD
GLEN HEAD N Y 11545...............516 676-6700
A ARNELL EMP 60 ENG 4

HALSEY X-RAY PRODUCTS INC 1425 37TH ST
BROOKLYN N Y 11218................212 GE 6-1700
N GREEN EMP 100 ENG 2 $1,000-$2,500M

HAMAMATSU TV CO LTD
1126 ICHINO-CHO HAMAMATSU CITY
SHIZUOKA PRE JAPAN................0534-34-3311
M FUJITA EMP 243 ENG 38 $1,000-$2,500M
ADV PG 688
Cal Calif Eastern Labs 1540 Gilbreth Rd
Burlingame.......................697-6670
NY Kinsho-Mataichi Corp 80 Pine St New York .DI 4-6226
Jap Mamamatsu TV Co Ltd
1-4-26 Takanawa Minato Ku Tokyo.....442-6586

HAMILTON-HALL RESISTOR CORP 227 N WATER ST
MILWAUKEE WIS 53202...............414 273-6460
K DEGNAN EMP 95 ENG 2 $1,000-$2,500M
Cal R L Assoc 14401 Gilmore St
Van Nuys........................213 EM 2-3751
Ill D Dolin Sales Co 3525 W Peterson Ave
Chicago.........................312 JU 8-3738
Ind Frederick & Meily Co 1601 S Hanna St
Ft Wayne........................219 745-2461
Kan Kangas Sales, Inc Box 4116
Overland Park....................913 TU 8-3200
Mass Conti Younger Assoc 181 West St
Waltham.........................617 891-4582
Minn John Anderson 5231 Humbolt Ave S
Minneapolis......................612 823-6459
Miss C H Herron Jr 4394 18th Ave Meridian .601 482-1878
NJ Floyd W Churchill Box 43 Haddonfield ..609 429-7871
NY W H Zimmerman Inc 112 DeWitt St
Syracuse........................315 474-4889
Ohio R K Deunk & Assoc 7390 Chippewa Rd
Cleveland.......................216 526-4317
Tex Dunbar Assoc Box 30511 Dallas......214-239-7151
Can Anbak Sales, Can Ltd 3208 Lenworth Dr
Cooksville, Ont...................416 625-1061

HAMILTON INDUSTRIES BOX 504 WINTER HAVEN
FLA 33880........................813 293-1058
W HAMILTON, JR EMP 9 ENG 1
Fla Hamilton Co 228 4th St SW Winter Haven ..293-1058

HAMILTON MFG CO DIV AMER HOSPITAL SUPPLY
CORP 18TH ST TWO RIVERS WIS 54241 .414 793-1121
W FRIEDRICH EMP 2300 ENG 60

Cal Hamilton Mfg Co 719 Industrial Rd
San Carlos.......................592-6911
Ill Don Bacon 7132 W Harlem Ave Chicago....775-4116
Iowa E F Binger 3247 Bever Circle Dr SE
Cedar Rapids.....................363-8020
Md Hamilton Mfg Co 1906 Fox St Hyattsville...439-7327
Mass R H Gibson Box 277 Weston.............899-8878
Mich B F Farnell 435 W 7 Mile Rd Detroit.......8687400
Miss Hamilton Mfg Co 5815 Sedgwick Dr
Jackson.........................362-0411
NY Hamilton Mfg Co 99 W Hawthorne Ave
Valley Stream.....................561-1080
Pa Hughes-Ogilvie Co 9600 Perry Hwy
Pittsburgh.......................366-0700
Tex W H Curtin Co Box 1546 Houston.........923-1661
Wash Guy V Sweet Co Inc Box 1584 Wallingford Sta
Seattle.........................632-2370
Wis Milwaukee Equipment Co 13050 W Custer
Butler..........................781-3050

HAMILTON PRECISION METALS DIV HAMILTON
WATCH CO 901 COLUMBIA AVE LANCASTER
PA 17604........................717 394-7161
J BIEHLE EMP 120 ENG 12 $2,500-$5,000M
Cal King Assoc Box 2067 Sunnyvale..........738-2570
Colo Electro Rep, Inc 1051 S Platte River Dr
Denver..........................744-2821
Conn R S Pettigrew & Co Inc 10 N Main St
W Hartford.......................233-8533
Ill Electro-Comp Sales, Inc 5129 W Devon Ave
Chicago.........................763-3636
Md Barnhill Assoc 1931 Greenspring Dr
Timonium........................252-5610
Mass R S Pettigrew & Co 950 Watertown St
W Newton........................969-5770
Minn Mag Co 8053 Bloomington Frwy
Minneapolis......................888-9292
Mo Holtgrieve & Co 25 S Bemiston St Louis....725-6602
NJ Wyman Sales Co Talmage Rd Mendham....543-7666
Ohio A W Risser Co 64 Edgewood Dr Grafton....458-5091
Tex Brice Co 1402 Dunlavy St Houston.........526-397
Can Railway & Power Engrg Corp Ltd Box 880
Montreal, Que.....................933-6741
For J J Mahler & Co Box 457 Reading, Pa.....372-6000
Fr Societe Somis 44, Rue la Boetie Paris
Ital Technicom Via Fontana 18 20122 Milan
Spn Enrique Borrellas c/o Ormeco, Box 5018
Barcelona

HAMILTON STANDARD DIV UAC ELCTNS SYSTEMS
BRADLEY FIELD RD WINDSOR LOCKS
CONN 06096......................203 NA 3-1621
J BURRIDGE

HAMLIN INC LAKE & GROVE STS LAKE MILLS
WIS 53551 TWX 910-260-3740........414 648-2361
S WILSON EMP 300 ENG 25 $2,500-$5,000M
Ala Stanley K Wallace Assoc 1871 Grove Hill La
Montgomery......................262-2011
Cal Carl Holmes Co 107 N Ave 64 Los Angeles ..256-2255
Cal Testco Sales 941 Charleston Rd Palo Alto...326-5320
Colo Electronic Components Sales Box 22011
Denver..........................771-6200
Conn White Sales Co Box 122 Berlin...........224-0423
Conn John S Hammond 34 Lincoln Ave Greenwich .661-9410
Fla Stanley K Wallace Assoc Box 67 Lutz......949-1817
Fla Stanley K Wallace Assoc 3115 NW 81st Ter
Miami...........................691-1654
Ga Stanley K Wallace Assoc 715 Flamingo Drive
Atlanta.........................753-8463
Ill Lincoln, Hodges Assoc 5875 N Lincoln Ave
Chicago.........................561-8440
Iowa Thomas & Modrcin Assoc 890 17th Ave
Marion..........................377-6261
Kan Thomas & Modrcin Assoc Box 189
Shawnee Mission..................432-2131
Md W F Satterthwaite & Co Box 51 Kensington .942-1700
Mass White Sales Co 20 Chestnut St Needham ...444-3676
Mich Gordon Reichold Assoc 1655 House St
Belmont.........................866-0626
Minn RJ Sales & Eng 7100 S France Ave
Minneapolis......................922-1425
Mo Thomas & Modrcin Box 545 Hazelwood 838-6446
NM Electronic Components Sales 209 San Pablo SE
Albuquerque.....................256-3663
NY R P Kennedy Co, Inc Box 8417 Rochester ...271-6322
NC Stanley K Wallace Assoc Box 215
Matthews........................847-9262
NC Stanley K Wallace Assoc Box 526
Kernersville......................993-3993
Ohio G & H Sales Co Box 37416 Cincinnati......761-6185
Pa W F Satterthwaite & Co Box 191
Lansdowne.......................623-5100
Pa Nebco Assoc 1974 Gregory Ave Monroeville .824-2111
Tenn Stanley K Wallace Assoc 5960 Brierdale Cove
Memphis.........................682-2281
Tex Allied Components Inc 6400 W Park Dr
Houston.........................782-5406
Tex Allied Components 10468 E Northwest Hwy
Dallas..........................348-6660
Utah Electronic Components Sales 445 E 2nd S
Salt Lake City....................355-5327
Wash Testco Sales Boeing Field Seattle.........762-8220
Wis F C Du Bois & Assoc 2364 N 117th St
Milwaukee.......................774-3100
Can F P Taylor Ltd 12 Howard Dr
Willowdale Ont....................222-6924
Fr Constructions Electriques Du Centr Siege Social
Sorviers Loire....................53-61-63
Ger Amphenol-Tuckel Elctns GMBH
8024 Deisenhofen Bei Munich...........42 70 71
GB Flight Refuelling Ltd Wimborne Dorset.........2121
Jap Nippon Hamlin Inc Mitsui Bldg 1-8 Isago
Kawasaki.......................044/24-5051
Ind Continental Device India Ltd 14/5 Mathura Rd
Faridabad Haryana..................82264
Aust Intl Resistance Holdings Ltd Box 71 PO
Kingsgrove NSW 2208.................50-0111

HAMMARLUND MFG CO INC, THE
73-88 HAMMARLUND DR MARS HILL N C 28754
TWX 510 935-3553 .... 704 689-5411
T DALACK EMP 300 ENG 15 $2,500-$5,000M
Cal Pat Dooley Co 18826 Devonshire Northridge . 360-2231
Cal Sinclair Electronic Assoc
1085 Clarendon Crescent Oakland 451-1835
Cal R W Thompson Assoc 4135 El Camino Way
Palo Alto 321-6383
Conn R S Pettigrew & Co Inc 10 N Main St
West Hartford 233-8533
Conn W Sexton 33 Seaside Ave Guilford 488-9348
Fla Geartner Assoc Inc 350 Lincoln Rd
Miami Beach 531-0200
Fla Wm McFarlin 2140 Falmouth Rd Maitland .. 838-7803
Ga Lonnie E Register Box 385 Sylvester 776-4230
Haw B Kolans & Co Box 2098 Honolulu 811-628
Ill Ray R Hutmacher Assoc 6668 Northwest Hwy
Chicago 631-3248
Ill Electro Comp Sales Inc 5129 W Devon Ave
Chicago 763-3636
Ind Delta Sales, Inc 1407 N Illinois St
Indianapolis 631-4136
Ind Schroeder & Loomis 714 E 65th St Indianapolis
Ind Scott Electronics 911 N Penna Ave
Indianapolis 317-635-8951
Kan Thomas & Modrcin Assoc Inc
5450 Buena Vista Dr Shawnee Mission ... 432-2131
La Lou Hattier 4912 Gregoire St Metairie
La H Crane 805 Central Ave New Orleans .. 504-833-9082
Md Ken Randall Co 200 Washington Ave
Towson 301-823-1970
Mass Larry Cole Inc 318 Weston Rd
Wellesley 617 237-1260
Mass R S Pettigrew 950 Watertown St
W Newton 617-969-5770
Mich Burcaw Co & Assoc 18236 W McNichols Rd
Detroit 533-7700
Mich Anderson Assoc 29129 Greenfield Rd
Southfield 444-8544
Minn John E M Anderson Co 5231 Humboldt Ave S
Minneapolis 823-6459
Mo Kathrinus & Co 2427 Brentwood Blvd
St Louis 962-5627
NJ Frank Lester 280 W Main St Bergenfield ... 384-1751
NJ Ken Randall Co 250 Haddon Ave
Collingswood 854-3323
NJ Palisade Eng 250 Ogden Ave
Jersey City 201-659-6688
NY Marsey Sales Inc 206 Park Ave Rochester .. 442-9700
NC Electro Rep Assoc Inc 128 W 30th St
Charlotte 333-0451
NC Murphy & Cota 1106 Burke St
Winston-Salem 704 724-0750
Ohio Scott Electronics Inc 1836 Euclid Ave
Cleveland 861-2626
Ohio R G Siff & Assoc Box 7035, Sta B Dayton .. 278-4779
Ohio Chilcote Sales Co 2940 W Lincolnshire
Toledo 536-6606
Okla I Harrison 13821 Hillcrest Rd
Dallas Tex 214-239-2479
Pa D S Linz 238 Shelmire St Philadelphia 379-0734
Pa Stinson Assoc 227 Haverford Ave Narberth . 664-5511
Pa F P Yarussi & Co 312 Rockfield Rd
Pittsburgh 221-4676
Tex Ivan Harrison 13821 Hillcrest Rd Dallas 239-2479
Tex H Lieberman 3014 Lake St Houston
Va Commonwealth Communications 1601 Crump St
Richmond 648-8311
Va Electro Rep Assoc 128 W 30th St
Charlotte NC 704-333-0451
Wash Ray Johnston Co Inc 1011 NE 69th St
Seattle 524-5170
Can White Radio Ltd 392 Wilson St
Hamilton, Ont 522-1364
For Hammarlund Mfg Co Inc 20 Bridge Ave
Red Bank NJ 201-842-5700

HAMMEL, RIGLANDER & CO INC 435 HUDSON ST
NEW YORK N Y 10014 .... 212 989-7953
E RENZ EMP 70

HAMMOND MFG CO LTD 394 EDINBURGH RD N
GUELPH ONT 519 822-2960
E BRITTON EMP 450 ENG 5 $2,500-$5,000M
Conn Daniels Engrg Sales 139 Linden Tree Rd
Wilton 203-762-8090
Mass Daniels Engrg Sales 5 Durham Dr
Lynnfield 617 334-4200
Minn Milt Westlund Assoc 5516-13 Ave S
Minneapolis 612-869-0027
NJ Ryan Assoc Elizabeth 212-642-5844
NY Ryan Assoc 60 Roger Dr
Port Washington 516 767-7958
NY Wm A Stamp 127 S Long St
Williamsville 716-634-2240

HAMPDEN MFG CO INC
COR PLEASANT & SCHOOL STS
THOMPSONVILLE CONN 06082 .... 203 745-0301
C DAY EMP 25 ENG 2 $250-$500M
Conn Thomas Reidy Avon 658-5553
Mass F T Lange 235 Bear Hill Rd Waltham 899-5393
NJ Howard Kagan 18 Tilghman Dr Wayne 684-7682
NY Oren Lanzendorf 513 Cumberland Ave
Syracuse 472-4195

HANDY & HARMAN 850 THIRD AVE NEW YORK
N Y 10022 TWX 710-581-3397 .... 212 752-3400
R BURKE EMP 1200 ENG 11 OVER $10,000M
Cal Handy & Harman 4140 Gibson Rd El Monte . CU 3-8181
Ill Handy & Harman 1900 Estes Ave
Elk Grove Vlg 625-0944
Mich Handy & Harman 15565 Northland Dr
Southfield 356-5390
Ohio Handy & Harman 4402 W 215th St
Cleveland .... ED 3-2166
RI Handy & Harman 845 Waterman Ave
E Providence .... GE 8-6500
Tex Handy & Harman 1234 Exchange Bank Bldg
Dallas .... FL 1-5890
Can Handy & Harman of Can Ltd 141 John St
Toronto, Ont 368-6171

HANIBAL GLASS, INC 1639 E EDINGER AVE
SANTA ANA CAL 92705 714-542-4798
R PLUMBO EMP 65 ENG 3 $1,000-$2,500M

HANSCOM & CO INC, H F 225 CHAPMAN ST
PROVIDENCE R I 02905 .... 401 941-1456
H HANSCOM EMP 50 ENG 4 $500-$1,000M

HANSEN MFG CO INC BOX 23 PRINCETON
IND 47570 .... 812 385-3415
A BRIDGER EMP 500
Cal R S Hopkins Co 15016 Ventura Blvd
Sherman Oaks 788-5501
Conn Winslow Electric Co Essex .... SO 7-8229
Ill Fromm Co 2136 N Harlem Ave
Elmwood Park 456-3240
Mich John Orr Assoc 620 28th St SW
Grand Rapids .... LE 4-4029
NJ Winslow Electric Co 133 Cedar La Teaneck . 836-6778
NY H C Johnson Agency, Inc 111 Mt Hope Ave
Rochester 232-2688
Pa Winslow Electric Co 145 N Narberth Ave
Narberth .... MO 4-2182
Tex Carey & Assoc 3315 W 12th St Houston ... UN 9-3623
Can Sperry Gyroscope Ottawa Ltd 3 Hamilton Ave
Ottawa Ont .... PA 8-4681
For Minthorne Intl Co 2200 Shames Dr
Westbury NY 334-3303

HARBOUR INDUSTRIES INC BOX 188 SHELBURNE
VT 05482 TWX 710-224-6329 .... 802 985-3311
R DIRR EMP 50 ENG 2 $1,000-$2,500M
Ariz Jack Osborn Box 968 Scottsdale
Ill Scott Assoc 663 Fairview Ave
Elmhurst 312-279-5681
Ill Berndt Assoc 6412 W Belmont Ave
Chicago 312 283-0713
Md J J Daly Box 401 Bowie 262-9641
Mass G A Hill Box 221 Harvard 894-6060
Minn Scott Elctn Sales 5209 W 60th St
Minneapolis 929-2985
Mo Dipro Inc Box 1427 Maryland Hgts 314 432-3444
NY B H Tollefson Assoc 110 Allen Creek Rd
Rochester 716-271-4141
NC Mr Christmas Inc 116 E Edgewood Dr
Durham 919-477-6749
Ohio Components Inc 7461 N Linden La
Cleveland 216 842-2737
Pa Precision Electronics 520 Penna Ave
Fort Washington 646-8383

HARDMAN INCORPORATED BELLEVILLE
N J 07109 .... 201 751-3000
EMP 55 ENG 9 $2,500-$5,000M
Cal Astroel Inc 349 First St Los Altos 415-948-3636
Ga K & E Assoc 7A Rte 2 Kennesaw 404-974-4264
Mass Stanwood Assoc Box 112 Sherborn 617-653-3316
Minn D A Schultz Co 801 SE 8th St Mnpls .. 612-339-7701
NJ Kriegner Sales Co Inc 1602 Pennington Rd
Trenton 609-882-6330
NY C R Mayer Co Inc 2 Bittersweet Pl
Huntington 516-921-7876
NY Arthur L Perkins Co Inc Manlioch Plaza
Manlius 315-682-5005
Tex Apogee Engineering Services 137 Walnut Hill Vlg
Dallas 214-352-2083

HAROWE SERVO CONTROLS INC
WESTTOWN RD AT W CHESTER PIKE
WEST CHESTER PA 19380
TWX 510-663-0335 .... 215 692-2700
W CUFF EMP 500 ENG 18 $500-$1,000M
Ariz Southwest e/m Engrg Inc 8341 N 7th St
Phoenix 602 944-1521
Cal Marketek Inc One First St Los Altos ... 415 941-0882
Colo Franklin Sales Co 2149 S Clermont St
Denver 303 757-1371
Conn Zaslow Sales Co Inc 6 Newberry Rd
Bloomfield 203 242-7781
Fla Tech Rep Assoc Box 8218
St Petersburg 813-391-0008
Ill Carlson Electronic Sales 7448 N Harlem Ave
Chicago 312-774-4812
Ind McDonald Sales Co 227 S Cornell Cir
Fort Wayne 219-745-9214
Kan Engineering Services Co 7924-A State Line
Praire Village 913-649-4000
Mass Zaslow Sales Co Inc 339 Middlesex St
Lowell 617 458-8452
Minn Carlson Elctn Sales Co 2500 39th Ave NE
Minneapolis 612 788-4411
Mo Engineering Services Co 6717 Vernon Ave
St Louis 314 726-2233
NJ Electro Rep, Inc Box 237 Westwood 664-1241
NY Electro Rep 366 N Broadway Jericho .. 516-938-0540
Ohio Rockford Controls Ohio, Inc
2077 Embury Park Rd Dayton 274-1911
Pa Representation Inc Box 300 Paoli 215-692-5770
Tex Engineers Intl Co 6409 Maple Ave
Dallas 214 352-2666
Wash John C Plate Co 584 Dexter Horton Bldg
Seattle .... MA 4-1673
Can Atkinson & Vail, Ltd 13189 Shelborne
Pierrefonds, Que 514-626-6511

HARPER CO, H M 8200 LEHIGH AVE MORTON GROVE
ILL 60053 TWX 910-223-3625 .... 312 966-6000
J MENGEL EMP 860 ENG 35 OVER $10,000M
Ala H M Harper Co 912 1st Ave N Birmingham .. 324-5678
Cal H M Harper Co 1420 Monterey Pass Rd
Monterey Park .... AN 8-1345
Colo H M Harper Co 1719 Boulder Ave Denver ... 433-1376
Fla H M Harper Co 1920 W 4th Ave Hialeah ... TU 7-8151
Ga H M Harper Co 1478 Chattahoochee Ave NW
Atlanta 355-0330
Haw H M Harper Co 182 Merchant St Honolulu ... 514-271
Ill H M Harper Co 560 W Lake St Chicago 346-6555
Ind H M Harper Co 4101 W Minnesota St
Indianapolis 244-7888
Md H M Harper Co 7307 Pulaski Baltimore 866-1600
Mass H M Harper Co 9 Lowell Ave Winchester 729-8700
Mich H M Harper Co 17160 Wyoming Ave
Detroit .... UN 3-1200
Mo H M Harper Co 2615 S Hanley Rd St Louis .. 781-9906
NY H M Harper Co 159 W Sandford Blvd
Mount Vernon 664-7555
NC H M Harper Co 221 S Church St Charlotte . FR 6-1854
Ohio H MHarper Co 2444 Lakeside Ave Cleveland . 781-4411
Pa H M Harper Co 178 W Wingohocking St
Phila .... DA 9-8900
Tenn H M Harper Co 1700 Hayes St Nashville 256-5018
Tex H M Harper Co 1402 Hutchins at Clay
Houston .... CA 3-4204
Wash H M Harper Co 4760 Ballard Ave NW
Seattle .... SU 3-9200
Wis H M Harper Co 836 N 12th St Milwaukee ... 272-3565
Can H M Harper Co Ltd 27 Chauncey Ave
Toronton Ont
Can H M Harper Co Ltd 8469 8th Ave
Montreal Que 729-1811
BC H M Harper Co Ltd 1402 Ingleton Ave
Vancouver 291-1488

HARPER ELECTRIC FURNACE CORP
SHELDON & DRULLARD AVES LANCASTER
N Y 14086 .... 716 684-7400
H ROTH EMP 55 ENG 10

HARPER-LEADER INC 1046 S MAIN ST
WATERBURY CONN 06706 .... 203 756-8164
M DICORPO EMP 40 ENG 3 $1,000-$2,500M

HARREL INC 16 FITCH ST EAST NORWALK
CONN 06855 .... 203 866-2573
J PARRY
Cal ViKing Instr Co Box 1039 Walnut Creek 933-1221
Colo Electro-Rep Inc 1051 S Platte River Dr
Denver 744-2821
Mich L H Dickelman Co 13331 Puritan Ave
Detroit 273-0806
NM Electro-Rep Inc 1415 Richmond NE Albuquerque
NY Alan E DeCew Agency Inc Box 56 Sodus 483-3261
Tex E G Miller Co Box 929 Henderson 657-5049

HARRIS-INTERTYPE CORP 55 PUBLIC SQUARE
CLEVELAND OHIO 44113 216-861-7900
H BEDER EMP 15000 ENG 1500 OVER $10,000M

HARRIS MFG CO INC 308 RIVER ST CAMBRIDGE
MASS 02139 .... 617 864-4000
E SWEENEY EMP 30 ENG 3 $500-$1,000M
Cal M P Tregnan Co 6253 Hollywood Blvd
Los Angeles 213 463-2271
Colo T C Jarrett Co Box 15397 Denver 303 233-2333
Conn Thermo Technology Assoc 32 Elm St
New Haven 203 562-3312
Ga Frank Carryl Co 250 E Ponce De Leon Ave
Decatur 404 377-4948
Ill Byron Ellis Assoc 6242 N Kenmore Ave
Chicago 312-262-2038
Kan Stephens Machinery Co Box 8149
Prairie Village .... 913 AN 9-4127
Mass Thermo Tech Assoc 27 Tanglewood Rd
Wellesley Hills 617 469-0351
Mich Hartmann-Schaffer Engr Co 9125 Livernois Ave
Detroit 313 933-8866
Mo Stephens Machinery Co 8145 Olive Blvd
St Louis .... 314 WY 1-0502
NJ Gerald B Duff & Co 2165 Morris Ave
Union .... 201 MU 6-1747
NM Southwestern Eng & Equip Co
1400 1st Nat Bank Bldg Albuq 505-265-6775
NY Egan Indl Sales Co 920 Niagara Falls Blvd
Buffalo 716 833-8830
Ohio Cleveland Ind Equip Sales Co 4500 Euclid Ave
Cleveland 216-431-8640
Pa George Vaux 320 Caversham Rd
Bryn Mawr .... 215 LA 5-4517
Tex Southwestern Eng & Equip Co
6300 N Central Expwy Dallas ..... 214 EM 3-6501
Wash Hartley & Co Terminal Bldg Boeing Fld
Seattle 206-RO7-3600
Can Severance Tools of Can Ltd 36 Martin Ross Ave
Downsview Ont 416-630-6066
Fr H Rua & Co 146, Av Des Champs-Elysees
Paris VIII .... BAL 31-22
Swed A B Max Sievert Sonterargaton 14 Vallingby 1
Stockholm 25-26-00

HART-ADVANCE RELAY DIV OAK ELECTRO/NETICS
CORP CRYSTAL LAKE ILL 60014
TWX 910-634-3353 815-459-5000
D SARTORI EMP 600 ENG 25
Cal Fetty/Schoenduve Inc 7407 Melrose Ave
Los Angeles 213-651-4050
Cal Oak Electro/Netics Corp 960 N San Antonio Rd
Los Altos 415-941-1237
Colo I W Strong 635 Canosa Crt Denver 303 292-6900
Fla O E N 1040 Bayview Dr Ft Lauderdale . 305 563-2681
Haw Bill Kolans & Co Box 2098 Honolulu 252-532
Ill Oak Mfg Co Crystal Lake 815 459-5000
Md L G White 1110 Fidler La Silver Spring . 301 585-3141
Mass Richard Purinton, Inc 11 Muzzey St
Lexington 617 862-8300
Mich Chas Desmet 5830 Red Arrow Hwy
Stevensville 616-925-5112
Minn L F Murphy & Assoc 730 Chicago Ave
Minneapolis 612 333-4511
Mo J P Carlson 2316 Putter La St Louis .. 314-CH1-4351
NJ Gray Williams Assoc 8 E Mt Vernon Ave
Haddonfield 609 429-5330
NY J A Gehrs Assoc Inc 410 N Goodman
Rochester 716 473-2230
NY Comtronic Assoc 1551 Franklin Ave
Mineola 516 741-8966

NY Comtronic Assoc 370 Old Country Rd
Garden City 516-741-8966
NC L G White Box 2356 Winston-Salem
Ohio L Grabinger 8613 Winton Rd Cincinnati .513-521-5689
Ohio McDaniels Assoc 3020 California Ave
Kettering 513 298-5752
Tex Norvell Assoc Box 20279 Dallas 214 357-6451
Tex Norvell Assoc 112 Meyerland Plaza
Houston 713 665-0558
Wash H Levinson Co 1112 E Denny Way
Seattle 206 323-5100
Wash H D Campbell Co 3827 Stone Way N
Seattle 206 632-2939
Can E Whittaker Supply Ltd 42 Howden Ave
Ottawa, Ont 613 224-1221
Can E Whittaker Supply Ltd 1885 Wilson Ave
Weston, Ont 416 247-7454
Can E Whittaker Supply Ltd Box 216
Roxboro Que....................514-684-3000

HARTLEY PRODUCTS CORP BARNERT PL
HO-HO-KUS NJ 07423 ....201 652-7772
R SCHMETTERER EMP 3 ENG 2 UP TO $100M
Mich Hartley Prod Lab 397 W 21st St Holland ..EX 6-6209

HARTMAN ELECTRICAL MFG CO
175 N DIAMOND ST MANSFIELD
OHIO 44901 ....419 524-1411
R MEADOWS EMP 620 ENG 22 $5,000-$10,000M
Ala Airsupply Co 2003 Byrd Spring Rd S W
Huntsville 205 883-0244
Ariz Airsupply Co 2618 E Washington St
Phoenix 602-267-3916
Cal Airsupply Co Town & Country Vlg
Palo Alto 415-326-4186
Cal Airsupply Co 5555 Mildred St
San Diego....................714-298-1121
Cal Airsupply Co 2230 Michigan Ave
Santa Monica....................213-451-5711
Fla Airsupply Co 7000 Lake Ellenor Dr
Orlando....................305 851-1210
Ga Airsupply Co 1190 Hayes Ind Dr
Marietta 404-422-8242
Ill Airsupply Co 5544 St Charles Rd
Berkeley....................312-544-7400
Ind Airsupply Co 2441 N Meridian St
Indianapolis 317-WA 5-3528
Kan Airsupply Co Box 18188 Wichita 316-MU 3-7518
Mass Airsupply Co 235 Bear Hill Rd
Waltham 617-TW 4-9165
Mo Airsupply Co 4531 N Lindbergh
Bridgeton 314-PE 1-3011
NY Airsupply Co 415 Court St Utica......315-735-8341
NY American Avitron Box 567 Rye..........937-5300
NY Airsupply Co 1 Dupont St Plainview....516-681-8710
Ohio AirSupply Co Box 19738 A M F
Columbus 614-231-4571
Ohio Airsupply Co 333 W 1st St Dayton ...513-BA 4-0728
Pa Airsupply Co 237 Lancaster Ave
Devon 215-MU 8-5157
Tex Airsupply Co Box 1906 Forth Worth ..817 ED 5-4541
Va Airsupply Co 3865 Wilson Blvd
Arlington 703-525-1191
Wash Airsupply Co 10335 Main St Bellevue .206-GL 4-7922
Can AAE Aerospace Products 585 Dixon Rd
Rexdale, Ont 249-8411

HARTMAN SYSTEMS CO INC 360 WOLF HILL RD
HUNTINGTON STATION N Y 11746
TWX 510 226 6982 ....516 HA 7-7500
J MINOGUE EMP 360 ENG 40

HARTWELL CORP 9035 VENICE BLVD
LOS ANGELES CAL 90034
TWX 213-836-0467 ....213 870-3781
R BRYANT EMP 400 ENG 15 $5,000-$10,000M
Ill Hartwell Corp Chicago................ME 7-6696
NJ Hartwell Corp 10 Banta Pl Hackensack ....DI 2-2964
Tex Hartwell Corp 4005 E Lancaster Ft Worth .JE 5-0824

HARTZELL ELECTRONICS INC 5200 W 74TH ST
MINNEAPOLIS MINN 55435 ....612 941-3660
R PRAIRE EMP 140 ENG 20 $2,500-$5,000M

HARVA CO INC 104 FAIR ST SCHOHARIE
N Y 12157 ....518 295-8101
E KINTZ EMP 35 ENG 2 $250-$500M

HARVARD APPARATUS CO INC 150 DOVER RD
MILLIS MASS 02054 ....617 376-2987
W TOWNE

HARVEL PLASTICS INC BOX 757E EASTON
PA 18042 ....215 252-7355
J WILLIAMS EMP 40 ENG 3 $2,500-$5,000M

HARVEY HUBBELL INC
STATE ST & BOSTWICK AVE BRIDGEPORT
CONN 06602....................203 333-1181
J HICKS EMP 800 ENG 20
Cal Harvey Hubbell Inc 1939 Harrison St
Oakland 415 444-2766
Ga Harvey Hubbell, Inc 1680 Tullie Cir N E
Atlanta 633-9229
Ill Harvey Hubbell, Inc 2727 S 25th Ave
Broadview 379-7920
NJ Harvey Hubbell Inc 2175 Lemoine Ave
Fort Lee 212 565-5968
Wash Strohecker, Inc 2207 First Ave S Seattle..MU 2-8327

HARWIL CO 903 COLORADO AVE SANTA MONICA
CAL 90404 ....213 394-4710
H HUTCHINSON EMP 5 ENG 2 UP TO $100M

HARWORTH MFG CO 2881 EL CAMINO REAL
REDWOOD CITY CAL 94061 ....415 365-0823
EMP 3 ENG 1

HASTINGS PLASTICS INC 1704 COLORADO AVE
SANTA MONICA CAL 90404...........213 870-2931
A DAMES EMP 40 ENG 4

HASTINGS-RAYDIST A TELEDYNE CO
NEWCOMB AVE HAMPTON VA 23361 ...703 723-6531
R DOYLE EMP 110 ENG 15 $2,500-$5,000M

HATHAWAY INSTRUMENT DIV 5250 E EVANS AVE
DENVER COLO 80222
TWX 910-931-0568 ....303 756-8301
L SEARS EMP 200
Cal Randolph Industries Inc 12202 E Garvey Ave
El Monte 283-7901
Ill M J Fein & Co 4750 N Milwaukee Ave
Chicago 777-7767
Mass M J Fein & Co 93 Stagecoach Rd Holliston
NJ M J Fein & Co 17 Eastbrook Rd Parsippany .887-6227
NY M J Fein & Co Harwood Bldg Scarsdale 472-1100
Wash Sperry Co Box 6868 Seattle 932-1101
Can Applied Technology Co Box 272
Don Mills, Ont 444-1264

HATHAWAY PACIFIC 4055 FABIAN WAY PALO ALTO
CAL 94303 TWX 910 373-1185 ....415 327-7970
G NELSON EMP 25 ENG 7 $500-$1,000M
Cal Randolph Industries Inc 12202 E Garvey Ave
El Monte....................213 283-7901
Colo Hathaway Instr Div 5250 E Evans Ave
Denver 303 756-8301
Ill M J Fein & Co 4750 Milwaukee Ave
Chicago 312-777-7767
Mass M J Fein & Co 93 Stagecoach Rd
Holliston....................617-326-2546
NJ M J Fein & Co 17 Eastbrook Rd
Parsippany....................201-887-6227
NY M J Fein & Co Harwood Bldg Scarsdale .914 472-1100
Wash Sperry Co Box 6868 Seattle 206 932-1101
Can Applied Technology Co Box 272
Don Mills Ont 444-1264

HAVEG INDUSTRIES, INC, PRECISION MOLDING
DIV 336 WEIR ST TAUNTON
MASS 02780 ....617 824-4011
W HOLT EMP 725 ENG 18
Conn American Mdsg Corp 2440 Reservoir Ave
Trumbull 372-6501
Ill R V Reib 505 Walnut Dr Streamwood ..312 289-3883
Kan H C Heyde 9221 Wenonga Rd Leawood.....649-8628
NJ G Nevins 323 Dutch Neck Rd
Hightstown 609 448-4974
NY W F Hartigan Rte 20 New Lebanon Center .LE 7-2731
Ohio H G Lake Co 1521 N Main St Dayton 277-8181
Pa Layne Assoc, Inc Box 201 Downingtown 269-1555

HAVEG INDUSTRIES INC, SUPER TEMP WIRE DIV
BOX 7 WINOOSKI VT 05404...........802 862-9636
W HILL EMP 325 ENG 10
Cal Haveg Industries 715 N Central Ave
Glendale....................245-0101
Colo Regan & Assoc 1449 W Littleton Blvd
Littleton 794-6477
Conn Lane Sales Co Box 301 Cheshire 272-6081
Fla Haveg Industries Box 536
Altamonte Springs 838-6525
Md Haveg Industries Box 91, Rt 1 Reisterstown .252-3664
Mass Herbert Sales Co Box 201 Auburn 756-9477
Mich Haveg Industries 416 E Sixth St Royal Oak .546-2799
Minn Haveg Industries 150 Juniper La Rosemount .432-7760
Mo Haveg Industries 119A Kings Highway
St Charles 723-3253
NJ Haveg Industries Box 612 Summit 273-4338
Tenn F G Assoc Inc Box 6244 Knoxville 525-3321

HAYAKAWA ELECTRIC CO LTD
22-22, NAGAIKECHO, ABENOKU OSAKA
JAPAN....................621-1221
M FURUYABU EMP 1800 ENG 1100
OVER $10,000M
Cal Sharp Electronics Corp 21580 Wilmington
Long Beach
Ill Hayakawa Electric Co Ltd 78 E Madison St
Chicago
NJ Sharp Electronics Corp 178 Commerce Rd
Carlstadt
For Hayakawa Electric Co Ltd
85, Sec 1 Chungshan N Road Taipei, Tai
For Hayakawa Electric Co Ltd Sibunruang Bldg 283
Silam Rd, Thai
For Hayakawa Electric Co Ltd 24 Des Valux Rd
Central, H K
Ger Hayakawa Elec (Eur) GmbH
2000 Hamburg 1 Ballindamm 17

HAYDON CO THE, A W 232 N ELM ST WATERBURY
CONN 06720 TWX 710-477-3141 ......203 756-4481
E DIEMAND EMP 607 ENG 60 $5,000-$10,000M
Ala W A Brown & Assoc Inc 1314 Buford St NW
Huntsville 205 536-8393
Cal TransDynamics Inc 4450 Lakeside Dr
Burbank 213 849-6261
Colo TransDynamics Inc 3401 S Bannock St
Englewood 303 761-0455
Conn Nelson & Schoonmaker 106 Main St
Thomaston 203 283-5959
Fla W A Brown & Assoc 222 Weber Ave
Orlando....................305 425-5505
Ga W A Brown & Assoc 1590 Cooledge Rd NW
Tucker 404 939-1674
Ill Sumer Inc 1032 E Northwest Hwy
Mt Prospect 312 392-7370
Ind Sumer, Inc 2211 S Calhoun St
Fort Wayne....................219 744-1692
Md L D Lowery Inc 6200 Annapolis Rd
Hyattsville....................301 773-4977
Mass Selmark Assoc Inc 181 West St
Waltham....................617 899-8110
Minn Stack-Johnson Inc 2907 Portland Ave S
Minneapolis....................612 827-3841
Mo H J Weisler & Assoc 2050 Woodson Rd
St Louis 314 428-3934
NY Malin Assoc Co Box 426 Forest Hills ...212 268-9122
NC W A Brown & Assoc, Inc 1108 Burke St
Winston-Salem 919 725-5384
Ohio C A Robinson Co Inc 4225 Mayfield Rd
Cleveland 216 381-9049
Pa L D Lowery Inc 2801 W Chester Pike
Broomall....................215 528-5170
Tex R F Kimball Co 5531 Dyer St Dallas ...214 363-5431
Wash TransDynamics Inc 7834 SE 32nd St
Mercer Island 206 232-1094
Can Philips Electronics Ind, Ltd 116 Vanderhoof Ave
Toronto, Ont 416 425-5161
Can Philips Elctns Ind Ltd 5930 Cofe-De-Liesse
Montreal Que 514 342-9180
Jap Japan Aviation Elctn Ind Inc 32 Namepdai-Cho
Shibuya-Ku Tokyo
SAfr Edac (Pty) Ltd S Park La New Doornfontein
Johannesburg
Belg S A Polymotor 29 Ave Paul Henri Spaak
Brussels 23 40 81-82-83
Isrl Ramron Ltd 133 Katzenelson St Ramat-Gan
Aust Miniwatt Elctns Div 20 Herbert St
Artarmon, NSW

HAYDON SWITCH & INSTRUMENT INC
1500 MERIDEN RD WATERBURY CONN 06720
TWX 710 477-2580 ....203 756-7441
G HOFFMANN EMP 125 ENG 8 $1,000-$2,500M
ADV PGS 383,614
Cal Fetty/Schoenduve, Inc 253 Town & Country Vlg
Palo Alto 321-7041
Cal Fetty/Schoenduve, Inc 7407 Melrose Ave
Los Angeles 651-4050
Conn Aerol Assoc Inc Box 146 Essex...........767-1647
DC Aerol Assoc Inc 2400 Wilson Blvd
Arlington VA....................703-528-5181
Fla Technical Mktg Inc 1511 E Robinson St
Orlando 424-8531
Ga Technical Mktg Inc Box 1152 Marietta 435-0079
Ill Aerol Assoc, Inc 466 Central Ave Northfield .446-6486
Kan Aerol Assoc Inc 6631 E Kellogg Wichita 683-7421
Mass All Star Engrg Box 58 Woburn...........894-7850
Mich Jim Morrow Sales Inc 21 Puritan Ave Detroit
Minn Aerol Assoc, Inc Rte 1, Box 230 Anoka.....421-0751
Mo Aerol Assoc Inc 34 N Brentwood Blvd
St Louis....................725-5361
NJ Aerol Assoc Inc 730 Clifton Ave Clifton.....779-6744
NY Aerol Assoc Inc 400 Jericho Tpk Jericho....822-0800
NY Costello, J V 2030 Erie Blvd E Syracuse ...GR 2-0322
Ohio Aerol Assoc, Inc Box 7 Centerville Br
Dayton....................434-6504
Pa Aerol Assoc Inc Box 368 New Cumberland ..774-0349
Tex P H Kreager Co 9230 Cliffmere Dr Dallas ...348-3521
Wash Willis Sales Co 2805 124th Pl Bellevue 454-3029
Can Aviquipo of Can Ltd Montreal Intl Airport
Dorval, Que 631-3504
For Aviquipo Inc 90 Broad St New York, NY ..WH 3-6580

HATHAWAY COMPONENTS DIV
BOX 22084 WELLSHIRE STA DENVER
COLO 80222....................303-756-8301
W THOMSON EMP 60
Ala Compar Southern 904 Bob Wallace Ave
Huntsville....................536-9121
Ariz Compar Rocky Mtn 84 W First St
Scottsdale 947-4336
Cal Compar San Francisco 1817 Bayshore Hwy
Burlingame 697-6244
Colo Compar Rocky Mtn 300 E Hampden Ave
Englewood....................781-0912
Fla Compar Florida Box 13109 Orlando 855-3964
Ill Compar Midwest 315 Laura Dr Addison 543-8833
Mass Compar New England 88 Needham St
Newton Highlands....................969-7140
Mich Skip Greiner Assoc 15318 Mack Ave Detroit .882-7570
Mo Compar Midwest 11734 Lackland Ind Dr
St Louis....................542-3399
NJ Compar New York 730 Clifton Ave Clifton...471-6090
NY Compar Albany 419 Central Ave Albany 436-8536
NC Compar Southern 1106 Burke St
Winston-Salem 724-0750
Ohio Compar Ohio Box 4791 Fairview Park 333-4120
Tex Compar Southwest 8609 Northwest Plaza
Dallas 363-1526

HAYDON TUBE & FORM CORP 132 THIRD AVE
PATERSON N J 07514 ....201 279-6800
L REMSTEIN EMP 40 $1,000-$2,500M
NC Manufacturers Sales Co 1704 Battleground Ave
Greensboro 919 274-2474
Pa John F Byers & Co Box 312
Ft Washington ....215 LO 3-4268

HAYDU PRODUCTS INC BOX 383 OPA LOCKA
FLA 33054 ....305 688-6521
G HAYDU JR EMP 100 ENG 2
NJ R Shapack 988 Kenyon Ave Plainfield......757-5432

HAYES INC, C I 875 WELLINGTON AVE CRANSTON
R I 02910 ....401 461-3400
F KNIGHT EMP 150 ENG 18 $1,000-$2,500M
Cal Egloff & Graper Inc 9510 Ann St
Santa Fe Springs 698-0173
Ill Thos Houston 16 W 626 Honeysuckle Rose
Hinsdale....................325-6495
Mass E F Mooney & Assoc Inc 26 Henshaw St
Woburn 933-2310
Mich Hartmann-Schaffer Eng Co 9125 Livernois
Detroit ....WE 3-8866
Minn Tempco Corp 5590 W Bald Eagle Blvd
White Bear Lake 888-5555
Mo Brandwine Eqpt Co 1353 Baur Ave St Louis .993-5810
NJ Howard F Brennan 1190 Pompton Ave
Cedar Grove ....CE 9-0001
NY C W Rew 121 Wheeler St Tonawanda .....NX 2-3029
Ohio Harry Farnsworth 240 Sherwood Dr
Lexington....................884-1893
Pa A C Whitaker Box 123 Bethel Park 941-8383

HAYS CORP MICHIGAN CITY IND 46360 ... 219 822-5561
R JOHNSON EMP 225 ENG 25 $2,500-$5,000M

Ariz	Bews & Wallace Co Inc 2515 E Union Dr Phoenix	602 275-4496
Cal	United Engr Sales & Serv Corp 18345 Ventura Blvd Tarzana	213 881-2433
Colo	Joy & Cox Inc 2124 Broadway Denver	303 266-0323
DC	Meleney Engrg Co 2430 Pennsylvania Ave Washington	202 965-3360
Ga	Therm-Mech Inc Drawer 52599 Atlanta	404 261-3632
Haw	Pell Co Box 1441 Honolulu	
Ill	Hays Corp 10055 Roosevelt Rd Westchester	312 379-5806
Ind	Dale D Merchant Co Inc 5250 Keystone Ct Bldg Indpls	317 CL 5-4690
Iowa	Deco Engrg Prod Co 1112 Locust St Des Moines	515 AT 8-5721
Kan	Tompkins Equip Co Box 6134 Leawood	913 381-5320
La	Gilbert & Assoc Inc 8130 Willow St New Orleans	504 UN 6-7444
Mass	Timross Co 815 Washington St Newtonville	617 244-7586
Mich	Metrol Co 7145 E Davison Detroit	313 365-5400
Minn	Power-Process Equip Inc 6032 W 37th St Minneapolis	612 929-6791
Mo	Golom Equipment Co 4718 Stanhope St Louis	314 TW 2-8030
Neb	Deco Engrg Prod Inc 2002 Burt St Omaha	402 341-4836
NJ	Hays Corp 2171 Morris Ave Union	201 687-5787
NY	Bass Industrial Equip Co 6045 Main St Williamsville	716 632-0600
Ohio	Vari-Systems Inc 1299 W 78th St Cleveland	216-651-7711
Okla	Dave Allert Co Box 7351 Tulsa	918-743-7705
Ore	Branom Instrument Co 6019 NE Union Portland	503 BU 5-5205
Pa	Systems Control Assoc 10 S Orange St Media	215 565-2077
Tenn	Gilbert & Assoc 5050 Poplar Ave Memphis	901-684-3646
Tex	Dixon Engrg Inc 8807 Vinewood Dallas	214 321-0240
Utah	Control Equip Co of Salt Lake 2255 S 2nd W Salt Lake	801 487-7741
Va	R S Lovelace Co Inc Box 7187 Richmond	703 358-0404
Wash	Branom Instr Co 2137 Second Ave Seattle	206 MA 2-7320
Wis	Shelton F Boyd Co 7127 N Green Bay Rd Milwaukee	414 352-3180
Fr	Antares SA 9 rue Ernest Cognacg 92 Levallois Perret	
Ger	Techmark Corp Barellistr 18 8 Munchen	
Ital	T A I Bastioni Volta 11 Milano	
Jap	Mitaka Inst Co Ltd 2-Chome, Naka-cho Tokyo	
Swed	Ingenjorsfirman Regula AB Box 13 Johanneshov Gullmarsvagen 51	
Swit	Timeus & Co Postfach 171 Zurich 38	
BC	Pacific Controls Ltd 2015 Columbia St Vancouver	

HAYSITE REINFORCED PLASTICS DIV HAYS MFG CO. W 12TH & PLUM STS ERIE PA 16512
TWX 914460 ... 814 452-3221
E SOPP EMP 50 ENG 2 $1,000-$2,500M

Ala	Beck Sales Co Box 296 Helena	205-663-2191
Cal	C D LaMoree Co 2433 Birkdale St Los Angeles	213 225-5666
Ill	Insulation Mfrs Corp 7550 Oak Park Ave Niles	312 647-0044
Mich	Insulation Mfrs Corp 745 New Center Bldg Detroit	413 875-3103
Minn	D A Schultz Co 801 SE 8th St Mnpls	612 339-7701
Mo	E P Gund Co 6403-15 Maple Ave University City	862-1650
NY	Insulation Mfrs Corp Raulli Bldg Syracuse	315 437-3102
Ohio	Insulation Mfrs Corp 1231 E 26th St Cleveland	216 781-2310
Ore	C E Riggs Inc 422 NW 8th Ave Portland	503 226-3286
Pa	Insulation Mfrs Corp 3550 Laketon Rd Pittsburgh	412 244-1145
SC	A C Ballentine Assoc Box 5742 Sta B Greenville	803 244-6514
Wash	C E Riggs Inc 314 Second Ave S Seattle	206 623-5707
Wis	Insulation Mfrs Corp 367 Bockl Bldg Milwaukee	414 342-3927

H B ENGINEERING CORP 1101 RIPLEY ST SILVER SPRING MD 20910 ... 301 589-0670
H BAKER EMP 19 ENG 3

Cal	Willard Nott & Co 1485 Bayshore Blvd San Francisco	415 467-0547
Md	Barnhill/Tessco Inc 1931 Greenspring Dr Timonium	301-252-5610
Mass	ITM Assoc Box 385 Sudbury	617 443-8414
Mo	Gordon Fixman Engrg Co 8160 Stanford Ave St Louis	314 725-5219
NJ	Barnhill/Tessco Inc 1306 Cooper St Beverly	609-877-1350
NY	TPC Inc Box 184 Syracuse	315 472-8588
Va	Barnhill/Tessco Inc Box 1104 Lynchburg	703-384-2062

HEADWAY RESEARCH INC 3713 FOREST LA GARLAND TEX 75040 ... 214 BR2-1566
W BAIN EMP 45 ENG 3 $250-$500M

Cal	F J Toffey Assoc 312 Brokaw Rd Santa Clara	408-247-1862
Conn	Evans Equip Co Rte 7 Brookfield	203 775-2800
Pa	Evans Equip Co 1246 Irma Rd Warminster	215 672-2560
GB	General Micronetics Ltd Boston Rd London W 7	01-567-8092
Jap	Kanematsu-Gosho (USA) Inc 606 S Hill St Los Angeles, Cal	620-1640

HEATH CO DEPT 520-32 BENTON HARBOR MICH 49022 TWX 616-983-3897 ... 616 983-3961
C ROBERTSON EMP 1000 ENG 100
ADV PGS 360,413,708

Cal	Heath Co 330 E Ball Rd Anaheim	714-776-9420
Cal	Heath Co 2309 S Flower St Los Angeles	213-749-0261
Cal	Heath Co 2001 Middlefield Rd Redwood City	415-365-8155
Cal	Heath Co 1300 Market St San Diego	714-234-0293
Colo	Heath Co 5940 W 38th Ave Denver	303-422-3408
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Md	Heath Co 5542 Nicholson La Rockville	301-942-4506
Mass	Heath Co 165 Worcester St Wellesley	617-237-1510
Mich	Heath Co 18645 W 8 Mile Rd Detroit	313-535-6480
NY	Heath Co 35 W 45 St New York	212-765-4590
Ohio	Heath Co 5444 Pearl Rd Cleveland	216-886-2590
Pa	Heath Co 6318 Roosevelt Blvd Philadelphia	215-288-0180
Wash	Heath Co 2221 Third Ave Seattle	206-682-2172
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Can	Daystrom Ltd 1480 Dundas Hwy E Cooksville, Ont	

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Ill	Paul Wilson 612 N Michigan Ave Chicago	644-2717
Mass	Assoc Electronics Inc 45 Kirk St Lowell	454-4206
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NY	Cramer & Lawrenz 75 College Ave Rochester	442-2140
Tex	Richard A Williams Box 642 Bellaire	NA-1-1267
Utah	Ted R Brown 1401 Major St Salt Lake City	HU 6-7241

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W FUELLEMAN EMP 50 ENG 8 $2,500-$5,000M

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Minn	Clark R Gibbs Co 1311 W 25th St Minneapolis	377-1200
For	S Bjoerklund & Co Hagagatan 31 Stockholm Va	
Den	Willy H Grib & Co Bredgade 34 Kopenhagen-K	
Fr	Blet SA 132 FG St-Denis Paris-XE	
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GB	J Hengstler Co GB Ltd Brooker Rd Waltham Abbey, Essex	
Neth	A Bruyaux nv Box 4064 Amsterdam-Oost	
Ital	Isothermic Swiss C So Di Porta Vittoria 54 Milano	
Nor	Egil Oulie-Hansen Moellergaten 12 Oslo 1	
SAfr	Control Instruments (Pty) Ltd 9, Wolmarans St Johannesburg	
Swit	Stauffacher & Co Wallisellen ZH	

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E HEDQUIST EMP 5 ENG 2

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Ariz	Benndorf-Richardson Assoc 1606 E Catalina Dr Phoenix	264-5814
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Cal	Porter Co 17000 Ventura Blvd Encino	788-2350
Colo	Paul A Douden & Co 1645 Wazee St Denver	534-6798
Fla	Conley-May Assoc Inc Box 668 Oviedo	365-3283
Ga	Hooker Reid Co, Inc Box 11754 Atlanta	237-9385
Ill	D Dolin Sales Co 3525 W Peterson Ave Chicago	588-3738
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Ill	Engineered Sales Inc 4738 N Harlem Ave Chicago	867-8434
Md	R P Luce & Co 19 E 21st St Baltimore	752-8200
Mass	Zaslow Sales Co Inc 339 Middlesex St Lowell	458-8452
Mo	Harris-Hanson Co 2814 S Brentwood Blvd St Louis	647-4350
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NM	Williams Assoc Inc 420 Washington SE Albuq	255-9632
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Ohio	Technical Assoc Inc Box 388 Fairborn	878-2484
Okla	Technical Assoc Inc 19500 Center Ridge Rd Rocky River	333-0035
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Mo	S W Anderson Co 8768 Del Vista Dr St Louis	314-771-8080
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Tex	George J Fix Co 1901 S Good Latimer Exp Dallas	214-428-7454
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Wis	S W Anderson Co 3900 N Mayfair Rd Milwaukee	414-462-5100
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